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Aging and Trans
Part 1
General Health

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Chapter 1

Preface

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Acknowledgements

Thanks to all the people, too many to list individually, who contributed to my research for this book, and its parts. Any errors or omissions are nobodies fault except my own, but I would also refer you back to the disclaimer.

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About the author

My name is Sharon Kimble, and I am a former Registered General Nurse and a State Enrolled Nurse, living and working in the United Kingdom.

Please note

Some legal information is included here but you should be aware that this is only applicable to the UK, and may not even be applicable in Scotland or Northern Ireland. And this is talking about legal issues applicable at the time of writing, the law may have changed by the time that you're reading this. If you find it interesting I would advise you to follow up on the references that I've listed here.

Chapter 2

Introduction

Contents

This is written to be read online, or offline with your favourite PDF reader. If you were to print it out you would lose access to all the cross-references, and other stuff too.

I have placed the various sections in what I consider to be a logical order, but also in alphabetical order within the chapters.

Some terms need defining from the beginning as they will appear in all four parts.

Health

I am using the definition of health as provided by the World Health Organisation in 1948 (WHO, 1948).

> “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

Quality of life

Quality-of-life refers to many things (MEDICINENET, 2016), and I am using the following definition as a simple guideline. A more comprehensive definition can be found at Quality of life.

> “The individuals's ability to enjoy normal life activities. Quality of life is an important consideration in medical care. Some medical treatments can seriously impair quality of life without providing appreciable benefit, whereas others greatly enhance quality of life.”

Onwards!

This book ”Aging and Trans” is written in four parts -

Aging and Trans - Part 1 - General Health
Aging and Trans - Part 2 - General Conditions
Aging and Trans - Part 3 - Mental Health
Aging and Trans - Part 4 - Cancer

This is called "Aging and Trans" because now that I've reached the age of 60+ I'm more aware of being aged and what some of the problems are. And I believe that 'Trans' is a particular subset of the aged, with many of the same problems but also some others that relate only to transfolk.

The Office for National Statistics (ONS) predicts that by 2033 around 23% of the UK population will be 65 and over (compared with 16% in 2008), and the number of people aged 85 and over will have doubled to 3.5 million, or around 5% of the population.

The ONS predicts that within the next eight years, more than half of all those aged over 65 will be moderately or severely disabled. The term "disability" here covers a wide range of limitations, from being wheelchair-bound to having poor eyesight, coordination problems or memory loss.

Vascular disease is the leading cause of disability. Stroke, for example, can lead to weakness and difficulty moving around; heart disease may restrict how far you can walk before being overcome with tiredness and diabetes [1] can stiffen the joints in the fingers and hands.

Whatever the disability, the end-result is that it becomes increasingly hard to carry out simple day-to-day activities like getting dressed, preparing a meal, having a shower or walking to the shop. This, in turn, reduces your chances of living independently in your own home and means you''ll be more likely to need extra care and support from others (NHS, 2014b).

There are no existing UK or England-wide studies that give a full picture of how many transsexuals there actually are. What studies are available measure different segments of the trans population and are not comparable (Dockerty and Guerra, 2015). However, the following provides estimates from government agencies and gender identity organisations -

- in 2000, it was estimated there were 5000 trans people in the UK (Whittle, Turner, and Al-Alami, 2007),
- in 2006, 1,660 people had received a Gender Recognition Certificate (Whittle, Turner, and Al-Alami, 2007),

[1] Diabetes is a life-long disease that affects the way your body handles glucose, a kind of sugar, in your blood.

- in 2009, an estimated 3500 people had gender reassignment surgery (Reed et al., 2009),
- approximately 1,200 people present to go through a gender transition per year (Reed et al., 2009),
- in 2012, a survey estimated that one in 100 people experience a significant degree of gender nonconformity (Glen and Hurrell, 2012), (Dockerty and Guerra, 2015).

Very little information seems to be available for the aged transperson, so I'm hoping to slightly fill that gap. Whether I succeed remains to be seen.

We are all, hopefully, going to get old and we share many common problems with other 'old folk', mobility or its lack, decline in cognition (meaning that our memory is unreliable, to a greater or lesser extent), loneliness, bowel/bladder problems due to decreased intestinal mobility, and many others.

But when are we 'old'? This question has been debated in many forums and by many philosophers, ranging from Socrates [470BC to 399BC, who was 71 when he died] and Cicero [106BC to 43BC] to many others.

- Vicenarian - Someone in his or her twenties.
- Tricenarian - Someone in his or her thirties.
- Quadragenarian - Someone in his or her forties.
- Quinquagenarian - Someone in his or her fifties.
- Sexagenarian - Someone in his or her sixties.
- Septuagenarian - Someone in his or her seventies.
- Octogenarian - Someone in his or her eighties.
- Nonagenarian - Someone in his or her nineties.
- Centenarian - Someone 100 or more.

I'm a 'sexagenarian' meaning that I'm in my 60's, and over the last couple of years I've noticed a physical decline in my abilities. Double vision which need special glasses to correct it, decreased bowel mobility leading to increased constipation and also trapped wind, a separate problem. A generalised slowing down in my walking, and usage of stairs.

UK Population

- There are now 11.4 million people aged 65 or over in the UK,
- There are over 23.2 million people aged 50 years and over, over a third of the total UK Population,
- There are now 14.9 million people in the UK aged 60 and above,
- 1.5 million people are aged 85 or over (ONS, 2015b),

- By 2040, nearly one in four people in the UK (24.2%) will be aged 65 or over,
- The percentage of the total population who are over 60 is predicted to rise from 24.2% at present to over 29% in 2035,
- The number of people over 85 in the UK is predicted to more than double in the next 23 years to over 3.4 million,
- The population over 75 is projected to double in the next 30 years (ONS, 2015c),
- Nearly one in five people currently in the UK will live to see their 100th birthday (DWP, 2010),
- 3.5 million 65+ live alone. This is 36% of all people aged 65+ in GB,
- Nearly 70% of these are women,
- 2 million people over 75 live alone; 1.5 million of these are women (ONS, 2015a),
- 58% of widows (women only) are aged 75 and over (ONS, 2012).

Age discrimination

- 60% of older people in the UK agree that age discrimination exists in the daily lives of older people,
- 53% of adults agree that once you reach very old age, people tend to treat you as a child (AGE+, 2009).

Life expectancy

- In 1786, the average life expectancy was just 24 years,
- In 1886 it had doubled to 48 years,
- In 1986, the female life expectancy was 77.9 years, and male life expectancy was 72.1 years,
- In 2013, the female life expectancy was 82.8 years, and male life expectancy was 79.2 years (VIEWZONE, 2015).

This means that in 228 years, the life expectancy of an individual has definetly trebled and nearly quadrupled!

With recent discoveries in biology, many scientists predict that life expectancy will continue to triple-digits. In fact, if they are correct, humans shouldn't have to die at all in the future (VIEWZONE, 2015).

What is 'aged' and what does it mean?

The dictionary definition of 'aged' is - "Being of advanced age, or old". But my working definition of **aged** is *anyone over the age of 60.*

I have known some people who were in their early-sixties and had physically aged far older than their birth-age yet their mental age remained youthful.

So where are we going?

This book "Aging and Trans" is written in four parts, this part "General health" and the second being "General conditions", with the third being "Mental health", and the fourth being "Cancer".

This is because the elderly tend to have more health problems relating to their mental abilities than their physical abilities as they age. I'm referring here to dementia and its multiple secondary aspects. Also the older you get so the greater the chance of you developing cancer.

I've been looking at certain areas of life which are important for the aged to know about -

- Older folk and Exercise at page 37,
- Falls at page 179,
- Aging at page 19,
- Diet at page 106,
- Stroke - see Aging and Trans - Part 2 - General Health.
- Osteoarthritis - see Aging and Trans - Part 2 - General Health.
- Constipation at page 84.

According to the American Society of Consultant Pharmacists, the most common chronic [2] diseases afflicting the elderly are -

- Alzheimer's disease - see Aging and Trans - Part 3 - Mental Health.
- Arthritis - see Aging and Trans - Part 2 - General Health.
- Coronary Heart Disease - see Aging and Trans - Part 2 - General Health.
- Cataracts - see Aging and Trans - Part 2 - General Health.
- Dementia - see Aging and Trans - Part 3 - Mental Health.
- Depression - see Aging and Trans - Part 3 - Mental Health.
- Diabetes - see Aging and Trans - Part 2 - General Health.

[2] A health condition or disease that is persistent or otherwise long-lasting in its effects or a disease that comes with time.

- Glaucoma - see Aging and Trans - Part 2 - General Health.
- Parkinson's disease - see Aging and Trans - Part 3 - Mental Health.
- Age-related Macular Degeneration - see Aging and Trans - Part 2 - General Health.
- Osteoporosis - see Aging and Trans - Part 2 - General Health (PARENTGIVING, 2016).

Other problems

- Urinary incontinence - see Aging and Trans - Part 2 - General Health and Living with incontinence.
- Sleep problems at page 275,
- delirium - see Aging and Trans - Part 3 - Mental Health.
- dementia - see Aging and Trans - Part 3 - Mental Health.

The 15 most common health concerns for the aged

Arthritis

"*Arthritis is probably the number one condition that people 65 or older contend with*", said geriatrician Marie Bernard, MD, deputy director of the National Institute on Aging in Bethesda, Maryland. It affects 49.7% of all adults over 65 and can lead to pain and lower quality of life for some seniors. Although arthritis can discourage you from being active, it's important to work with your doctor to develop a personalised activity plan that, along with other treatment, can help maintain senior health (VANN, 2015). Also see Aging and Trans - Part 2 - General conditions.

Heart Disease

According to the U.S. Centers for Disease Control and Prevention (CDC), heart disease remains the leading killer of adults over age 65, accounting for 488,156 deaths in 2013, the most recent statistics. As a chronic condition, heart disease affects 37% of men and 26% of women 65 and older. As people age, they're increasingly living with risk factors, such as high blood pressure [3] and high choles-

[3]High blood pressure or hypertension increases the risk of heart disease and stroke. Hypertension risk factors include obesity, drinking too much alcohol, smoking, and family history

terol [4], that increase the chances of having a stroke or developing heart disease. Dr. Bernard's advice for addressing this senior health risk not only helps with heart disease but can improve senior health across the board - "*Exercise, eat well, get a good night's rest. Eating well means eating in a fashion that will allow you to keep a healthy weight with a well-balanced and healthy diet*" (Vann, 2015). Also see Aging and Trans - Part 2 - General conditions.

Cancer

Cancer is the second leading cause of death among people over age 65, with 407,558 deaths in 2013. According to the CDC, 28% of men and 21% of women over age 65 are living with cancer. If caught early through screenings such as mammograms, colonoscopies, and skin checks, many types of cancer are treatable. And though you're not always able to prevent cancer, you can improve quality of life as a senior living with cancer, including during treatment, by working with your medical team and maintaining their healthy senior living recommendations (Vann, 2015).

Respiratory Diseases

Chronic lower respiratory diseases, such as COPD, are the third most common cause of death among people 65 and older, annually taking 127,194 lives. About 10% of men and 13% of women are living with asthma, and another 10% of men and 11% of women are living with chronic bronchitis or emphysema, according to the CDC. Although having a chronic respiratory disease increases senior health risks, making you more vulnerable to infections such as pneumonia, getting lung function tests and taking the correct medications or using oxygen as instructed will go a long way toward preserving senior health and your quality of life (Vann, 2015).

Alzheimer's Disease

Alzheimer's disease accounted for 83,786 deaths of people over age 65 in 2013, according to the CDC. The Alzheimer's Association reports that one in nine people age 65 and older, which is about 11%, live with Alzheimer's disease, but because

[4] is a fatty substance known as a lipid and is vital for the normal functioning of the body. It's mainly made by the liver, but can also be found in some foods

diagnosis is challenging, it's difficult to know exactly how many people are living with this chronic condition. However, experts acknowledge that cognitive impairment has a significant impact on senior health across the spectrum, from issues of safety and self-care to the cost burden of care in the home or a care home (Vann, 2015). Also see Aging and Trans - Part 3 - Mental Health.

Osteoporosis

"*Osteoporosis can contribute to becoming less mobile and potentially disabled should you fall and have a fracture or as the collapse of vertebral bodies*," Bernard said. The National Osteoporosis Foundation estimates that 54 million Americans over the age 50 are affected by low bone mass or osteoporosis, putting them at risk for a fracture or break that could lead to poor senior health and reduced quality of life. What's more: They estimate that by the year 2020 that number will rise to 64.4 million (Vann, 2015). Also see Aging and Trans - Part 2 - General conditions.

Diabetes

About 24% of men and 18% of women older than 65 are living with diabetes, a significant senior health risk. According to CDC data, diabetes caused 53,751 deaths among adults over age 65 in 2013. Diabetes can be identified and addressed early with simple blood tests for blood sugar levels. The sooner you know that you have or are at risk for diabetes, the sooner you can start making changes to control the disease and improve your long-term senior health outlook (Vann, 2015). Also see Aging and Trans - Part 2 - General conditions.

Influenza and Pneumonia

Although the flu and pneumonia are not chronic conditions, these infections are among the top seven causes of death in people over age 65, just behind diabetes. Seniors are more vulnerable to these diseases and less able to fight them off. Senior health care recommendations include getting an annual flu shot and getting the pneumonia vaccine if recommended by your doctor to prevent these infections and their life-threatening complications (Vann, 2015).

Falls

The risk for falls requiring emergency room care increases with age. In 2013, 473 per 10,000 men and 767.2 per 10,000 women found themselves at the hospital because of falls, data from the CDC shows. That is more than any other age group. And, one-third of people who go to the emergency department for a fall may find themselves there again in one year, reports an August 2015 study published in the American Journal of Emergency Medicine. Be aware: most falls occur in the home, where tripping hazards include area rugs and slippery bathroom floors, according to a 2013 Journal of Injury and Violence Research study (Vann, 2015).

Substance Abuse

An analysis of data from the National Epidemiologic Survey of Alcohol and Related Conditions suggests that one in five people over 65 have had a substance or alcohol abuse problem at some point in their lives. Alcohol and tobacco topped the list of nonmedical substances abused by survey participants. Substance and alcohol abuse are a concern for senior health because of possible interactions with prescription medications, their impact on overall health, and the increased senior health risks, such as falls, associated with intoxication (Vann, 2015).

Obesity

Obesity is an important senior health risk factor for heart disease, diabetes, and cancer - chronic conditions that impact quality of life. As the numbers on the scale increase, so does the risk for disease. Of the adults between 65 and 74, 76.9% of men and 73.8% of women are overweight - meaning that their body mass index is greater than or equal to 25. It can also be a signal that an older adult isn't as active or mobile as he or she once was (Vann, 2015).

Depression

According to the American Psychological Association, 15% to 20% of Americans over 65 have experienced depression, a threat to senior health. Depression can lower immunity and can compromise a person's ability to fight infections. In addition to treatment with medication and therapy to improve mood, possible solutions to improve senior living might be to increase physical activity - 59.4% of adults 65 and older do not meet national recommendations for exercise - or to interact more socially - seniors report spending just 8% to 11% of their free time

with family and friends (Vann, 2015). Also see Aging and Trans - Part 3 - Mental Health.

Oral Health

Healthy teeth and gums are important not just for a pretty smile and easy eating, but also for overall senior health. According to the CDC, 25% of adults over 65 have no natural teeth. As you age, your mouth tends to become dryer and cavities are more difficult to prevent, so proper oral health care, including regular dental checkups, should be a senior health care priority, Dr. Wei said (Vann, 2015).

Poverty

In 2013, 45% of adults ages 65 and older had incomes below the poverty level, according to a 2015 Kaiser Family Foundation report. This number takes into account: available financial resources, including liabilities such as taxes, value benefits such as food stamps, out-of-pocket medical expenses, geographic variations in housing expenses, and other factors. Older women are slightly more likely than men to be living in poverty, however; that gap widens in those over 80. Single older adults are also significantly more likely to live alone with fewer resources. Poverty affects senior health if you're unable to afford doctor visits, medication for chronic conditions, and other essential senior health care needs (Vann, 2015).

Shingles

Remember that bout of chicken pox you had as a child? It comes back as shingles in an adult: one out of three people over 60 will get it. The National Institutes of Health say that 50% of all American will experience shingles before they are 80. It usually affects only one side of your body and starts out with severe pain or tingling, and then develops into an itchy rash and possibly blisters. There is a vaccine available, so talk to your doctor about it (Vann, 2015).

Chapter 3

Aging

Contents

Getting older is a natural part of life. How you will feel as you get older depends on many things, including what health problems run in your family and the choices you make. If you take good care of your body and learn positive ways to deal with stress now, you can slow down or even prevent problems that often come with getting older.

It's never too early or too late to change bad habits and start good ones. No matter when you start, a healthy lifestyle can make a difference in how you feel and what you can do (WEBMD, 2016).

What determines how healthy you will be as you get older?

The changes you'll go through as you get older depend on a number of things. One is your family history (genetics [5]). If your family members have diseases or ongoing (chronic) health problems like high blood pressure or diabetes, then you may have a greater chance of having those problems yourself. But just because your risk is higher, it doesn't mean you will definitely have the same problems. In fact, the lifestyle choices you make can help reduce your chances of getting illnesses that run in your family. And even if you do get a family illness, choosing to be physically active, to eat healthy foods, and to learn how to deal with stress can keep the illness from destroying your ability to enjoy your golden years (WEBMD, 2016).

What changes should you expect as you age?

Changes as you get older are usually gradual. Certain physical changes are common. Your metabolism [6] slows over time, which means that your body needs less food energy than before. How much and how well you sleep will likely change. Most people start needing reading glasses around age 40, and many have some hearing loss later in life. Starting in your 50s, bone aging increases. Also starting around age 50, you may notice changes in sexual function - it's normal to have a slower sexual response.

Most vital organs gradually become less efficient with age. The kidneys are less able to keep enough water in your body. And the heart can start to show signs of wear and tear. So as you get older, it's important to be physically active, drink plenty of water, and choose healthy foods. Doing these things will help your body work well for a longer period of time (WEBMD, 2016).

As your body ages, you can expect gradual changes, at your body's own pace. How your body ages depends in part on your family patterns of aging. But your lifestyle choices have a more powerful impact on how well your body ages. Fortunately, you can control your lifestyle choices.

Some of the following changes may apply to you. Others may not. A healthy lifestyle may slow many of these normal effects of aging (WEBMD, 2016).

[5] How you inherit physical and behavioural characteristics, including genetic and inherited medical conditions.

[6] how fast your body can burn calories.

Skin

With age, the skin becomes less elastic and more lined and wrinkled. Fingernail growth also slows. The oil glands gradually produce less oil, making the skin drier than before. You can slow skin aging by using moisturiser and protecting the skin from the sun with sunscreen and sun-protective clothing, such as a hat or cap (WEBMD, 2016).

Your skin changes with age. That's about a lifetime of sun exposure, personal habits such as smoking and diet, and changes that happen with normal aging.

As you get older, you may notice your skin isn't as smooth or tight as it once was. It may also be drier, more fragile, and thinner than it used to be. With age, skin may also bruise more easily, due to loss of support around blood vessel walls that happens with age.

Below the skin's surface, losing fat in your cheeks, temples, chin, nose, and around your eyes may loosen skin and give your face a leaner look. If you lose bone around your mouth and chin, the skin around your mouth may pucker. Even the nose may change, if you lose cartilage there.

You may notice "lines" on your face, as early as your 30s and 40s, that result from the expressions you make. These include horizontal lines on your forehead and small, curved lines on your temples, upper cheeks, and around your mouth.

Even gravity plays a role. When the skin becomes less elastic, gravity makes eyebrows and eyelids droop, creates looseneess and fullness under the cheeks and jaw (jowls and "double chin"), and lengthens ear lobes.

You can't fight gravity. But there are other factors that you control, especially how you protect your skin from the sun and whether you smoke (GARDNER, 2015).

Sun Damage

Over time, the sun's ultraviolet (UV) light damages certain fibres in the skin called elastin. The breakdown of elastin fibres causes the skin to sag, stretch, and lose its ability to snap back after stretching. The skin also bruises, tears more easily, and takes longer to heal. So while sun damage may not show when you're young, it will later in life.

Nothing can completely undo sun damage, although the skin can sometimes repair itself. So, it's never too late to begin protecting yourself from sun exposure and skin cancer. You can delay changes associated with aging by limiting your

time in the sun, especially between the hours of 10 a.m. and 2 p.m., and wearing sunscreen with zinc oxide as a physical blocker and an SPF of 30 or more. Also, wear clothing to cover skin exposed to the sun, such as long-sleeved shirts, trousers, broad-brimmed hats and sunglasses (Gardner, 2015).

Smoking

Smokers tend to have more wrinkles than nonsmokers of the same age, complexion, and history of sun exposure (Gardner, 2015).

Dry skin

Dry skin and itching is common in later life.

That can result from overheated indoor air, the loss of oil glands with age, and anything drying (such as overusing soaps or bathing in hot water). Rarely, some medications can make the itchiness worse. If your skin is very dry and itchy, see a doctor (Gardner, 2015).

Hair

It's normal for hair to gradually thin on the scalp, pubic area, and armpits. As hair pigment cells decline in number, gray hair growth increases (webmd, 2016).

Height

By age 80, it's common to have lost as much as 2 inches (5 cm) in height. This is often related to normal changes in posture and compression of joints, spinal bones, and spinal discs (webmd, 2016).

Hearing

Over time, changes in the ear make high-frequency sounds harder to hear and changes in tone and speech less clear. These changes tend to speed up after age 55 (webmd, 2016).

Vision

Most people in their 40s develop a need for reading glasses as the lenses in the eyes become less flexible (presbyopia). It's also normal for night vision and visual sharpness to decline. Also in the later years, glare increasingly interferes with clear vision. Vision changes can affect your ability to drive safely (WEBMD, 2016).

Sleep

Changes in sleep and circadian rhythm occur as you age. You will probably sleep less at night, and you may not sleep as deeply as you did when you were younger. And it's more likely that you'll wake up during the night and/or wake up earlier in the morning (WEBMD, 2016).

Cardiovascular system

Some changes in the heart and blood vessels normally occur with age, but many other changes that are common with aging are due to modifiable factors that, if not treated, can lead to heart disease (MEDLINEPLUS, 2014).

Heart background

The heart has two sides. The right side pumps blood to the lungs to receive oxygen and get rid of carbon dioxide. The left side pumps oxygen-rich blood to the body.

Blood flows out of the heart through arteries, which branch out and get smaller and smaller as they go into the tissues. In the tissues, they become tiny capillaries.

Capillaries are where the blood gives up oxygen and nutrients to the tissues, and receives carbon dioxide and wastes back from the tissues. Then, the vessels begin to collect together into larger and larger veins, which return blood to the heart (MAYOCLINIC, 2015).

Aging changes

Heart -

- The heart has a natural pacemaker system that controls the heartbeat. Some of the pathways of this system may develop fibrous tissue and fat deposits. The natural pacemaker (the SA node) loses some of its cells. These changes may result in a slightly slower heart rate.
- A slight increase in the size of the heart, especially the left ventricle, is not uncommon. The heart wall thickens, so the amount of blood that the chamber can hold may actually decrease despite the increased overall heart size. The heart may fill more slowly.
- Heart changes cause the ECG [7] of a normal, healthy older person to be slightly different than the ECG of a healthy younger adult. Abnormal rhythms (arrhythmias), such as atrial fibrillation, are more common in older people. They may be caused by heart disease.
- Normal changes in the heart include deposits of the "aging pigment," lipofuscin. The heart muscle cells degenerate slightly. The valves inside the heart, which control the direction of blood flow, thicken and become stiffer. A heart murmur caused by valve stiffness is fairly common in the elderly (MAYOCLINIC, 2015).

Blood vessels -

- Receptors called baroreceptors monitor the blood pressure and make changes to help maintain a fairly constant blood pressure when a person changes positions or is doing other activities. The baroreceptors become less sensitive with aging. This may explain why many older people have orthostatic hypotension, a condition in which the blood pressure falls when a person goes from lying or sitting to standing. This causes dizziness because there is less blood flow to the brain.
- The capillary walls thicken slightly. This may cause a slightly slower rate of exchange of nutrients and wastes.
- The main artery from the heart (aorta) becomes thicker, stiffer, and less flexible. This is probably related to changes in the connective tissue of the blood vessel wall. This makes the blood pressure higher and makes the heart work harder, which may lead to thickening of the heart muscle (hypertrophy). The other arteries also thicken and stiffen. In general, most

[7] Electrocardiogram - a recording of the electrical conductivity of the heart

elderly people have a moderate increase in blood pressure (MAYOCLINIC, 2015).

Blood -

- The blood itself changes slightly with age. Normal aging causes a reduction in total body water. As part of this, there is less fluid in the bloodstream, so blood volume decreases.
- The speed with which red blood cells are produced in response to stress or illness is reduced. This creates a slower response to blood loss and anaemia.
- Most of the white blood cells stay at the same levels, although certain white blood cells important to immunity (neutrophils) decrease in their number and ability to fight off bacteria. This reduces the ability to resist infection (MAYOCLINIC, 2015).

What's happening

As you age, your heart rate becomes slightly slower, and your heart might become bigger. Your blood vessels and your arteries also become stiffer *as they are gradually tiring and wearing out*, causing your heart to work harder to pump blood through them. This can lead to high blood pressure and other cardiovascular problems (WEBMD, 2016).

What you can do to promote heart health

- **Include physical activity in your daily routine** - Try walking, swimming or other activities you enjoy. Regular moderate physical activity can help you maintain a healthy weight, lower blood pressure and lessen the extent of arterial stiffening.
- **Eat a healthy diet** - Choose vegetables, fruits, whole grains, high-fibre foods and lean sources of protein, such as fish. Limit foods high in saturated fat and sodium. A healthy diet can help you keep your heart and arteries healthy.
- **Don't smoke** - Smoking contributes to the hardening of your arteries and increases your blood pressure and heart rate. If you smoke or use other tobacco products, ask your doctor to help you quit.
- **Manage stress** - Stress can take a toll on your heart. Take steps to reduce stress - or learn to deal with stress in healthy ways. Also see Aging and Trans - Part 3 - Mental health.

- **Get enough sleep** - Quality sleep plays an important role in healing and repair of your heart and blood vessels. People's needs vary, but generally aim for 7 to 8 hours a night (WEBMD, 2016). See also Sleep.

Muscular system

What's happening

With age, bones tend to shrink in size and density - which weakens them and makes them more susceptible to fracture. You might even become a bit shorter. Muscles generally lose strength and flexibility, and you might become less coordinated or have trouble balancing (WEBMD, 2016).

What you can do to promote bone, joint and muscle health

- **Get adequate amounts of calcium** - For adults ages 19 to 50 and men ages 51 to 70, the Institute of Medicine recommends 1,000 milligrams (mg) of calcium a day. The recommendation increases to 1,200 mg a day for women age 51 and older and men age 71 and older. Dietary sources of calcium include dairy products, almonds, broccoli, kale, canned salmon with bones, sardines and soy products, such as tofu. If you find it difficult to get enough calcium from your diet, ask your doctor about calcium supplements.
- **Get adequate amounts of vitamin D** - For adults ages 19 to 70, the Institute of Medicine recommends 600 international units (IU) of vitamin D a day. The recommendation increases to 800 IU a day for adults age 71 and older. Although many people get adequate amounts of vitamin D from sunlight, this might not be a good source for everyone. Other sources of vitamin D include oily fish, such as tuna and sardines, egg yolks, fortified milk, and vitamin D supplements.
- **Include physical activity in your daily routine** - Weight-bearing exercises, such as walking, jogging, tennis, climbing stairs and strength training can help you build strong bones and slow bone loss.
- **Avoid substance abuse** - Avoid smoking and don't drink more than one or two alcoholic drinks a day, depending on your sex and age (WEBMD, 2016).

Digestive system

What's happening

Constipation is more common in older adults. Many factors can contribute to constipation, including a low-fibre diet, not drinking enough fluids and lack of exercise. Medications - such as diuretics and iron supplements - and certain medical conditions - such as diabetes and irritable bowel syndrome - also might contribute to constipation (WEBMD, 2016).

What you can do to prevent constipation -

- **Eat a healthy diet** - Make sure your diet includes high-fibre foods, such as fruits, vegetables and whole grains. Limit meats that are high in fat, dairy products and sweets, which might cause constipation. Drink plenty of water and other fluids.
- **Include physical activity in your daily routine** - Regular physical activity can help prevent constipation, and is important for your overall health.
- **Don't ignore the urge to have a bowel movement** - Holding in a bowel movement for too long can cause constipation (WEBMD, 2016).

Your bladder and urinary tract

What's happening

Loss of bladder control (urinary incontinence) is common with aging. Certain medical conditions, such as diabetes, might contribute to incontinence - as can menopause, for women, and an enlarged prostate, for men (WEBMD, 2016).

What you can do

To promote bladder and urinary tract health -

- **Go to the toilet regularly** - Consider urinating on a regular schedule, such as every hour. Slowly, extend the amount of time between your toilet trips.
- **Maintain a healthy weight** - If you're overweight, lose excess pounds.

- **Don't smoke** - If you smoke or use other tobacco products, ask your doctor to help you quit.
- **Do Kegel exercises** - Tighten your pelvic floor muscles, hold the contraction for five seconds, and then relax for five seconds. Try it four or five times in a row. Work up to keeping the muscles contracted for 10 seconds at a time, relaxing for 10 seconds between contractions.
- **Avoid bladder irritants** - Caffeine, acidic foods, alcohol and carbonated beverages can make incontinence worse.
- **Avoid constipation** - Eat more fibre and take necessary steps to avoid constipation, which can worsen incontinence (WEBMD, 2016).

Your memory

What's happening

Memory might naturally become less efficient with age. It might take longer to learn new things or remember familiar words or names (WEBMD, 2016).

What you can do

To keep your memory sharp -

- **Include physical activity in your daily routine** - Physical activity increases blood flow to your whole body, including your brain. This might help keep your memory sharp.
- **Eat a healthy diet** - A heart-healthy diet might benefit your brain. Focus on fruits, vegetables and whole grains. Choose low-fat protein sources, such as fish, lean meat and skinless poultry. What you drink counts, too. Too much alcohol can lead to confusion and memory loss.
- **Stay mentally active** - Mentally stimulating activities help keep your brain in shape - and might keep memory loss at bay. Do crossword puzzles. Take alternate routes when driving. Learn to play a musical instrument.
- **Be social** - Social interaction helps ward off depression and stress, which can contribute to memory loss. Look for opportunities to get together with loved ones, friends and others.
- **Lower your blood pressure** - Reducing high blood pressure might reduce vascular disease that might in turn reduce the risk for dementia. More research is needed to determine whether treating high blood pressure reduces the risk of dementia.

- **Quit smoking** - Some studies have shown smoking in middle age and older might increase your risk of dementia. Quitting smoking might reduce your risk (WEBMD, 2016).

If you're concerned about memory loss, talk to your doctor.

Your eyes and ears

What's happening

With age, you might have difficulty focusing on objects that are close up. You might become more sensitive to glare and have trouble adapting to different levels of light. Aging also can affect your eye's lens, causing clouded vision (cataracts).

Your hearing also might diminish. You might have difficulty hearing high frequencies or following a conversation in a crowded room.

What you can do

To promote eye and ear health -

- **Schedule regular checkups** - Follow your doctor's advice about glasses, contact lenses, hearing aids and other corrective devices.
- **Take precautions** - Wear sunglasses or a wide-brimmed hat when you're outdoors, and use earplugs when you're around loud machinery or other loud noises (WEBMD, 2016).

Your teeth

What's happening

Your gums might pull back (recede) from your teeth. Certain medications, such as those that treat allergies, asthma, high blood pressure and high cholesterol, can also cause dry mouth. As a result, your teeth and gums might become slightly more vulnerable to decay and infection (WEBMD, 2016).

What you can do

To promote oral health -

- **Brush and floss** - Brush your teeth twice a day and clean between your teeth - using regular dental floss or an interdental cleaner - once a day.
- **Schedule regular checkups** - Visit your dentist or dental hygienist for regular dental checkups (WEBMD, 2016).

Your skin

What's happening

With age, your skin thins and becomes less elastic and more fragile with a simultaneous decrease of fatty tissue just below the skin. You might notice that you bruise more easily. Decreased production of natural oils might make your skin drier. Wrinkles, age spots and small growths called skin tags are more common (WEBMD, 2016).

What you can do

To promote healthy skin -

- **Be gentle** - Bathe in warm - not hot - water. Use mild soap and moisturiser.
- **Take precautions** - When you're outdoors, use sunscreen and wear protective clothing. Check your skin regularly and report changes to your doctor.
- **Don't smoke** - If you smoke or use other tobacco products, ask your doctor to help you quit. Smoking contributes to skin damage, such as wrinkling (WEBMD, 2016).

Your weight

What's happening

Maintaining a healthy weight is more difficult as you get older. As you age, your muscle mass decreases and body fat takes its place. Since fat tissue burns fewer calories than does muscle, you need fewer calories to maintain your current weight (WEBMD, 2016).

What you can do

To maintain a healthy weight -

- **Include physical activity in your daily routine** - Regular moderate physical activity can help you maintain a healthy weight.
- **Eat a healthy diet** - Choose vegetables, fruits, whole grains, high-fibre foods and lean sources of protein, such as fish. Limit sugar and foods high in saturated fat.
- **Watch your portion sizes** - You might not need as many calories as you used to (WEBMD, 2016).

Your sexuality

What's happening

With age, sexual needs and performance might change. Illness or medication might affect your ability to enjoy sex. For women, vaginal dryness can make sex uncomfortable. For men, impotence might become a concern. It might take longer to get an erection, and erections might not be as firm as they used to be (WEBMD, 2016).

What you can do

To promote your sexual health -

- **Share your needs and concerns with your partner** - You might experiment with different positions or sexual activities.
- **Talk to your doctor** - He or she might offer specific treatment suggestions - such as oestrogen cream for vaginal dryness or perhaps oral medication to increase libido in women or oral medication for erectile dysfunction in men (WEBMD, 2016).

How Aging Affects Response to Drugs

Older persons react differently to medications than younger persons. Although absorption rates for most drugs don't change with age, aging alters body fat and water composition: fat stores increase while total body water decreases.

These changes can alter therapeutic drug levels, causing greater concentrations of water-soluble drugs and longer half-lives of fat-soluble drugs.

Also, because the liver metabolises many drugs, such age-related changes as reduced hepatic blood flow and liver size alter drug clearance. Drug elimination also may be affected by age-related decreases in renal blood flow, kidney size, and glomerular filtration rates, as well as changes stemming from chronic diseases.

Additionally, digoxin and certain other drugs are bound to plasma proteins so that only the unbound or free portion of the drug is biologically active. Therefore, decreases in serum albumin levels - common in older adults with chronic illnesses, malnutrition, or severe debilitation - can lead to higher drug blood levels. Subsequently, older patients may be more sensitive to some drugs and less sensitive to others (Woodruff, 2010)

Adverse Reactions to Drugs

Adverse reactions are common in older adults and often manifest differently than in younger patients. An estimated 35% of ambulatory older adults experience an adverse drug reaction each year; 29% of these reactions require hospitalisation or a doctor's care. What's more, some adverse reactions are identified incorrectly as health problems. For instance, falls, dementia, and urinary incontinence are common in the elderly and can result from a health problem or a medication (Woodruff, 2010).

In these situations a prescribing cascade [8] is a common effect.

[8] an adverse reaction to one drug goes unrecognised or misinterpreted, causing the healthcare provider to inappropriately subscribe a second drug to treat signs and symptoms. This can lead to potentially dangerous situations and overprescribing

Chapter 4

The Effects of Aging

Contents

It's no secret that our bodies change as we age. Some changes are obvious, while others are more subtle.

Many people age comfortably and remain active, alert, and vibrant throughout their lives. Their physiologic age may be quite younger than their chronological age.

Others may experience the effects of osteoporosis and osteoarthritis, which can gradually diminish their abilities to participate fully in activities.

Knowing what to expect and taking steps to counterbalance the effects of aging can help you maintain a young spirit and an independent life. A healthy diet, regular exercise program, and positive attitude can help delay the onset and slow the progression of many age-related changes (ORTHOINFO, 2009).

Aging muscles

- As muscles age, they begin to shrink and lose mass. This is a natural process, but a sedentary lifestyle can accelerate it.

- The number and size of muscle fibres also decrease. Thus, it takes muscles longer to respond in our 50's than they did in our 20's.
- The water content of tendons [9] decreases as we age. This makes the tissues stiffer and less able to tolerate stress.
- Handgrip strength decreases, making it more difficult to accomplish routine activities such as opening a jar or turning a key.
- The heart muscle becomes less able to propel large quantities of blood quickly to the body. We tire more quickly and take longer to recover.
- The body's metabolic rate [10] slows. This can lead to obesity and an increase in "bad" cholesterol levels (ORTHOINFO, 2009).

Aging bones

Throughout life, bones constantly change through a process of absorption and formation called "remodeling." As we age, the balance between bone absorption and bone formation changes, resulting in a loss of bone tissue (ORTHOINFO, 2009).

- The mineral content of bones decreases, so that bones become less dense and more fragile.
- As bones lose mass, osteoporosis develops, affecting both women and men. In the spine, osteoporosis can lead to crush fractures of the vertebrae, resulting in a "dowager's hump." Osteoporosis is also responsible for almost all hip fractures in older men and women.
- The chemistry of cartilage, which provides cushioning between bones, changes. With less water content, the cartilage becomes more susceptible to stress. As cartilage degenerates, arthritis can develop.
- Ligaments, connective tissues between bones, become less elastic, reducing flexibility (ORTHOINFO, 2009).

Aging joints

- Joint motion becomes more restricted and flexibility decreases with age because of changes in tendons and ligaments.
- As the cushioning cartilage begins to break down from a lifetime of use, joints become inflamed and arthritic (ORTHOINFO, 2009).

[9] the cord-like tissues that attach muscles to bones

[10] how quickly the body converts food into energy

Counteracting the effects of aging

Many of the changes in our musculoskeletal system result more from disuse than from simple aging.

Stretching is an excellent way to help maintain joint flexibility. Weight training can increase muscle mass and strength, enabling people to continue their daily routine activities without maximal exertion. Even moderate amounts of physical activity can reduce your risk of developing high blood pressure, heart disease, and some forms of cancer.

Long-term regular exercises may slow the loss of muscle mass and prevent age-associated increases in body fat. Exercise also helps maintain the body's response time, as well as its ability to deliver and use oxygen efficiently. Just 30 minutes of moderate activity, incorporated into your daily routine, can provide health benefits.

An exercise program doesn't have to be strenuous to be effective. Walking, square dancing, swimming, and bicycling are all recommended activities for maintaining fitness as we age.

The 30 minutes of moderate activity can be broken up into shorter periods. For example, you might spend 15 minutes working in the garden in the morning and 15 minutes walking in the afternoon. It all adds up.

But if you have never attempted an exercise program before, be sure to see your doctor before starting one now (ORTHOINFO, 2009).

Chapter 5

Older folk and Exercise

Contents

As we grow older we tend to become less active. This is often a slow process that leaves us overweight and out of shape before we know it. How can we stop this process? The first step toward a more active, healthy lifestyle is exercise (ORTHOINFO, 2008a).

Why is exercise important?

A safe, effective exercise programme can help reduce some of the aches and pains that are a part of getting older. It can also slow down the progression of conditions associated with aging. For example -

- Keeping active helps you maintain your ability to walk, which is especially important to maintain your independence.
- Exercise can improve and maintain balance and posture, reducing your risk of falling.
- Exercise can improve your strength, endurance and flexibility. It promotes bone strength. Repeated mild stress on our bones helps them maintain their calcium content and structure.
- Exercise also helps to maintain muscle mass and tone. After the age of 30 we start losing muscle mass. Exercise stimulates muscle growth and slows this process. Muscle also uses more calories than fat tissue. As we increase or maintain our muscle mass we create a better 'metabolic machine' for burning calories.
- Exercise is also important for joint health. Repetitive motion promotes the body's natural process of lubricating joint surfaces. This may help lessen joint stiffness and achiness.
- The stronger your muscles are, the more weight and stress they can handle. Stronger muscles protect your joints. As we age our joints begin to gradually weaken from typical wear and tear. Stronger muscles take weight and stress away from your joints (ORTHOINFO, 2008a).

Make time for fitness

While it's tough to find time for a long workout, it's easier to squeeze in a few minutes of exercise during the day (ORTHOINFO, 2008a).

The American Council on Exercise suggests -

- take a walk around the block when you get home from work, or park your car a little further from your office building. Take the stairs, skipping the elevator,
- on a shopping trip, walk for 10 minutes without stopping,
- clean your home or work in the garden,
- exercise before work or after work. Or exercise during your lunch or coffee break. Ask a co-worker to join you for a quick walk (DRUGS.COM, 2016c).

A balanced exercise programme

An effective exercise programme is made up of several components - Aerobic conditioning, Flexibility and agility exercises, Strength training and Relaxation techniques. Before starting an exercise programme be sure to talk to your doctor, especially if you have a heart problem or history of heart disease (ORTHOINFO, 2008a).

Aerobic conditioning

This improves the health of your heart and lungs. It also helps to manage your weight. With aerobic exercise, you move continuously to increase your heart rate and keep it elevated for a sustained period of time. How long you can exercise aerobically will depend on your fitness level. A general guideline is to work up to 20 to 30 minutes a day, three to four days a week.

Choose activities that you enjoy and can do regularly. Common aerobic activities include walking, jogging, bicycling, swimming, low impact aerobic classes, water exercise classes, and dancing. Many people prefer using machines, such as a rowing machine, stair climber, treadmill, elliptical trainer, or stationary bicycle. All forms of dancing - ballroom, social, country western - are another good way to get moving!

If you have arthritis, consider low- to no-impact activities such as water aerobics, swimming, elliptical trainer, Nordic track, stationary bicycle, or rowing machine (ORTHOINFO, 2008a).

Flexibility and agility exercises

These are important for increasing your body's range of motion. They also help lessen muscle tension and soreness, and reduce your risk of injury. We often overlook stretching and range of motion exercises, but they are very important in maintaining overall fitness.

Stretching programs and activities like yoga or Tai-chi are good examples of flexibility and agility training. Balance training is important and may help prevent falls and, therefore, fall-related fractures.

Tai-chi is a programme of exercises, breathing, and movements based on ancient Chinese practices. The aged folk who practice tai-chi or yoga have fewer falls and less fear of falling. These classes can also increase self-confidence and improve your body balance (ORTHOINFO, 2008a).

Strength training

This improves muscular capacity and bone density. Stronger muscles and bones make it easier to do everyday activities like carrying shopping bags or do general housework [11].

The most common strength training methods are working with free weights, resistance rubber bands or weight machines. It is very important to avoid strength imbalances by working all the major muscle groups, including the muscles in your arms, chest, back, stomach, hips, and legs.

If you have osteoporosis or loss of bone calcium, you will need to talk talk to your doctor before beginning a strength training programme (ORTHOINFO, 2008a).

Relaxation techniques

These are important to include in your overall fitness programme. Relaxation helps maintain overall cardiac fitness, lower blood pressure, and may even improve your immune system.

Many yoga classes include relaxation techniques like deep (diaphragmatic breathing) and simple meditation. Relaxation techniques can be as simple as sitting with your eyes closed and concentrating on controlled deep breathing (ORTHOINFO, 2008a).

Exercise Safely

- Use common sense and don't exercise when you have a cough, fever, cold or flu. But don't let a temporary illness put a permanent stop to your exercising. Resume your activities as soon as you can.
- After an illness, start your exercise programme at the beginning again. Do not immediately take up where you left off. Your body needs time to recover and rebuild. Consult your doctor even if your illness is minor.
- Be alert to air quality if you exercise at a gymnasium, especially if you have a lung condition such as asthma or bronchitis. Exercise at less-crowded times during the cold and flu season. Exercise outdoors whenever weather allows.

[11] I'm including things like vacuuming and mopping floors in this, something that exercises all parts of your body whilst cleaning your home

- If you live near an enclosed shopping centre, consider becoming a 'centre-walker'. Many centres open before the stores do and allow people to walk around. This allows you to exercise even if the weather is bad (ORTHOINFO, 2008a).

The older folks and exercise: starting an exercise programme

Before starting any exercise program, it is important to see your doctor for a complete physical examination. Ask your doctor if there are any particular medical problems you have that may affect your fitness programme. If you do, work with your doctor to develop a safe exercise programme.

It is important to remember to start slowly. It might have taken you a long time to get out of shape and it will take some time to get back into shape! Take it slowly and don't get discouraged (ORTHOINFO, 2008b).

Aerobics

There are lots of ways to exercise aerobically. If you are just getting back into exercise, a good place to start is with a walking program. Buy a pedometer at your local sports shop, or use the ones that are built-in to most mobile phones. This device attaches at your waist and tells you how many steps you have taken. Start by seeing how many steps you take in a regular day. Gradually add more steps to your daily activity. Easy ways to increase your steps include -

- parking further away from building doors,
- using the stairs instead of lifts,
- walking up escalators (ORTHOINFO, 2008b).

Once you have begun increasing your steps, gradually work toward a goal of 10,000 to 15,000 steps per day. To do this you will need to plan time to walk for exercise. Walking a half mile every other day is a good start. As this becomes easier, try walking every day. When you are ready to increase your distance, be sure not to increase it more than a half mile at a time. This will help prevent overuse syndromes or other injuries.

Wear good shoes for your walks. Make sure they fit comfortably and have a good cushion. It is also important that the shoe's toe box is wide enough for your foot. If you wear an orthotic (arch support), make sure it fits properly and always have it available when trying new shoes.

Replace your shoes every six to nine months, or about every 250 miles. Walking in worn-out shoes may lead to unnecessary pain and injury.

As you progress with your walking programme, add variety so it does not become boring. Change where or what time your walk. Find a partner to walk with. Alternate walking one day with a different aerobic activity - such as bicycling - the next. This is called "cross training."

Fitness classes are a great way to add variety to your fitness program. Try yoga, tai-chi, low impact aerobics, dancing, or cycling. Most health clubs will have a pool available for swimming and water exercise. Water exercise is another great way to start an exercise programme, especially if you are overweight and/or have joint pain. The water buoys you up and allows you to exercise with less weight and stress on your joints. Many fitness clubs offer water aerobics classes (ORTHOINFO, 2008b).

Flexibility and Agility

All aerobic activities should be followed by stretching. This will help you gain flexibility and reduce muscle soreness. Being more flexible also reduces your risk for injury (ORTHOINFO, 2008b).

Stretching before aerobic activity may also help improve flexibility. Always warm up your muscles before stretching. Five to 10 minutes of lower intensity activity - walking, for example - is a good start. Additional guidelines for stretching include -

- Stretch gently. Relax and breathe during your stretch,
- Hold each stretch for about 30 seconds,
- Don't bounce,
- Don't push a stretch too far; stretching should not be painful,
- If you have a back or joint condition, talk to your doctor or physiotherapist about a safe, effective stretching programme (ORTHOINFO, 2008b).

Strength

Strength training involves working a muscle so that tension develops in the muscle. It is a resistance training programme.

Before incorporating strength training into your fitness programme, talk with your orthopaedic surgeon, physiotherapist, GP [12], or a fitness professional about effective exercises and proper technique.

You can choose from a wide range of equipment to strength train, such as free weights, rubber bands, weight machines, and even water-filled jugs. If you use the 4-litres, or 6-litres, of milk their emptied and then filled with water, make a very good weight-training piece of equipment.

Safe, effective workout programmes can be found through organizations such as the AARP, YMCA, YWCA, or your local gym. Joining a local gym can be very beneficial when you are ready to spend more time on strength training. Many gyms offer both free weights and exercise machines to help vary your workouts and keep them interesting. Fitness professionals are onsite to provide guidance, and offer classes to teach safe weight training exercises.

Core strengthening - working the muscles of your stomach and back - is important before progressing to other strength activities. It is important to go slowly, since it may have been some time since you have used these muscles. Pilates is an exercise programme that focuses on core strengthening. Many Pilates exercises can easily be incorporated into your resistance programme (ORTHOINFO, 2008b).

More tips for effective strength training include -

- **Frequency** - Work each muscle group (arms, legs, stomach, back and hips) twice a week. Do not train the same muscle group two days in a row. Always give your muscles a rest from strength training for at least a day.
- **Speed** - Strength exercises are most effective when performed slowly. Move through the motion smoothly - do not jerk or swing the weights.
- **Quantity** - Do 8–12 repetitions of each exercise, working your muscles to fatigue. If you can do 12 repetitions without tiring, increase your weight slightly (ORTHOINFO, 2008b).

Relaxation

Relaxation helps to lower blood pressure, relieve stress, and improve the immune system.

You can add relaxation to the end of your exercise programme or do it at a separate time. Relaxation can be simple. Just sit with your eyes closed and con-

[12] General Practitioner, a community-based doctor

centrate on controlled deep breathing. Yoga or therapeutic massage are other relaxation techniques to try (ORTHOINFO, 2008b).

Hydration and Nutrition

As we get older we tend to drink less water. Our bodies need at least eight 8-ounce glasses of water each day. Caffeinated beverages, such as coffee and tea, do not count toward hydration. They act as a diuretic and remove water from the body (ORTHOINFO, 2008b).

General guidelines for healthy eating include -

- Eat your heavier meals earlier in the day. Try having a good breakfast and lunch with a light evening meal. Eating breakfast suppresses appetite later in the day for most people. Do not eat two hours before bedtime unless otherwise recommended by your doctor.
- Try eating smaller meals with a midday snack and midafternoon snack.
- Consider taking a brisk walk before breakfast. This can ”kick start” your metabolism and help to burn more calories throughout the day.
- Increase the fibre in your diet with a goal of 20 to 30 grams a day. Eat more whole grain breads, lean meats, fruits, and vegetables.
- Watch out for processed foods that are high in sodium and sugar (ORTHOINFO, 2008b).

Chapter 6

Health 60 Plus

Contents

Screening

Screening is a way of finding out if people are at higher risk of a health problem, so that early treatment can be offered or information given to help them make informed decisions (LIVEWELL, 2015r).

What is screening?

Screening is a way of identifying apparently healthy people who may have an increased risk of a particular condition. The NHS offers a range of screening tests to different sections of the population.

The aim is to offer screening to the people who are most likely to benefit from it. For example, some screening tests are only offered to newborn babies, while others such as breast screening and abdominal aortic aneurysm screening are only offered to older people (LIVEWELL, 2015r).

Screening results

If you get a normal result (a screen negative result) after a screening test, this means you are at low risk of having the condition you were screened for. This does not mean that you will never develop the condition in the future, just that you are low risk at the moment.

If you have a higher-risk result (a screen positive result), it means you may have the condition that you've been tested for. At this point, you will be offered further tests (called diagnostic tests) to confirm if you have the condition. You can then be offered treatment, advice and support.

Finding out about a problem early can mean that treatment is more effective. However, screening tests are not perfect and they can lead to difficult decisions about having further tests or treatment (LIVEWELL, 2015r).

What types of screening are offered by the NHS in England?

An independent expert group called the UK National Screening Committee (UK NSC) advises the NHS, in all four UK countries, on which screening programmes to offer. The NHS screening programmes currently offered in England are listed below (LIVEWELL, 2015r).

Diabetic eye screening

From the age of 12, all people with diabetes are offered an annual diabetic eye test to check for early signs of diabetic retinopathy (LIVEWELL, 2015r).

Cervical screening

Cervical screening is offered to women aged 25 to 64 to check the health of cells in the cervix. It is offered every three years for those aged 26 to 49, and every five years from the ages of 50 to 64 (LIVEWELL, 2015r).

Breast screening

Breast screening is offered to women aged 50 to 70 to detect early signs of breast cancer. Women over 70 can self-refer (LIVEWELL, 2015r).

Bowel cancer screening

There are two types of screening for bowel cancer.

A home testing kit is offered to men and women aged 60 to 74.

Bowel scope screening uses a thin, flexible tube with a tiny camera on the end to look at the large bowel. It is offered to men and women at the age of 55 in some parts of England (LIVEWELL, 2015r).

Abdominal aortic aneurysm (AAA) screening

AAA screening is offered to men in their 65th year to detect abdominal aortic aneurysms (a dangerous swelling in the aorta). Men over 65 can self-refer (LIVEWELL, 2015r).

Benefits, risks and limitations of screening

Making an informed choice

Before having any screening test, it's worth finding out about the test itself and what would happen next if you found out you have a higher risk of a particular condition.

Deciding whether or not to have a screening test is a personal choice and one which only you can make. When you are invited for screening, you will receive an information leaflet about the screening test. You can discuss any aspect of the screening test with your health professional and decide whether or not it's right for you.

Different types of screening have different benefits and risks. Some of these are listed below (LIVEWELL, 2015r).

The benefits of having a screening test include

- Screening can detect a problem early, before you have any symptoms.
- Finding out about a problem early can mean that treatment is more effective.
- Finding out you have a health problem or an increased risk of a health problem can help people make better informed decisions about their health.
- Screening can reduce the risk of developing a condition or its complications.
- Screening can save lives (LIVEWELL, 2015r).

The risks and limitations of screening include

- Screening tests are not 100% accurate. You could be told you have a problem when you don't - this is called a "false positive" and may lead to some people having unnecessary further tests or treatment as a result of screening. A screening test could also miss a problem - this is called a "false negative" and could lead to people ignoring symptoms in the future.
- Some screening tests can lead to difficult decisions. For example, if a pregnancy screening test tells you your baby has a higher risk of a particular condition, you may then be faced with a decision about having further diagnostic tests that involve a risk to your pregnancy. If the diagnostic test is positive, you may then need to decide whether to continue with your pregnancy.
- Finding out you may have a health problem can cause considerable anxiety.
- Even if your screening test result is normal or negative (i.e. you are not at high risk), you could still go on to develop the condition (LIVEWELL, 2015r).

How does the NHS decide which types of screening to offer?

An expert group called the UK NSC advises the NHS on which screening programmes to offer.

When considering who to screen and which conditions to screen for, the benefits of offering a screening programme are weighed up against the harms. The UK NSC only recommends screening when it believes the benefits to the group offered screening outweigh the harms.

The UK NSC regularly reviews its recommendations on screening for different conditions as new research becomes available. This is usually done every three years (LIVEWELL, 2015r).

Private screening

All screening tests provided by the NHS are free. Private companies offer a range of screening tests that you have to pay for. Some of the tests on offer are not recommended by the UK NSC because it is not clear that the benefits outweigh the harms (LIVEWELL, 2015r).

Confidentiality and use of data

By law, everyone working in, or on behalf of, the NHS must respect your privacy and keep all information about you safe. The NHS Constitution sets out how the NHS should handle your records to protect your privacy. There are also laws in place to ensure that confidentiality is maintained.

Screening records are only shared with staff who need to see them, such as technicians carrying out screening, your GP and any clinicians involved in follow-up tests and treatment. Anonymised data is sometimes used for research purposes to improve screening outcomes and the quality of services provided by the NHS (LIVEWELL, 2015r).

Men and Women

Is your blood pressure too high?

It's thought around 30% of people in England have high blood pressure, and many don't even know it. Though more than half of them are over 60, a large number are younger. Could you be one of them?

High blood pressure is common and often has no symptoms (LIVEWELL, 2015j).

Check your blood pressure

High blood pressure is often referred to as a "silent killer" - the only way to know if you have it is to have your blood pressure checked. Health professionals such as nurses, pharmacists and GPs can check your blood pressure with a simple test.

If this check shows raised blood pressure, you may be given a blood pressure kit to take home so you can monitor your blood pressure throughout the day. This will confirm whether you have consistently high blood pressure.

High blood pressure increases your risk of having a heart attack or stroke, but there are things you can do to lower your blood pressure (LIVEWELL, 2015j).

Keeping blood pressure healthy

"*There are lots of different ways you can have a significant impact on your blood pressure*," says Dr Mike Mead, a GP in Leicester.

"*Reducing your blood pressure can make a massive difference to your health. It can prevent you from having a stroke or heart attack. There are so many benefits to making sure your blood pressure stays at a reasonable level.*"

The following steps towards a healthier lifestyle will help lower your blood pressure and keep it at a healthy level (LIVEWELL, 2015j).

Exercise Do at least 30 minutes of exercise five times a week, such as walking, dancing, cycling, or swimming.

If you're not used to exercising, don't start too quickly. Talk to your doctor about how much exercise will suit you, and build up slowly (LIVEWELL, 2015j).

Find out more about how to start -

- Walking,

- Cycling,
- Swimming,
- Running.

You can find out more about health and fitness, including 10-minute home workouts.

Healthy eating A healthy balanced diet will help reduce your blood pressure. A healthy diet includes eating -

- less salt,
- less saturated fat,
- five portions of fruit and vegetables a day (LIVEWELL, 2015j).

Aim to eat no more than 6g of salt a day. Don't add salt to food. Read food labels when you're shopping to help you buy healthier foods. Many foods - including breakfast cereals, bread and soup - contain added salt.

Saturated fat is found in butter, ghee, lard, meat pies, fatty meat, sausages, cakes, biscuits, and food containing coconut oil or palm oil.

"*Many people know to avoid butter because it's high in saturated fat, but if you have three biscuits with your morning coffee, you're still getting saturated fat*," says Dr Mead.

Fruit and vegetables are good for health, whether they're fresh, tinned, frozen, dried, or in juice (LIVEWELL, 2015j).

Lose weight Exercising and eating healthily will help you lose weight. Obesity increases your risk of high blood pressure, so it's important to be a healthy weight (LIVEWELL, 2015j).

Limit your alcohol intake To reduce the risk of harming your health if you drink most weeks -

- men and women are advised not to regularly drink more than 14 units a week,
- spread your drinking over three days or more if you drink as much as 14 units a week (LIVEWELL, 2015j).

One unit of alcohol is roughly half a pint of regular-strength lager or a 125ml glass of wine.

Regularly drinking more than the 14 units a week limit puts you at risk of a number of health problems, including high blood pressure (LIVEWELL, 2015j).

Smoking Although smoking doesn't cause high blood pressure, it raises the risk of heart disease. Stopping smoking reduces this risk, and is especially important if you have high blood pressure (LIVEWELL, 2015j).

Medication Some people with high blood pressure need to take medication to lower it, as well as making the healthy lifestyle changes outlined above (LIVEWELL, 2015j).

The top 5 causes of premature death

Thousands of people in England could avoid an early death from one of the five most common killers.

Early diagnosis and better treatment could help tackle these potentially avoidable illnesses, but a few key lifestyle changes could also help you reduce your risk of getting them in the first place (LIVEWELL, 2014y).

A child born today should expect to live a longer, healthier life than ever before. Yet, one in three deaths in England are before the age of 75 and more than three quarters of these premature deaths are as a result of the five big killers -

- cancer - 42%,
- heart disease + stroke - called 'cardiovascular disease' - 22%
- stroke,
- respiratory disease - 9%,
- liver disease - 6% (LIVEWELL, 2014y).

A Government report, Living Well for Longer, blames the top five killers for more than 150,000 deaths a year among under-75s in England alone and the Department of Health estimates two-thirds of them are entirely avoidable.

Unsurprisingly, leading an unhealthy lifestyle greatly increases your chances of premature death, with smoking, drinking too much alcohol, poor diet, lack of physical activity and being overweight all key contributors to early death.

But gender, social class and geography have an influence too. Your chance of premature death is higher if you're male, working class, have a mental illness, live in the North, are disabled, have a learning disability, or if you are from an ethnic minority group.

There's also a huge gap in life expectancy between the rich and poor. In England, people from poor areas die on average seven years earlier than people in the most affluent neighbourhoods, and also spend many more years of their shorter lives with a disability (LIVEWELL, 2014y).

Reduce your risk of cancer

More than one in three people will develop some form of cancer during their lifetime. Although there are more than 200 different types of cancer, lung, breast, prostate and bowel cancer account for more than half of cases.

According to Cancer Research UK, an unhealthy lifestyle is the root cause of about a third of all cancers.

Smoking causes almost all lung cancer. Poor diet has been linked to bowel cancer, pancreatic cancer and oesophageal cancer. And heavy drinking has been implicated in the development of breast cancer.

While healthy lifestyle changes can prevent many cases of cancer, public health initiatives such as vaccination and screening aim to drive down cancer cases even further.

As part of the NHS childhood vaccination programme, all girls aged 12 to 13 are offered HPV (human papilloma virus) vaccination to protect them against cervical cancer. It's estimated that about 400 lives are saved every year as a result of vaccinating girls before they are infected with HPV.

National screening programmes for breast, cervical and bowel cancer help identify cancer at an early stage when it's more treatable.

Breast cancer screening and cervical cancer screening are believed to save 1,300 and 4,500 lives a year respectively. While bowel cancer screening has been shown to reduce the risk of dying from bowel cancer by 16%.

It's believed that newly introduced abdominal aortic aneurysm (AAA) screening will reduce the death rate from ruptured AAAs among men aged 65 and over by up to 50% and prevent around 2,000 premature deaths a year (LIVEWELL, 2014y).

- Make sure you know the key symptoms of the main cancers,
- Take up the offer of cancer screening. Find out more about the NHS screening programmes for breast cancer, cervical cancer and bowel cancer,
- Find out who is eligible for cervical cancer vaccination (LIVEWELL, 2014y).

Reduce your risk of heart disease

Experts say most cases of premature death from heart disease are completely preventable. Smoking, being overweight, having high blood pressure and/or high cholesterol, heavy drinking and physical inactivity are all key risk factors.

If you're over 40, ask your GP about the NHS Health Check, a free five-yearly mid-life MOT to look for things like high blood pressure and high cholesterol

Exercise reduces your risk of heart attack by 30%. Try to do more exercise, especially aerobic exercise like walking, swimming and cycling.

Carrying extra weight puts a strain on your heart (LIVEWELL, 2014y).

Reduce your risk of stroke

Stroke is the third leading cause of death in England each year and the leading cause of disability. More than 150,000 people have a stroke every year in the UK but, according to The Stroke Association, up to 10,000 of these could be prevented if more people were aware of the symptoms and sought out emergency treatment.

High blood pressure is a key cause of stroke. Almost one in three people in England have high blood pressure and nearly half of them aren't receiving any treatment for the condition, says the British Heart Foundation (LIVEWELL, 2014y).

- Watch out for the symptoms of stroke.
- A good way to reduce high blood pressure is to reduce your salt intake (LIVEWELL, 2014y).

Reduce your risk of respiratory disease

Respiratory disease covers a variety of conditions ranging from asthma to chronic obstructive pulmonary disease (COPD) one of the commonest causes of death.

COPD is almost completely avoidable. Most cases (around 85%) are caused by smoking. The other 15% of cases are triggered by exposure to fumes, chemicals and dusts at work or, very occasionally, because of a rare genetic tendency to develop COPD called alpha-1-antitrypsin deficiency (LIVEWELL, 2014y).

Reduce your risk of liver disease

Liver disease is on the increase in England with a 20% increase in cases over the last decade. The disease develops silently and many people have no idea there's anything wrong until they develop liver failure and it's too late.

The three main causes of liver disease are heavy drinking, obesity and viral hepatitis (inflammation of the liver).

More than a third of men and over a quarter of women regularly exceed the recommended level of alcohol intake (LIVEWELL, 2014y).

Living with incontinence

- **Urinary incontinence** - is the unintentional passing of urine. It is a common problem and is thought to affect millions of people worldwide. Also see Aging and Trans - Part 2 - General Health.
- **Bowel incontinence** - is an inability to control bowel movements, resulting in involuntary soiling. It's also sometimes known as **faecal incontinence**.

Enjoy good sex despite incontinence

Worries about embarrassing leaks during sex can mean you avoid intimate contact, which puts strain on relationships and damages your self-esteem and self-confidence. There's no reason why anyone with bladder or bowel weakness can't enjoy intimate relationships.

If you empty your bladder and bowel and don't drink too much before having sex, any leak probably won't be serious. Sex involves all sorts of bodily fluids, so a small leak won't cause a problem, and probably won't even be noticed.

It can give you peace of mind to protect the bed. Bed pads, which absorb moisture and have a stay-dry cover, may be the most comfortable way (LIVEWELL, 2015l).

Prepare for local trips

People with incontinence can worry so much about needing the toilet, even on quick trips to the local shops, that they become virtually housebound.

The Bladder and Bowel Foundation (B&BF) can provide a 'Just can't wait' toilet card. You can show this card when asking to use the toilet at a shop, restaurant or other UK business. It doesn't guarantee access to their toilets (as every business has different health and safety rules), but it proves you have a genuine medical condition that requires the urgent use of a toilet. Most places will try to help you (LIVEWELL, 2015l).

Call the B&BF on 01536 533 255 to get a card, or download the application form.

You can also get a key from the disability network RADAR that allows you to use disabled toilets around the country under the National Key Scheme (LIVEWELL, 2015l).

How to look after your skin if you have incontinence

Constant dampness can make your skin irritated, but you can avoid this by following a simple routine.

Wash using a cotton cloth or disposable wipes (flannels and sponges can be too harsh). Use products that cleanse without drying. These are available as non-aerosol sprays, foams and disposable wipes. Don't use soap and baby wipes, as they make the skin dry. Baby wipes often contain alcohol, which can irritate.

After cleansing, always moisturise and use a barrier cream. This forms a protective layer to block out unwanted moisture (LIVEWELL, 2015l).

Incontinence products to take on holiday

Incontinence shouldn't stop you going on holiday or staying with friends. The key is to plan ahead.

Take enough of all the products you use with you. If you intend to do your own laundry, find out where you can wash and dry items in private, if necessary.

A portable washing line and pegs can be useful. Take a small bag containing your clean-up kit with you. This could contain a change of clothes, pads, handwash, wet wipes and plastic bags.

If you're flying, pre-book an aisle seat near the toilet and wear loose-fitting clothes, as they're more comfortable and make changing easier.

While you're away, use a disabled toilet as there will be a washbasin and more room to change your clothes.

Finally, pack a deodorising spray, which will remove odours, rather than just masking them.

Read the B&BF's information on travelling with confidence (LIVEWELL, 2015l).

Tips for incontinence at work

It can be a struggle to manage bladder and bowel problems at work.

A study by Promocon (promoting continence and product awareness), which provides information and advice about incontinence products and services, found that coping with incontinence symptoms at work is a big source of anxiety for people with bladder and bowel problems, especially men.

Some people who told their colleagues or employer about their continence problems reported a negative response, while others found their boss supportive and understanding.

This leaflet from PromoCon gives advice on how to decide whether to tell your manager about your continence difficulties and suggests incontinence products that can help at work.

PromoCon also has information for employers about how they can support employees with incontinence (LIVEWELL, 2015l).

Fight depression with talking therapy

Incontinence can affect you mentally as well as physically. The negative effect on your self-esteem, dignity and independence can lead to isolation, distress and depression. According to continence nurses, up to 70% of people with incontinence are affected by depressive illnesses.

"*This condition really damages a person's body image*," says continence adviser Karen Logan. "*People feel their body has let them down.*"

It helps to talk to people you trust, so tell your friends and family how you're feeling. If you'd rather speak to someone else, call B&BF's helpline on 0845 345 0165 for a sympathetic chat and general advice (LIVEWELL, 2015l).

Ways to stop leaks

Do daily pelvic floor exercises Pelvic floor exercises can be really effective at reducing leakage, but it's important to do them properly. Find out how to do pelvic floor exercises.

You may have to do pelvic floor exercises for three months before you see any benefits (LIVEWELL, 2015b).

Quit smoking If you smoke, you put yourself at risk of incontinence, because coughing puts strain on your pelvic floor muscles.

Advice to help you stop smoking is available from your GP or pharmacist.

If you want to go direct, find your nearest NHS Stop Smoking Service from the NHS Smokefree website, or call the Smokefree National Helpline to speak to a trained adviser on 0300 123 1044 (LIVEWELL, 2015b).

Do the right exercises High-impact exercise puts pressure on your pelvic floor muscles and can increase leakage. Sit-ups can also make you leak by straining your pelvic floor muscles. If you want to strengthen your pelvic floor to relieve symptoms, replace jogging and aerobics classes with Pilates. This gentle method of stretching and strengthening core muscles is becoming more popular as a treatment for stress incontinence (LIVEWELL, 2015b).

Avoid lifting if you have incontinence Lifting puts strain on your pelvic floor muscles, so avoid it wherever you can. When you do need to lift something, like picking up children or shopping bags, tighten your pelvic floor muscles before and during the lift (LIVEWELL, 2015b).

Fight incontinence by losing weight Being overweight can weaken your pelvic floor muscles and can cause incontinence, because of the pressure of fatty tissue on the bladder. Your symptoms may improve, and could clear up completely, if you lose the excess weight (LIVEWELL, 2015b).

Treat constipation promptly Straining to empty your bowels weakens your pelvic floor muscles and makes leakage worse.

Never delay the urge to empty your bowels. If you have Constipation, it may help to change your diet and lifestyle.

Eating more fibre and taking more exercise can help. It may also help if you change the way you sit and use your muscles to empty your bowels. A specialist physiotherapist can advise you on this (LIVEWELL, 2015b).

Cut down on caffeine Caffeine irritates the bladder and can make incontinence worse. Coffee has the biggest effect, so stop drinking it or switch to decaffeinated. Fizzy drinks, tea and hot chocolate also contain caffeine, so cut down on these too and replace them with water and herbal or fruit teas (LIVEWELL, 2015b).

Cut down on alcohol to improve incontinence Alcohol is a diuretic, which makes you urinate more often. Cutting down may help your incontinence symptoms (LIVEWELL, 2015b).

Drink plenty of water Drink six to eight glasses of fluid a day (but no more) unless your doctor advises you otherwise.

Many people with urinary incontinence avoid drinking fluids, as they feel it causes more problems. However, limiting your fluid intake makes incontinence worse, because it reduces your bladder's capacity (LIVEWELL, 2015b).

Eat the right foods Avoid spicy and acidic foods, such as curries and citrus fruits, as they can irritate the bladder and make leaks and other incontinence symptoms worse (LIVEWELL, 2015b).

Keep your bones strong over 65

It's true that our bones tend to lose strength as we get older. But even in later years there is plenty we can do to slow down bone loss and avoid the bone-thinning disease osteoporosis.

"*Fractures related to osteoporosis mainly occur later in life and we're all living longer - men and women*," says Sarah Leyland, senior osteoporosis nurse at the National Osteoporosis Society. "*But even when you are over 65 there are still things you can do to strengthen your bones as well as reduce your risk of falling, to prevent fractures*" (LIVEWELL, 2015k).

Stay active over 65 for healthy bones

In general our activity levels tend to drop as we get older. You may feel you don't have the energy to exercise or that you may harm yourself in some way. Physical problems like stiff, painful joints can also make us less inclined to be active.

The problem is that being inactive makes your muscles and bones lose strength. This increases your risk of osteoporosis, falls and fractures. By staying active you can significantly lower your risk of breaking a bone.

Doing something is always better than doing nothing. But for optimum health, it's recommended that people over 65 get 150 minutes of moderate-intensity exercise, in bouts of 10 minutes or more, every week.

With moderate-intensity activities you will get warmer, breathe harder and your heart will beat faster, but you should still be able to carry on a conversation. Examples include a round of golf with friends, doing some gardening, or taking the dog for a walk.

Muscle strength is vital for improving your balance and staying independent and mobile in later years. It's recommended that people over the age of 65 do activities to improve muscle strength at least twice a week. This could include

dancing, carrying groceries, going up and down stairs, or exercising to music - in fact, anything that challenges your muscles.

It's also a good idea to do activities to improve balance and co-ordination twice a week as this can reduce your risk of falling. Things such as Yoga or Tai-chi are best for this. These types of activity can also ease stiffness and unsteadiness associated with painful joints.

Another important tip for over 65's is to avoid sitting around for long periods. As well as reducing muscle and bone strength, this can make joints feel stiffer and so increase the risk of falls. If you find you have been sitting for more than about 20–30 minutes, get up and go for a stroll.

Physical problems, such as painful joints, needn't prevent you from being active. Classes are available for people who are older or who have underlying health conditions, such as heart disease or arthritis. Ask your GP or practice nurse, or make enquiries at your local leisure centre (LIVEWELL, 2015k).

Exercising with osteoporosis

If you have a high fracture risk or spinal fractures caused by osteoporosis, you need to look after your back. It's especially important to bend your knees when lifting objects. Avoid movements that involve awkward bending and lifting movements. You may need to be cautious about some types of high impact exercises. Your GP can advise you about this (LIVEWELL, 2015k).

Eating for healthy bones over 65

Some people find their appetite starts to drop as they get older. Eating less can make it more difficult to get the nutrients you need to keep muscles and bones strong and healthy.

Staying active will help to keep your appetite up. But if you don't feel like eating much some days, it's still important to try and stick to a balanced diet, says Sarah Leyland. "*Don't just have tea and biscuits*," she says. "*Try to keep to a balanced diet with fruit and veg, dairy, carbohydrates and protein*."

Maintaining a balanced diet will ensure you are getting all the nutrients you need. Healthy muscles and bones especially need calcium, vitamin D and protein. Calcium is what makes our bones (and teeth) strong and rigid, and vitamin D helps our bodies to absorb calcium.

Protein, meanwhile, is important for muscle strength. "*Low protein has been linked with a higher risk of hip fracture in older people*," says Leyland.

Another reason to eat a balanced diet is that it will help you to maintain a healthy body weight. Being underweight is linked to a higher risk of fractures.

If your diet isn't as good as it should be you may want to consider taking a dietary supplement. Go for one that contains calcium and vitamin D. Your GP or pharmacist can help you choose one that's suitable for you.

Some medicines can affect your appetite. If you think a medicine you are taking may be affecting your appetite, perhaps because it makes you feel nauseous, talk with your pharmacist or GP. They may be able to suggest an alternative (LIVEWELL, 2015k).

Vitamin D and older people

Vitamin D is important for both strong muscles and healthy bones. People aged over 65 are more likely to lack vitamin D. For this reason it's recommended that people in this age group take a daily supplement containing 10mcg of vitamin D. "*You can buy this cheaply over the counter or your GP can prescribe it*," says Leyland.

Some foods contain vitamin D. These include oily fish such as mackerel and salmon, eggs, and spreads fortified with vitamin D. However, it's difficult to get enough vitamin D from food alone and as we get older our body's ability to absorb vitamins and minerals from food decreases.

The best natural source of vitamin D is summer sunlight. The action of sunlight on bare skin provides us with vitamin D. However, in the UK the sun is only strong enough to make vitamin D from May to September. About 10 minutes' sun exposure once or twice a day without sunscreen on sunny summer days will help to keep your vitamin D levels topped up.

Taking a vitamin D supplement is particularly important if your diet is poor, you have darker skin, or you don't get outside much. If you have osteoporosis, your GP may prescribe a calcium supplement, too (LIVEWELL, 2015k).

Other ways to protect bones in over-65s

The older we get the more likely we are to experience broken bones, particularly fractures of the hip or spine. Each year there are about 300,000 fractures in the UK and most of these are in older people.

This is partly because older people are more likely to have osteoporosis but also because they are more likely to have falls.

To help prevent falls and fractures -

- **Get your eyesight and hearing checked** - sight plays a vital role in balance and mobility so make sure you get your eyes tested at least once every two years. Eye tests are free for everybody over the age of 60 in the UK. Ear problems can also affect your balance. See your GP if you think your hearing is getting worse or you are experiencing any dizziness.
- **Look after your feet** - foot pain can make it difficult to stay active and can increase your risk of falls. See your GP promptly if you have painful feet.
- **Manage your medicines** - some medicines, including some used to control blood pressure, can make you feel faint or dizzy. Regular medication reviews with your GP or pharmacist will ensure that the drugs you take are effective without causing unwelcome side-effects (LIVEWELL, 2015k).
- Find out your risk of having a fall.
- For more fall prevention tips download Get Up and Go: A Guide to Staying Steady (LIVEWELL, 2015k).

Lower your cholesterol

Eating a healthy diet and doing regular exercise can help lower the level of cholesterol in your blood.

Adopting healthy habits, such as eating a healthy, balanced diet and keeping active, can also help prevent your cholesterol levels becoming high in the first place.

It's important to keep your cholesterol in check because high cholesterol levels increase your risk of heart disease and stroke.

If you're concerned about your cholesterol, talk to your GP. If you are aged 40 to 74, you can get your cholesterol checked as part of an NHS Health Check.

If your GP has advised you to change your diet to reduce your blood cholesterol, you should cut down on saturated fat and eat more fibre, including plenty of fruit and vegetables (LIVEWELL, 2015n).

Fats and cholesterol

Saturated and unsaturated fat There are two main types of fat - saturated and unsaturated. Eating too many foods high in saturated fat can raise the level of cholesterol in your blood. Most people in the UK eat too much saturated fat (LIVEWELL, 2015n).

Foods high in saturated fat include -

- meat pies,
- sausages and fatty cuts of meat,
- butter, ghee and lard,
- cream,
- hard cheeses,
- cakes and biscuits,
- foods containing coconut or palm oil (LIVEWELL, 2015n).

Eating foods that contain unsaturated fat instead of saturated fat can actually help reduce cholesterol levels.

Try to replace foods containing saturated fats with small amounts of foods high in unsaturated fats, such as -

- oily fish - such as mackerel and salmon,
- nuts - such as almonds and cashews,
- seeds - such as sunflower and pumpkin seeds,
- avocados,
- vegetable oils and spreads - such as rapeseed or vegetable oil, sunflower, olive, corn and walnut oils (LIVEWELL, 2015n).

Trans fats Trans fats can also raise cholesterol levels. Trans fats can be found naturally in small amounts in some foods, such as animal products, including meat, milk and dairy foods.

Artificial trans fats can be found in hydrogenated fat, so some processed foods, such as biscuits and cakes, can contain trans fats.

In the UK, manufacturers and most of the supermarkets have reduced the amount of trans fats in their products. Most people in the UK don't eat a lot of trans fats, but you should keep checking food labels for hydrogenated fats or oils (LIVEWELL, 2015n).

Reducing total fat Reducing the total amount of fat in your diet can also help reduce your risk of heart disease (LIVEWELL, 2015n).

Instead of roasting or frying, consider -

- grilling,
- steaming,
- poaching,
- boiling,
- microwaving (LIVEWELL, 2015n).

Choose lean cuts of meat and go for lower-fat varieties of dairy products and spreads, or eat a smaller amount of full-fat varieties (LIVEWELL, 2015n).

Fibre and cholesterol

Eating plenty of fibre helps lower your risk of heart disease, and some high-fibre foods can help lower your cholesterol. Adults should aim for at least 30g of fibre a day (LIVEWELL, 2015n).

Your diet should include a mix of sources of fibre. Good sources of fibre include -

- wholemeal bread, bran and wholegrain cereals,
- fruit and vegetables,
- potatoes with their skins on,
- oats and barley,
- pulses such as beans, peas and lentils,
- nuts and seeds (LIVEWELL, 2015n).

Aim to eat at least five portions of different fruit and vegetables a day (LIVEWELL, 2015n).

Foods containing cholesterol

Some foods naturally contain cholesterol, known as dietary cholesterol. Foods such as kidneys, eggs and prawns are higher in dietary cholesterol than other foods.

The cholesterol found in food has much less of an effect on the level of cholesterol in your blood than the amount of saturated fat you eat.

If your GP has advised you to change your diet to reduce your blood cholesterol, the most important thing to do is to cut down on saturated fat. It's also a good idea to increase your intake of fruit, vegetables and fibre (LIVEWELL, 2015n).

Get active

An active lifestyle can also help lower your cholesterol level. Activities can range from walking and cycling to more vigorous exercise, such as running and energetic dancing. Doing 150 minutes of moderate aerobic activity every week can improve your cholesterol levels.

Moderate aerobic activity means you're working hard enough to raise your heart rate and break a sweat. One way to tell whether you're exercising at a moderate

intensity is if you can still talk, but you can't sing the words to a song (LIVEWELL, 2015n).

Cholesterol-lowering products

If your doctor has told you you have high cholesterol and you can lower it by changing your diet, there's no need to buy special products to lower your cholesterol. These products are not recommended by doctors and they're no substitute for a healthy, balanced diet.

There are foods specially designed to lower your cholesterol, such as certain dairy spreads and yoghurts containing added ingredients called plant sterols and stanols. There is some evidence these ingredients may help reduce the cholesterol in your blood, but there is no evidence they also reduce your risk of a heart attack or stroke.

These products are designed for people who already have high cholesterol, but it's not essential to eat plant sterols or stanols to help manage your cholesterol. There may be other, simpler and less expensive changes you can make, such as eating a healthy, balanced diet and being more physically active.

There are some groups of people these products are not suitable for, including children and pregnant or breastfeeding women. If you do eat foods designed to lower your cholesterol, read the label carefully. These foods need to be eaten every day and in the right amount, as having too much could be harmful (LIVEWELL, 2015n).

Statins

Statins [13] are medicines that can help lower your cholesterol. They are usually offered to people who have been diagnosed with coronary heart disease or another cardiovascular disease, or whose personal or family medical history suggests they are likely to develop it during the next 10 years. For most other people, the first way to tackle high cholesterol is by making changes to your diet and getting more active (LIVEWELL, 2015n).

[13] Statins are a group of medicines that can help lower the level of low-density lipoprotein (LDL) cholesterol in the blood. LDL cholesterol is often referred to as "bad cholesterol", and statins reduce the production of it inside the liver

Over-the-counter statins If you have high cholesterol, you should talk to your GP about how you can lower it. People who need statins can be prescribed them, and your GP can also advise you on healthy lifestyle changes.

Some pharmacies sell low-dose statins, which you can buy without a prescription, but they are no substitute for lowering your cholesterol by eating a healthy, balanced diet and being active.

Speak to your pharmacist if you are considering over-the-counter statins. If you have high cholesterol and need statins, your GP will prescribe them and monitor how well they are working (LIVEWELL, 2015n).

Eye health tips for older people

Because our eyesight changes as we get older, almost all of us will need to wear glasses or contact lenses by the time we're 65.

If you have regular eye tests, wear the right lenses and look after your eyes, there's a better chance your sight will remain clear (LIVEWELL, 2015e).

Have regular eye tests

An eye test is not just good for checking whether your glasses are up to date. It's also a vital check on the health of your eyes. An eye test can pick up eye diseases, such as glaucoma and cataracts, as well as general health problems, including diabetes in Aging and Trans - Part 2 - General Health and high blood pressure.

The good news is that if you're 60 or over, you can have a free NHS eye test every two years. You can have a free test every year if you're 70 or over.

However, a 2011 survey from Age UK showed that nearly 2 million people over 60 did not take advantage of free eye tests in the previous two years.

Helena Herklots, services director at Age UK, said: *"It's worrying that such a high number of older people have not had a sight test recently. Going for regular sight tests and wearing the right glasses will not only improve balance, co-ordination and mobility but will help to maintain general eye health."*

If you can't leave your home because of illness or disability, you can have an NHS eye test at home. Contact your usual optician to find out if they can visit you at home. Otherwise, NHS England will have a list of opticians in your area that do home visits. Contact NHS England on 0300 311 22 3 or email england.contactus@nhs.net 0845 (LIVEWELL, 2015e).

Wear the right lenses

An eye test will establish whether you need a different prescription for your glasses or contact lenses.

It's important to wear the correct prescription lenses. This will improve your quality of life and reduce the risk of accidents such as falls.

According to Age UK's research, poor vision was a factor in 270,000 falls in people over the age of 60 in the previous two years.

You may be entitled to help with the cost of NHS glasses or contact lenses, so ask your optician about this (LIVEWELL, 2015e).

How to keep your eyes healthy

As well as having regular eye tests and wearing the correct glasses, you can do several things to keep your eyes as healthy as possible -

- **Eat well** - Eating a healthy, balanced diet is important for your eyes. Eating plenty of vegetables and fruit will benefit your overall health and may help protect against some conditions such as cataracts and age-related macular degeneration (AMD, see below). Read tips on how to have a healthy, balanced diet.
- **Wear sunglasses** - Strong sunlight can damage your eyes and may increase your risk of cataracts. Wear sunglasses or contact lenses with a built-in UV filter to protect your eyes from harmful rays. Read more about protecting your eyes (and skin) from the sun.
- **Quit smoking** - Smoking can increase your chances of developing conditions such as cataracts and AMD. Find out how the NHS can help you stop smoking.
- **Stay a healthy weight** - Being overweight increases your risk of diabetes, which can lead to sight loss. Check if you're a healthy weight.
- **Use good lighting** - To see well, your eyes need three times as much light when you're 60 as they did when you were 20. Increase the daylight in your home by keeping windows clean and curtains pulled back. Make sure you have good electric lighting too, especially at the top and bottom of stairs so you can see the steps clearly. For reading or close work, use a direct light from a flexible table lamp, positioned so the light is not reflected by the page and causing glare.
- **Exercise** - Good circulation and oxygen intake are important for our eye health. Both of these are stimulated by regular exercise. Read more about how much exercise you should do.

- **Sleep well** - As you sleep, your eyes are continuously lubricated and irritants, such as dust or smoke, that may have accumulated during the day are cleared out (LIVEWELL, 2015e).

Eye problems as you get older

As you get older, you become more likely to get certain eye problems -

- **Difficulty reading** - Eye muscles start to weaken from the age of 45. It's a natural ageing process of the eye that happens to us all. By the time you're 60, you'll probably need separate reading glasses or an addition to your prescription lenses (bifocals or varifocals).
- **Floaters** - These tiny specks or spots that float across your vision are normally harmless. If they persist, see an optician as they may be a sign of an underlying health condition.
- **Cataracts** - Easily detected in an eye test, this gradual clouding of the eye's lens is extremely common in over-60s. A simple operation can restore sight.
- **Glaucoma** - This is related to an increase in pressure in the eye that leads to damage of the optic nerve, which connects the eye to the brain. Left untreated, glaucoma leads to tunnel vision and, ultimately, blindness. However, if it's detected early enough, these complications can usually be avoided with eye drops.
- **Macular degeneration** - This is a disease of the retina caused by ageing. The retina is the nerve tissue lining the back of your eye. There are two types of macular degeneration. The first type, called dry macular degeneration, gets worse very slowly. The other type gets worse very quickly. This needs to be seen as an emergency in a hospital eye unit for prompt treatment (LIVEWELL, 2015e).

Foods to avoid if you're over 65

Older people are at higher risk of food poisoning [14]. And, some foods are more likely to cause food poisoning than others. Here's advice on which foods to avoid or be careful with when you're over 65.

Some foods can cause food poisoning if they're contaminated with certain bugs.

[14] an illness caused by eating contaminated food. It's not usually serious and most people get better within a few days without treatment

While most healthy people recover from food poisoning without treatment, you're especially vulnerable to a bout of severe (even life-threatening) food poisoning if you're over 65 because your immune system isn't as strong as that of someone younger and it's harder for your body to fight off germs.

Food poisoning isn't just a nuisance. The symptoms in people over 65 are often worse than in younger people, and can lead to dangerous complications such as dehydration [15].

Older people can also take longer to recover from food poisoning.

If you have symptoms of food poisoning seek medical help straight away (LIVEWELL, 2015g).

The main symptoms include -

- feeling sick (nausea),
- vomiting,
- diarrhoea, which may contain blood or mucus,
- stomach cramps and abdominal (tummy) pain,
- a lack of energy and weakness,
- loss of appetite,
- a high temperature (fever),
- aching muscles,
- chills (NHS, 2015e).

(This advice also applies to anyone with a weakened immune system, including people with an underlying health condition, pregnant women and babies and young children.)

Here are foods to be careful with -

Some soft cheeses

It's best to avoid eating mould-ripened soft cheese, such as brie and camembert along with soft blue cheeses, such as danish blue, gorgonzola and roquefort, and any unpasteurised soft cheeses.

These cheeses can be risky to eat when you're older because they may be less acidic and contain more moisture than hard cheeses, which makes them an ideal

[15] this occurs when your body loses more fluid than you take in

environment for food poisoning bugs, particularly listeria [16], to grow in. Cooked soft cheeses are fine because heat kills this bacteria (LIVEWELL, 2015g).

Pâté

Try to steer clear of all types of fresh or chilled pâté, including vegetable pâtés, as they can contain listeria. Tinned pâté should be harmless as it will have gone through a heat treatment as part of the canning process (LIVEWELL, 2015g).

Raw or runny eggs

Avoid foods that contain raw and undercooked eggs, such as homemade mayonnaise, eggnog, and hollandaise sauce because they increase your risk of salmonella food poisoning.

Always cook eggs until the whites and yolks are solid to prevent problems. If you want to eat a dish that contains raw or partially cooked egg it's safer to use pasteurised eggs (LIVEWELL, 2015g).

Cold meats

Many cold meats such as salami, Parma ham, chorizo and pepperoni are not cooked, just cured and fermented, so there's a risk that they contain toxoplasmosis-causing parasites. It's best to check the instructions on the pack to see whether the product is ready-to-eat or needs cooking first.

For ready-to-eat meats, you can reduce any risk from parasites by freezing cured/fermented meats for four days at home before you eat them. Freezing kills most parasites and so makes the meat safer to eat.

If you're planning to cook the meat (for instance, pepperoni on pizza) then you don't need to freeze it first.

If you're eating out in a restaurant that sells cold cured/fermented meats they may not have been frozen. If you're concerned, ask the staff or avoid eating it (LIVEWELL, 2015g).

[16] Listeriosis is an infection that usually develops after eating food contaminated by listeria bacteria. In most people, listeriosis is mild and causes symptoms including a high temperature (fever), vomiting and diarrhoea. These symptoms usually pass within three days without the need for treatment

Raw or undercooked meat and poultry

Be careful at barbecues. Rare or undercooked meat - especially poultry, sausages and burgers - can harbour food poisoning bugs such as salmonella, campylobacter and E.coli.

Make sure you cook meat or poultry thoroughly so there's no trace of pink or blood. And remember to wash your hands along with all kitchen surfaces and knives after preparing raw meat or poultry to prevent spreading any harmful bugs.

Read why you should never wash chicken plus lots of other kitchen hygiene tips (LIVEWELL, 2015g).

Raw shellfish

Hold the oysters! Raw shellfish (such as mussels, lobster, crab, prawns, scallops and clams) can contain harmful bacteria and viruses that can trigger food poisoning.

Cooked shellfish is safe, as are cold pre-cooked prawns (LIVEWELL, 2015g).

Sushi

Sushi and other dishes made with raw fish are fine as long as the fish has been frozen first. This is because fish occasionally contains small parasitic worms that can make you ill, but freezing kills the worms and makes raw fish safe to eat.

Sushi sold in shops is generally "bought in" and therefore safe to eat because it will have been previously frozen appropriately.

If you make your own sushi at home, freeze the fish for at least four days before using it (LIVEWELL, 2015g).

Milk

Don't drink raw (unpasteurised) milk. Instead, stick to pasteurised or UHT (ultra-heat treated) milk - sometimes also called long-life milk.

In reality, all the milk sold in shops and supermarkets will be pasteurised or UHT; you can only buy unpasteurised milk direct from farms, farm shops and at registered farmers' markets (LIVEWELL, 2015g).

Bean sprouts

Beware of raw or lightly cooked bean sprouts as they're a potential source of food poisoning.

The warm, moist conditions required to grow sprouts are ideal for the rapid growth of bacteria. So make sure to cook all sprouted seeds thoroughly until they're steaming hot throughout before eating them (LIVEWELL, 2015g).

Foot care for older people

You're more prone to foot problems like corns, blisters and foot infections in later life as the skin becomes thinner and less elastic. But painful or uncomfortable feet aren't a natural part of ageing, and can be alleviated.

If you're having trouble looking after your feet, you're not alone. Age UK reports that nearly one in three older people can't cut their own toenails.

Foot care problems tend to happen if you're less mobile than you used to be, particularly if you have difficulty bending down. Poor eyesight, can also make it harder for you to look after your feet (LIVEWELL, 2015h).

How to look after your feet

Your feet will remain in better condition if you have a regular foot routine. This includes -

- cutting and filing toenails and keeping them at a comfortable length,
- smoothing and moisturising dry and rough skin,
- checking for cracks and breaks in the skin and inflammation such as blisters.
- looking for signs of infection like nail fungus or other obvious early problems, and seeking professional advice,
- wearing suitable socks and footwear,
- keeping your feet clean, dry, mobile, comfortable and warm. Bedsocks are a good idea (LIVEWELL, 2015h).

If it's difficult for you to follow this routine yourself, see a professional chiropodist/podiatrist for help (LIVEWELL, 2015h).

Foot care on the NHS

Depending on where you live, it may be possible for you to have routine chiropody/podiatry on the NHS but this is not the general rule.

NICE guidance recommends that footcare services related to long term conditions such as diabetes see Aging and Trans - Part 2 - General Health, peripheral arterial disease and rheumatoid arthritis see {Aging and Trans - Part 2 - General Health} should be available on the NHS.

It's less likely that you will be eligible for footcare on the NHS if you do not have a long-term condition or a specific foot problem, such as a bunion, that is hindering your mobility.

If you don't qualify for NHS treatment or you would prefer to pay privately for treatment, contact the Institute of Chiropodists and Podiatrists or the Society of Chiropodists and Podiatrists to find a registered podiatrist in your area. Make sure you ask about the cost before you agree to go ahead with treatment (LIVEWELL, 2015h).

Medical foot problems

If you have a specific problem with your feet, see your GP. You don't have to put up with pain and discomfort in your feet simply because you're getting older.

Most foot problems can be treated, which means you will be in less pain and able to move around better (LIVEWELL, 2015h).

Tips on foot care

Your feet take the weight of your whole body, so foot problems can quickly lead to discomfort and affect the way you walk. This can in turn cause knee, hip and back pain.

Research from The College of Podiatry shows that nine in 10 of us experience some sort of foot problem, with one in five admitting to suffering with foot pain often or constantly.

Podiatrist Lorraine Jones says: "*What this research shows is that a huge amount of people are willing to put up with sore, aching and painful feet.*"

She adds: "*Your feet shouldn't hurt on a daily basis. If you are experiencing discomfort it is usually because you aren't wearing the right footwear. You don't need to put up with it so do seek professional advice*" (LIVEWELL, 2015a).

Here are 10 tips from the College of Podiatry to keep your feet in good condition and prevent problems -

Wash your feet often Keep your feet clean by washing them every day in warm soapy water, but don't soak them, as this might destroy your skin's natural oils (LIVEWELL, 2015a).

Dry your feet well Dry your feet thoroughly after washing them, especially between the toes which is where fungal infections such as athlete's foot [17] can develop (LIVEWELL, 2015a).

Moisturise and file If your skin is dry, apply moisturising cream all over the foot, except for between the toes. Gently remove hard skin and calluses with a pumice stone or foot file - don't overdo it though or skin will grow back harder than ever (LIVEWELL, 2015a).

Cut toenails carefully Trim your toenails regularly using proper nail clippers. Cut straight across, never at an angle or down the edges. This can cause ingrown toenails [18] (LIVEWELL, 2015a).

Shoe shop in the afternoon Shop for shoes in the afternoon. Your feet swell as the day goes on and if shoes fit in the afternoon when your feet are at their largest, you can be assured they will always be comfortable (LIVEWELL, 2015a).

Footwear tips for work If you have to wear heels at work, wear comfortable shoes to and from the office and only wear your smart shoes once you're in the office. Also, try to vary the heel height, between low, medium and high (LIVEWELL, 2015a).

Limit time wearing high heels Be shoe savvy. Wear high heels and pointed shoes for special occasions only, and always wear the right shoes for the job (so no sandals for mountain climbing). Read this survival guide to high heels (LIVEWELL, 2015a).

[17] a rash caused by a fungus that usually appears between the toes

[18] this develops when the sides of the toenail grow into the surrounding skin

Change your socks often to avoid foot odour Change your socks daily to keep your feet fresh. Read advice from the Institute of Chiropodists and Podiatrists on buying socks.

Read how dirty socks can cause smelly feet.

Watch out for foot bugs in communal changing areas Wear flip-flops to avoid catching athlete's foot and verrucas [19] when you use public areas such as gym showers, swimming pools or hotel bathrooms (LIVEWELL, 2015a).

Take care with flip flops You can't wear flip-flops all the time. They don't provide support for your feet and can give you arch and heel pain [20] if you wear them too much (LIVEWELL, 2015a).

Foot pain advice for over-60s If you're over 60, foot care becomes even more important. Age takes its toll: your skin thins, your joints begin to stiffen and your feet become more vulnerable to the cold.

Not only that, but as podiatrist Emma Supple says: "*Physically, it gets more difficult for us to get to our feet, and failing eyesight doesn't help.*"

Emma says "*Go to see a professional for a foot MOT every six months and never put up with foot pain as if it is normal. Your feet shouldn't hurt*" (LIVEWELL, 2015a).

'Social drinking': the hidden risks

If you think only alcoholics and binge drinkers are putting their health at risk, think again.

Many people who see themselves as "social drinkers" are at risk of developing long-term health conditions because of the amount they regularly drink.

Most drinkers are unaware that regularly drinking more than 14 units a week can lead to a wide range of long-term health problems, including cancer, stroke and heart attack (LIVEWELL, 2016d).

Low-risk drinking advice

To reduce the risk of harming your health if you drink most weeks -

[19] these are warts that usually develop on the soles of the feet

[20] usually felt as an intense pain when using the affected heel

- men and women are advised not to regularly drink more than 14 units a week,
- spread your drinking over three days or more if you drink as much as 14 units a week (LIVEWELL, 2016d).

Fourteen units is equivalent to six pints of average-strength beer or 10 small glasses of low-strength wine.

Read about the risks of drinking too much to find out how your drinking habits may be affecting your health (LIVEWELL, 2016d).

Over the limit

More than 10 million people in England drink above low risk levels. There were about 23,000 alcohol-related deaths, including just over 17,000 from liver disease, in England as a result of a medical condition caused by alcohol.

Typically, longer-term alcohol-related illness or death affect older people who drink more than 14 units a week and consider themselves to be "social drinkers".

Professor Nigel Heaton, a liver transplant consultant, says: "*Some people think it's natural to have a bottle of wine a night.*"

"*It seems respectable because you're drinking with food and it's not associated with any drunken behaviour or even feeling drunk.*"

"*But if it happens regularly, you may have problems later on. Most of us believe that people with alcoholic liver disease are alcoholics.*"

"*You may not be an alcoholic, but if the overall amount of alcohol you drink regularly exceeds the low risk guidelines, it may still cause serious harm*" (LIVEWELL, 2016d).

Could your snoring be sleep apnoea?

Snoring can be a symptom of a disorder called sleep apnoea, which is hard to identify and carries serious health risks.

Sleep apnoea is very common, but less than one in three sufferers know they have it. Although sleep apnoea can affect all ages, it's most common in middle-aged men, of whom 2–4% are sufferers, according to the British Thoracic Society (BTS).

"*Sleep apnoea is a major cause of disability because it causes daytime sleepiness*," says Professor John Gibson, a sleep apnoea expert at the BTS.

"*This can seriously affect social behaviour, work performance and the ability to drive safely.*"

"*Hundreds of thousands of sufferers are still undiagnosed in the UK, usually because the condition has not been considered by individuals or their doctors*" (LIVEWELL, 2014v).

What is sleep apnoea?

Sleep apnoea is a respiratory condition in which the throat narrows or closes during sleep and repeatedly interrupts a person's breathing.

This results in a fall in the blood's oxygen levels. The difficulty in breathing causes the brain to wake the person up.

This can occur hundreds of times a night without the sufferer realising. It leads to poor sleep quality and severe sleepiness during the day.

The good news is that something can be done if you're diagnosed with sleep apnoea (LIVEWELL, 2014v).

Symptoms of sleep apnoea

You're unlikely to be aware that you have problems breathing while asleep, unless your partner or a family member notices the episodes when you stop breathing.

However, if your sleep is continually disrupted, you may become aware of the problem and you'll begin to feel symptoms of sleep apnoea during the day (LIVEWELL, 2014v).

The most common symptoms are -

- snoring,
- episodes during sleep where you stop breathing,
- restless/unrefreshing sleep,
- frequent trips to the toilet every night,
- morning headaches,
- excessive daytime sleepiness and irritability,
- impaired concentration,
- loss of libido (LIVEWELL, 2014v).

Overweight men aged between 30 and 65 are most commonly affected. Sleep apnoea is less common in women, possibly due to a lack of awareness of the condition (LIVEWELL, 2014v).

Health risks of sleep apnoea

If left untreated, the condition can increase the risks of high blood pressure, coronary heart disease, stroke and diabetes.

People with sleep apnoea are 7 to 12 times more likely to have a road accident than those without the disorder, according to the BTS.

Tests show that drivers who are sleepy due to sleep apnoea perform worse than drivers with blood alcohol levels over the legal drink drive limit (LIVEWELL, 2014v).

Diagnosing sleep apnoea

Most patients can be diagnosed by doing a home recording. Recorders can be worn overnight in bed.

These register either just the blood oxygen level, or oxygen plus snoring, heart rate and breathing efforts, using sensors on the finger and around the body.

If you are diagnosed with sleep apnoea, you're likely to be prescribed continuous positive airways pressure (CPAP).

The patient wears a mask over their nose and mouth, and a machine raises and regulates the pressure of the air breathed in. This prevents the airway from collapsing during sleep.

CPAP has good results. By controlling the apnoea, it improves sleep quality. The person wakes up feeling much more refreshed, and remains alert throughout the day.

CPAP also suppresses the snoring, meaning that the person's partner can also sleep better.

A minority of patients find CPAP treatment very uncomfortable to use. They may be helped by a mandibular advancement device (MAD), which is made by a specialised dentist. However, the benefit is less predictable than that of CPAP.

Surgery is rarely used to treat sleep apnoea, apart from removing the tonsils or adenoids when they become very large (LIVEWELL, 2014v).

Chapter 7

Lifestyle

Contents

Constipation

Constipation is a common condition that affects people of all ages. It can mean that you're not passing stools regularly or you're unable to completely empty your bowel.

Constipation can also cause your stools to be hard and lumpy, as well as unusually large or small.

The severity of constipation varies from person to person. Many people only experience constipation for a short time, but for others, constipation can be a long-term (chronic) condition that causes significant pain and discomfort and affects quality of life (NHS, 2015c).

If you are concerned about your problem and it is starting to affect your day to day life make an appointment to see your doctor, continence nurse or specialist physiotherapist. A continence nurse and specialist physiotherapist are healthcare professionals who specialise in bladder and bowel problems (BLADDERANDBOWELFOUNDATION, 2014g).

What is normal?

The normal defecation rate for an adult is between three bowel movements per day to three bowel movements per week. If you are going less than three times a week and are experiencing pain, discomfort and straining on passing a motion, you are probably constipated.

To help gauge how long the stool has spent in the bowel you can use a scale called the Bristol stool form scale. To check if you are sitting correctly on the toilet look at the toilet positions guide (BLADDERANDBOWELFOUNDATION, 2014g).

Symptoms

When you're constipated, passing stools becomes more difficult and less frequent than usual.

Normal bowel habits vary from person to person. Some adults go to the toilet more than once a day, whereas others may only go every three or four days. Similarly, some infants pass stools several times a day, while others only pass them a few times a week.

If you or your child pass stools less than usual, it could be a sign of constipation.

It may also be more difficult to pass stools and you may feel unable to empty your bowel completely. Your stools may appear dry, hard and lumpy, as well as abnormally large or small (NHS, 2015c).

Symptoms of constipation can include -

- fewer bowel movements than normal,
- pain and straining when passing stools,
- stomach pain,
- stools are hard and dry, and may be large or small in size like pellets,
- sore bottom,
- unpleasant smell due to passing wind,
- leaking of liquid or loose stools,
- your bowels open less than three times a week,
- there may be a bad taste in the mouth, bad breath, abdominal bloating, decreased appetite, lethargy and, for some, the inability to function normally (BLADDERANDBOWELFOUNDATION, 2014g),
- stomach ache and cramps,
- feeling bloated,
- feeling sick,
- loss of appetite (NHS, 2015c).

When to see your GP

You may be able to treat constipation yourself by making simple changes to your diet and lifestyle. However, you should see your GP if these changes don't help.

You should also see your GP for advice if you notice any rectal bleeding, unexplained weight loss or persistent tiredness (NHS, 2015c).

Causes

Constipation usually occurs when stools remain in the colon (large intestine) for too long, and the colon absorbs too much water from the stools, causing them to become hard and dry (NHS, 2015c).

Most cases of constipation aren't caused by a specific condition and it may be difficult to identify the exact cause. However, several factors can increase your chances of having constipation, including -

- not eating enough fibre, such as fruit, vegetables and cereals,
- a change in your routine or lifestyle, such as a change in your eating habits,
- having limited privacy when using the toilet,
- ignoring the urge to pass stools,
- immobility or lack of exercise,
- not drinking enough fluids,
- having a high temperature (fever),
- being underweight or overweight,
- anxiety or depression,
- psychiatric problems, such as those brought on by sexual abuse, violence or trauma (NHS, 2015c),
- diet,
- pregnancy,
- slow transit colon,
- some medicines, especially pain killers,
- some people with neurological problems such as Parkinson's disease or Multiple Sclerosis are prone to constipation,
- surgery around the anus can sometimes be a cause of constipation mainly due to pain when emptying the bowel afterwards,
- conditions such as Irritable Bowel Syndrome (IBS), Colitis and Crohns Disease,
- there is a strong connection between emotional feelings and how the gut works. Feeling upset can make your bowel slow down or speed up (BLADDERANDBOWELFOUNDATION, 2014g).

Medication

Constipation may sometimes be a side-effect of a medicine you're taking. Common types of medication that can cause constipation include -

- aluminium antacids (medicine to treat indigestion),
- antidepressants,
- antiepileptics (medicine to treat epilepsy),
- antipsychotics (medicine to treat schizophrenia [21] and other mental health conditions),
- calcium supplements,
- opiate painkillers, such as codeine and morphine,
- diuretics (water tablets),
- iron supplements (NHS, 2015c).

If constipation is caused by medication, the condition will usually ease once you stop taking the medicine. However, you shouldn't stop taking any prescribed medication unless your GP advises you to.

Speak to your GP if you have constipation that's caused by a medicine. They may be able to prescribe an alternative (NHS, 2015c).

Other conditions

In rare cases, constipation can be a sign of an underlying condition, such as -

- irritable bowel syndrome (IBS),
- diabetes,
- hypercalcaemia - where there's too much calcium in the bloodstream,
- underactive thyroid gland (hypothyroidism),
- muscular dystrophy - a genetic condition that causes muscle wasting,
- multiple sclerosis - a condition that affects the nervous system,
- Parkinson's disease - where part of the brain becomes progressively damaged, affecting the co-ordination of body movements,
- spinal cord injury,
- anal fissure - a small tear or ulcer in the skin just inside the anus,
- inflammatory bowel disease - a condition that causes the intestines to become inflamed (irritated and swollen),
- bowel cancer (NHS, 2015c).

[21] a severe mental disorder with symptoms such as hallucinations, paranoia, and disorganized thinking

Diagnosis

Constipation is a very common condition. Your GP won't usually need to carry out any tests or procedures, but will confirm a diagnosis based on your symptoms and medical history.

Your GP will ask you some questions about your bowel habits. Don't feel embarrassed about discussing this with your GP. It's important they're aware of all of your symptoms, so they can make the correct diagnosis.

Your GP may also ask questions about your diet, level of exercise and whether there have been any recent changes to your routines (NHS, 2015c).

Doctors define constipation in a number of ways -

- opening the bowels less than three times a week,
- needing to strain to open your bowels on more than a quarter of occasions,
- passing a hard or pellet-like stool on more than a quarter of occasions (NHS, 2015c).

Physical examination

If your GP thinks you may have faecal impaction (when dry, hard stools collect in your rectum), they may carry out a physical examination. See complications of constipation for more information about faecal impaction.

A typical examination will begin with you lying on your back, while the GP feels your abdomen (tummy). You'll then lie on your side while your GP carries out a rectal examination using a lubricated, gloved finger. Your GP will be able to feel for any stools that may have collected (NHS, 2015c).

Further tests

If you're experiencing severe symptoms, your doctor may request further tests, such as blood tests or thyroid tests, to diagnose or rule out other conditions (NHS, 2015c).

Other tests you may have include -

- **an abdominal X-ray** - where X-ray radiation is used to produce images of the inside of your abdomen,
- **transit study examination** - where you take a short course of special capsules that show up on X-rays; one or more X-rays are taken later on to see how long it takes for the capsules to pass through your digestive system,

- **anorectal manometry** - where a small device with a balloon at one end is inserted into your rectum and attached to a machine that measures pressure readings from the balloon as you squeeze, relax and push your rectum muscles; this gives an idea of how well the muscles and nerves in and around your rectum are working (NHS, 2015c).

As there's an increased risk of bowel cancer in older adults, your doctor may also request tests to rule out a diagnosis of cancer, including a computerised tomography (CT) scan or colonoscopy (NHS, 2015c).

Treatment

Treatment for constipation depends on the cause, how long you've had it and how severe your symptoms are.

In many cases, it's possible to relieve the symptoms by making dietary and lifestyle changes.

The various treatments for constipation are outlined below (NHS, 2015c).

Lifestyle advice

Changes to diet and lifestyle are often recommended as the first treatment for constipation. In many cases, this will improve the condition without the need for medication (NHS, 2015c).

Some self-help methods of treating constipation are listed below -

- Increase your daily intake of fibre. You should eat at least 18–30g of fibre a day. High-fibre foods include plenty of fresh fruit and vegetables and cereals.
- Add some bulking agents, such as wheat bran, to your diet. This will help to make your stools softer and easier to pass.
- Avoid dehydration by drinking plenty of water.
- Exercise more regularly - for example, by going for a daily walk or run.
- If constipation is causing pain or discomfort, you may want to take a painkiller, such as paracetamol. Always follow the dosage instructions carefully. Children under 16 shouldn't take aspirin.
- Keep to a routine (a place and time of day) when you're able to spend time on the toilet. Respond to your bowel's natural pattern: when you feel the urge, don't delay.
- Try resting your feet on a low stool while going to the toilet, so that your knees are above your hips; this can make passing stools easier.

- If medication you're taking could be causing constipation, your GP may be able to prescribe an alternative (NHS, 2015c).

Your GP may prescribe an oral laxative if diet and lifestyle changes don't help.

Laxatives

Laxatives are a type of medicine that help you pass stools. There are several different types of laxative and each one has a different effect on your digestive system (NHS, 2015c).

Bulk-forming laxatives Your GP will usually start you on a bulk-forming laxative. These work by helping your stools to retain fluid. This means they're less likely to dry out, which can lead to faecal impaction. Bulk-forming laxatives also make your stools softer, which means they should be easier to pass.

Commonly prescribed bulk-forming laxatives include ispaghula husk, methylcellulose and sterculia.

When taking this type of laxative, you must drink plenty of fluids, and don't take them before going to bed. It will usually be two to three days before you feel the effects of a bulk-forming laxative (NHS, 2015c).

Osmotic laxatives If your stools remain hard after you've taken a bulk-forming laxative, your GP may prescribe an osmotic laxative instead. Osmotic laxatives increase the amount of fluid in your bowels. This softens your stools and stimulates your body to pass them.

Commonly prescribed osmotic laxatives include lactulose and macrogols. As with bulk-forming laxatives, make sure you drink enough fluids. It will usually be two to three days before you feel the effect of the laxative (NHS, 2015c).

Stimulant laxatives If your stools are soft, but you still have difficulty passing them, your GP may prescribe a stimulant laxative. This type of laxative stimulates the muscles that line your digestive tract, helping them to move stools and waste products along your large intestine to your anus.

The most commonly prescribed stimulant laxatives are senna, bisacodyl and sodium picosulphate. These laxatives are usually only used on a short-term basis, and they start to work within 6 to 12 hours.

According to your individual preference and how quickly you need relief, your GP may decide to combine different laxatives (NHS, 2015c).

Laxative side-effects Laxatives can have unpleasant side-effects, especially when overused.

The American Academy of Family Physicians says possible problems associated with laxative use include -

- abdominal cramps or nausea,
- wind, diarrhoea or bloating,
- electrolyte imbalance, which can affect the muscles, nerves and organs. Those most at risk include children and people with kidney disease or diabetes,
- muscle weakness or muscle spasms,
- fatigue, confusion, headache or vomiting (DRUGS.COM, 2016b).

How long will I need to take laxatives for?

If you've had constipation for a short time, your GP will usually advise you to stop taking the laxative once your stools are soft and easily passed.

However, if your constipation is caused by an underlying medical condition or a medicine you're taking, you may have to take laxatives for much longer, possibly many months or even years.

If you've been taking laxatives for some time, you may have to gradually reduce your dose, rather than coming off them straight away. If you have been prescribed a combination of laxatives, you'll normally have to reduce the dosage of each laxative, one at a time, before you can stop taking them. This can take several months.

Your GP will advise you about when it's best to stop taking laxatives (NHS, 2015c).

Treating faecal impaction

Faecal impaction occurs when stools become hard and dry and collect in your rectum. This obstructs the rectum, making it more difficult for stools to pass along.

Sometimes as a result of impaction, overflow diarrhoea may occur (where loose stools leak around the obstruction). You may have difficulty controlling this.

If you have faecal impaction, you'll initially be treated with a high dose of the osmotic laxative macrogol. After a few days of using macrogol, you may also have to start taking a stimulant laxative.

If you don't respond to these laxatives, and/or if you have overflow diarrhoea, you may need one of the medications described below (NHS, 2015c).

- **Suppository** - this type of medicine is inserted into your anus. The suppository gradually dissolves at body temperature and is then absorbed into your bloodstream. Bisacodyl is an example of a medication that can be given in suppository form.
- **Mini enema** - where a medicine in fluid form is injected through your anus and into your large bowel. Docusate and sodium citrate can be given in this way (NHS, 2015c).

Complications

Constipation rarely causes any complications or long-term health problems. Treatment is usually effective, particularly if it's started promptly.

However, if you have long-term (chronic) constipation, you may be more at risk of experiencing complications (NHS, 2015c).

Rectal bleeding

Continually straining to pass stools can cause pain, discomfort and rectal bleeding.

In some cases, bleeding is the result of a small tear around the anus (anal fissure), but it's more often caused by haemorrhoids (piles). Piles are swollen blood vessels that form in the lower rectum and anus.

As well as bleeding, piles can also cause pain, itching around the anus, and swelling of the anus.

The symptoms of piles often settle down after a few days without treatment. However, creams and ointments are available to reduce any itching or discomfort.

See your GP as soon as possible if you experience any rectal bleeding (NHS, 2015c).

Faecal impaction

Long-term constipation can increase the risk of faecal impaction, which is where dried, hard stools collect in your rectum and anus.

Once you have faecal impaction, it's very unlikely that you'll be able to get rid of the stools naturally.

Faecal impaction makes constipation worse because it's harder for stools and waste products to pass out of your anus, as the path is obstructed (NHS, 2015c).

Faecal impaction can sometimes lead to a number of other complications, including -

- swelling of the rectum,
- a loss of sensation in and around your anus,
- bowel incontinence,
- bleeding from your anus,
- rectal prolapse - where part of your lower intestine falls out of place and protrudes from your anus (this can also occur as a result of repeated straining in people with chronic constipation) (NHS, 2015c).

Faecal impaction is usually treated with laxative medication, although suppositories (medication inserted into the anus) and mini enemas (where medicine in fluid form is injected through your anus) may sometimes be used (NHS, 2015c).

Prevention

There are a number of things you can do to prevent constipation, including making diet and lifestyle changes (NHS, 2015c).

Fibre

Including enough fibre in your diet can significantly reduce your chances of developing constipation. Most adults don't eat enough fibre.

You should aim to have about 30g of fibre a day. You can increase your fibre intake by eating more -

- fruit and vegetables,
- wholegrain rice,
- wholewheat pasta,
- wholemeal bread,
- seeds and oats (NHS, 2015c).

Eating more fibre will keep your bowel movements regular, because it helps food pass through your digestive system more easily. Foods high in fibre also make you feel fuller for longer.

It's important to increase your fibre intake gradually, because a sudden increase may make you feel bloated. Suddenly increasing your intake of fibre may also cause you to produce more wind (flatulence) and experience stomach cramps (NHS, 2015c).

- As a general rule, eating more high-fibre foods can prevent constipation. However, if constipation is a result of Colitis or Crohns disease, increasing fibre intake could have a detrimental effect,
- There are two different types of fibre; soluble and insoluble. Soluble fibre dissolves in the intestines to form a gel-type substance. This helps food move along the digestive tract. Insoluble fibre is not dissolvable and moves through the intestines without being absorbed. This fibre adds bulk to bowel movements and helps to reduce constipation (BLADDERANDBOWELFOUNDATION, 2014g).

Fluids

Make sure you drink plenty of fluids to avoid dehydration, and steadily increase your intake when exercising or when it's hot. Try to cut back on the amount of caffeine, alcohol and fizzy drinks you consume (NHS, 2015c).

Make sure you drink lots of fluids to keep the stools moist e.g. at least 1.5–2 litres (that is 6–8 glasses) of water based drinks per day (BLADDERANDBOWELFOUNDATION, 2014g).

Toilet habits

Never ignore the urge to go to the toilet, because it can significantly increase your chances of having constipation.

When going to the toilet, make sure you have enough time and privacy to pass stools comfortably (NHS, 2015c).

Exercise

Keeping active and mobile will greatly reduce your risk of getting constipation. You should do at least 150 minutes of physical activity every week.

As well as regular exercise reducing your risk of becoming constipated, it will also leave you feeling healthier and improve your mood, energy levels and general fitness (NHS, 2015c).

If possible, increase your physical activity as this helps to increase bowel activity (BLADDERANDBOWELFOUNDATION, 2014g).

Medications

- If you are taking any medicines (prescribed or over-the counter) ask your doctor or chemist if they could be adding to your constipation. If possible, try to remove constipating medications,
- If really necessary, try using a fibre supplement such as fybogel and possibly suppositories or mini-enemas to help regularise the bowels, but they should not be used long term. Some foods can act as natural laxative for some people, these include; prunes, figs, liquorice, coffee/tea, spicy food (BLADDERANDBOWELFOUNDATION, 2014g).

Continence

This refers to urinary problems as well as bowel problems.

Bladder problems

As a conservative estimate there are around 14 million people in the UK today with some form of bladder problem. This figure means there are more people suffering with bladder problems than with asthma, diabetes and epilepsy put together.

There's no discrimination either, as both men and women, young and old can be affected.

Despite being so common, bladder difficulties are still not as openly talked about as they should be and many people needlessly suffer in silence and don't get the help they need.

The choice and availability of treatments, products and medicines has never been greater and there is plenty of good advice and support available. In some cases bladder problems can be completely cured and in others they can be effectively managed with the right products or treatments so you can regain your quality of life (BLADDERANDBOWELFOUNDATION, 2014c).

Bladder care for men

If you have bladder problems, you are certainly not alone.

There are around 4 million men in the UK with some form of bladder problem and with an ageing, growing population this figure is sure to rise.

It is often thought that bladder problems only affect women, and whilst it is fair to say that problems are more common in women with over 9 million women in the UK affected, bladder problems can have a have a huge impact on the quality of life of both men and women.

Bladder problems in men can happen for a variety of reasons and can often be directly linked to prostate problems, neurological conditions such as Multiple Sclerosis or Parkinson's, diabetes, and related cancers. Lifestyle can also be a contributing factor as being overweight can also increase the risk of developing problems (BLADDERANDBOWELFOUNDATION, 2014c).

Benign Prostatic Hyperplasia Benign prostatic hyperplasia (BPH), is a condition in which the prostate is enlarged, but not cancerous. The enlargement of the prostate can restrict the flow of urine from the bladder, causing uncomfortable and inconvenient urinary symptoms.

The prostate gland is about the same size as a walnut and lies just below the bladder. The tube through which urine passes from the bladder (the urethra) passes through it. The prostate gland's job is to make a fluid, which forms part of the semen.

Whilst it's normal for the prostate gland to grow as you get older, it can also increase in size due to medical conditions.

The prostate gland becomes enlarged in most men as they get older. In the vast majority of cases, this is not prostate cancer. More than half of all men over the age of 60 and 80% of all men over 80 have enlarged prostate glands which are not cancerous.

When the prostate becomes enlarged, this is called benign prostatic hyperplasia. Whether treatment is needed depends on how enlarged the gland becomes and what symptoms occur (BLADDERANDBOWELFOUNDATION, 2014b).

There are different kinds of prostate problems, however, all conditions have similar symptoms, including -

- the urge to frequently urinate,
- difficulty in urination, which can include pain or a burning sensation,
- the presence of blood in urine or semen,

- difficulties in having and/or maintaining an erection,
- painful ejaculation,
- pain or stiffness in the lower back, hips, and/or upper thighs,
- incontinence and leaking or dribbling urine (BLADDERANDBOWELFOUNDATION, 2014b).

When the prostate becomes enlarged it begins to squeeze the urethra and when this happens you might find that you have difficulty passing water. You may also have to go to the toilet more often during the day (called frequency) or night, (called nocturia). Because your bladder has difficulty squeezing the urine out, it seldom empties completely, and because it is never completely empty it takes a shorter time for it to fill up again.

Over time, other symptoms can start to occur. Due to the extra work which the bladder muscles have to do, the bladder's muscular wall can become thicker and less flexible and it can also become overactive and irritable. This can cause the need to pass water urgently and on occasion you may not make it to the toilet in time (urge incontinence). If this takes place at night time it can lead to bedwetting (nocturnal enuresis).

The enlarged prostate itself also contains more muscle tissue than previously. Any muscles can sometimes contract involuntarily as a result of the cold or of nervousness and such involuntary contractions can cause further difficulties in passing water (BLADDERANDBOWELFOUNDATION, 2014b).

Diagnosis and Tests If you have symptoms of prostate problems, there are several tests that your doctor can take to make a diagnosis.

- **Urine and semen samples** - you will be asked to supply a sample of urine to test for infections. You may also be required to supply a sampe of semen to test for any further infections. Blood tests may also be needed to help identify the problem.
- **Digital rectal examination** - the doctor puts gloves and inserts a finger into the rectum to feel the prostate and check for swelling, enlargement, masses or tenderness.
- **Prostate Specific Antigen** - this test measures the levels of PSA in a blood sample. The prostate specific antigen is a substance produced in the prostate and circulating in the bloodstream. Higher than normal levels of PSA may indicate a prostate problem (BLADDERANDBOWELFOUNDATION, 2014b).

In addition you may be tested for bladder function and lower urinary tract efficiency in order to establish how much trouble the enlarged gland is actually responsible for (BLADDERANDBOWELFOUNDATION, 2014b).

Diagnosis The first thing you need to do is make an appointment with your doctor or practice nurse to find out if you have an enlarged prostate. If things are not too bad, your doctor may just monitor you, known as 'Watchful Waiting'.

Conservative Treatments

- **Avoid constipation** - You should try and avoid being constipated as this can bring on other symptoms and problems. For example, when the bowel does not empty properly it will swell up and push down onto the bladder and could cause urinary problems.
  - You can avoid constipation by following a healthy diet, which can also help some bladder problems. A good diet will not only benefit your bladder but also your health in general. Try and eat a balanced diet that is not too high in fat and includes plenty of fibre. Aim for at least five portions of fruit and vegetables a day. Choose wholegrain varieties of bread, pasta and rice, rather than white versions.
  - Being overweight can also make your bladder problems worse. Extra weight may put pressure on the pelvic floor muscles which can become weak (BLADDERANDBOWELFOUNDATION, 2014a).
- **Biofeedback** - this is a technique which is designed to help strengthen your urethral and anal sphincter muscles and pelvic floor muscles and help you to gain control over your bladder.
  - Biofeedback can help you learn which muscles to use, when to use them and how hard to contract them to prevent leakage.
- **Watchful waiting** - refers to seeing whether symptoms progress, stay the same or clear on their own before undergoing medical or surgical treatment.
  - Watchful waiting is a phrase that is used in reference to urology conditions including kidney stones, mild urinary tract infections, early-stage kidney cancer, an enlarged prostate, and prostate cancer.
  - If the problems caused by your enlarged prostate are slight, it may be best not to start any treatment. However, your doctor will explain some warning signs to look out for which might indicate that the condition is worsening. This sounds like you won't be taking any action but it is sensible to assess the situation and condition over a short period of time if the condition is not too troubling to you. This

will include having regular appointments with your GP to check your progress.
- During this time it is sensible to help yourself by adopting a healthier lifestyle and diet. This includes maintaining a healthy weight, managing stress and exercising on a regular basis (BLADDERANDBOWELFOUNDATION, 2014a).

Bowel conditions and symptoms

The first and most important point to remember is that everyone with a bowel problem can be helped and many can be completely cured.

If you have been diagnosed with bowel (faecal) incontinence, IBS, Colitis, Crohn's, Constipation or other bowel problems you may find the following useful. If you have not been diagnosed by a health professional, the following questions about your symptoms should help you find the information you are looking for (BLADDERANDBOWELFOUNDATION, 2014d).

- Do you find it difficult to have a bowel movement or have a bowel movement less than 3 times a week and have to strain,
- Excessively or do not feel completely empty? You may have Constipation,
- Do you pass watery or very loose stools more than 3 times in a day? You may have Diarrhoea.
- Do you have abdominal pain (in the lower left part of the abdomen) and a change in bowel habits (constipation or diarrhoea or alternating between both), with a mild fever and nausea and vomiting? These are symptoms of Diverticular Disease.
- If you have diarrhoea, weight loss and abdominal pain, these could be signs of Colitis and Crohn's Disease.
- Do you have bloody diarrhoea or diarrhoea containing mucus and the constant urge to go to the toilet even though nothing comes out, with or without abdominal pain? These are symptoms of Ulcerative Colitis, see Colitis and Crohn's Disease.
- Do you leak faeces without being aware of it? This could be bowel or Faecal Incontinence (BLADDERANDBOWELFOUNDATION, 2014d).

If you experience any of the following symptoms, you must see your GP as soon as possible -

- bleeding from your back passage,
- blood in your stools (faeces), which can make them look bright red, dark red, or black,
- a change in normal bowel habits lasting three weeks or more,

- unexplained weight loss and tiredness,
- an unexplained pain or lump in your tummy (BLADDERANDBOWELFOUNDATION, 2014d).

Diarrhoea

This is when the stool (faeces) is loose and watery. Diarrhoea can cause frequent and urgent desires to go to the toilet. Sometimes people with diarrhoea are unable to reach a toilet in time and they become incontinent.

Diarrhoea can be both a symptom and cause of incontinence. Diarrhoea can be chronic (ongoing or recurring) or acute (sudden) (BLADDERANDBOWELFOUNDATION, 2014h).

Symptoms

- unwanted and frequent passing of watery or loose stool,
- abdominal pain, cramping and bloating,
- nausea and loss of appetite,
- sometimes diarrhoea is accompanied by a fever or bloody stool (BLADDERANDBOWELFOUNDATION, 2014h).

Causes There are many possible causes of diarrhoea which include -

- an acute infection in the bowel, such as gastroenteritis or food poisoning, which may be accompanied by vomiting,
- some medicines e.g. Antibiotics,
- eating too much fibre - including large quantities of dried fruit or pure fruit juice,
- using too many laxatives,
- anxiety and stress,
- caffeine, artificial sweeteners, too much alcohol, and sweets containing sorbitol can cause bouts of diarrhoea (BLADDERANDBOWELFOUNDATION, 2014h).

Sometimes Diarrhoea can be a symptom associated with other bowel problems such as -

- Irritable bowel syndrome (IBS). IBS affects up to one in five of the population. This condition can cause a very variable bowel habit alternating between constipation and diarrhoea together with abdominal discomfort and bloating,

- sometimes, diarrhoea can last for a long time; this can be as a result of an inflammatory bowel disease such as Ulcerative Colitis or Crohn's disease,
- sometimes people who have had a major operation to remove or reconstruct part of the bowel have problems with diarrhoea and poor bowel control afterwards,
- removal of part of the bowel can result in less water being absorbed from the stools and the development of looser bowel motions,
- following radiotherapy especially of the pelvic area (BLADDERANDBOWELFOUNDATION, 2014h).

Management Most episodes of acute diarrhoea will settle naturally. You can help control attacks by resting and avoiding solid foods for a few hours or even a day, depending on the severity of the attack. The most important thing you need to remember is to remain hydrated by drinking plenty of fluids. The minimum recommended daily fluid intake for an adult is between 1.5–2 litres (6–8 glasses).

If the attack does not stop after a few hours, taking an anti-diarrhoea tablet may help such as loperamide (but follow manufacturer's instructions in the leaflet inside the packet).

If diarrhoea persists for more than a few days you should visit your GP as soon as possible (BLADDERANDBOWELFOUNDATION, 2014h).

Recurrent Diarrhoea Recurrent diarrhoea is a common symptom that is often associated with IBS. Recurrent diarrhoea may also be linked to stress and worry, for example, some people may suffer from a bout of diarrhoea before a job interview or a big event. 60% of British adults have experienced digestive problems when undergoing stressful situations.

Another possible reason behind recurrent diarrhoea could be diet. You could be eating the wrong sort of food or eating too much of a type of food. Alcohol is also a common factor. If you can link recurrent bouts of diarrhoea with a certain type of food or after alcohol then avoid these foods / drinks to see if this eliminates the problem (BLADDERANDBOWELFOUNDATION, 2014h).

Further help If you are concerned about your problem and it is starting to affect your day to day life make an appointment to see your doctor, continence nurse or specialist physiotherapist. A continence nurse and specialist physiotherapist are healthcare professionals who specialise in bladder and bowel problems (BLADDERANDBOWELFOUNDATION, 2014h).

Diverticular Disease

Diverticular Disease (DD) is the name given to small pouches (sacs) known as diverticula, that protrude outwards from the wall of the large intestine. Each diverticulum consists of a small part of the inner lining of the intestine that has been forced through the muscular layer of the intestine forming a small hernia. The number of protrusions will differ from person to person. The protrusions are generally the size of small grapes.

Diverticula can appear in any part of the colon. Among people in Westernised countries, diverticula are most commonly found in the sigmoid part of the colon. Diverticular Disease is common predominately among middle aged to older people (BLADDERANDBOWELFOUNDATION, 2014i).

There are some other terms that are used to refer to this condition -

- Diverticulosis - the condition in which small sacs appear but cause no symptoms,
- Diverticular Disease - used to describe all forms of the presence of diverticula,
- Symptomatic diverticulosis - the condition in which some symptoms are present but there is no infection in the sacs,
- Diverticulitis - the inflammation of the sacs usually caused by an infection (complication) (BLADDERANDBOWELFOUNDATION, 2014i).

Symptoms Many people with diverticula will not suffer from any symptoms, and may have diverticula discovered during a routine medical examination. Some patient's experience -

- a change in bowel habit (either more constipated or more loose than usual),
- discomfort, especially on the left side of the abdomen,
- pain, which arises because the diverticula become inflamed (diverticulitis),
- blood in the motions or stools. If this occurs for the first time it is important to tell your doctor (BLADDERANDBOWELFOUNDATION, 2014i).

Causes It has not yet been confirmed what exactly causes diverticular disease but researchers and scientists do have a number of theories.

- low fibre intake,
- race/genetics,
- dietary factors other than fibre,
- leading an inactive lifestyle,
- associated with aging (BLADDERANDBOWELFOUNDATION, 2014i).

Of the various possible explanations for the cause of diverticula, the evidence is strongest for a low fibre diet. However, the jury is still out on whether bran and fibre can be effective in treatment for uncomplicated DD or even prevent complications (BLADDERANDBOWELFOUNDATION, 2014i).

Colitis and Crohn's Disease

Colitis and Crohn's disease are Inflammatory Bowel Diseases where the intestines can become swollen, inflamed and ulcerated. The symptoms for these conditions include abdominal pain, loss of weight, diarrhoea, urgent need to go to the toilet, and tiredness. These symptoms will vary from person to person and can be more extreme for one person and not for another.

Diarrhoea caused by IBD is often accompanied by blood and mucus, especially with Ulcerative Colitis. The symptoms not only vary from person to person but may flare-up or improve/go into remission unpredictably (BLADDERANDBOWELFOUNDATION, 2014f).

Colitis and Crohn's - what is the difference? Ulcerative Colitis and Crohn's Disease are long term illnesses but they do have differences. Ulcerative Colitis affects only the inner lining of the large bowel and Crohn's Disease can affect all layers of the lining of any part of the intestines and other parts of the digestive system.

It is important to get a clear diagnosis of Ulcerative Colitis or Crohn's as both conditions can be treated by drugs and/or surgery (BLADDERANDBOWELFOUNDATION, 2014f).

Colitis and Crohn's Disease and incontinence Incontinence can be a problem for some suffering from Colitis and Crohn's. Both conditions can cause diarrhoea and also an urgent need to go to the toilet. This can lead to accidents which can leave you feeling embarrassed and uncomfortable. To avoid accidents, or if they cannot be avoided, to help you deal with them, it is a good idea to always be prepared.

When you are at home, accidents should be relatively easy for you to manage. Make sure you have the necessary equipment in the bathroom to hand should you have an accident, such as disposable tissues which are a lot more hygienic to clean yourself with and less likely to irritate the skin. Air fresheners are also useful to disguise any smells.

If you are concerned about having an accident when you are out and about, keep some spare, clean underwear in your bag and a packet of baby wipes to help you stay fresh and comfortable. Keep a plastic bag handy so you can dispose of any soiled items too. It is also a good idea to know where the nearest toilets are located (BLADDERANDBOWELFOUNDATION, 2014f).

Colitis and Crohn's Disease and Constipation Constipation can sometimes occur in those with Colitis and/or Crohn's Disease.

Generally, increasing fibre intake is a good self-help method to relieve the symptoms of constipation, however this is not always the case for people with Colitis and/or Crohn's Disease. For some, fibre could be the cause of constipation and can even make the symptoms worse. Moderating or even reducing fibre intake until symptoms improve or disappear could help. For others dairy foods could be the problem, everyone is different so it's always best to find out what triggers it for you.

Keeping a bowel diary is an effective way to see which foods and beverages set off your symptoms. If you keep the diary for a couple of weeks you will get a good idea of which foods and drinks you'll need to avoid and then you can start to use this information when planning your meals.

If your symptoms persist, it's always best to speak to your GP for advice as they should be able to recommend other methods which you can use to help ease your symptoms (BLADDERANDBOWELFOUNDATION, 2014f).

Faecal Incontinence

Faecal incontinence or bowel incontinence is more common than you would think. Unfortunately, it is a subject which is still not as openly talked about as it should be. Bowel incontinence affects over 53 million people in Europe making it more prevalent than many well-known diseases such as asthma or diabetes (BLADDERANDBOWELFOUNDATION, 2014j).

What is it? If you are unable to control a liquid stool (diarrhoea) or a solid motion, then you have faecal incontinence. This may be a daily problem or happen from time to time. You may also experience involuntary passage or loss of wind (BLADDERANDBOWELFOUNDATION, 2014j).

Causes There are several causes of faecal incontinence and some are more common than others. The most common cause of faecal incontinence is damage

to one or both of the anal sphincter muscles. Causes of anal sphincter damage can include tears to the anal sphincter during childbirth.

The external anal sphincter is responsible for delaying bowel emptying once the rectum fills and the urge to empty the bowel is felt. People with a weak or damaged external sphincter muscle typically experience urgency and if they can't reach a toilet in time, they become incontinent.

People with a damaged internal anal sphincter usually complain of 'passive soiling'. Soft stool or small pellets of stool just leak out without the person realising it is happening (BLADDERANDBOWELFOUNDATION, 2014j).

Other common causes are -

- Constipation can be both a cause of faecal incontinence and also a symptom of faecal incontinence. You can become constipated if you have difficulty emptying your bowel,
- Diarrhoea can be a cause of faecal incontinence and also a symptom of faecal incontinence. Diarrhoea can be chronic, i.e. on-going and reoccurring, or acute, i.e. sudden and unexpected,
- People with disorders such as Parkinson's disease, Multiple Sclerosis, Stroke, spinal cord injury and Alzheimer's can sometimes develop faecal incontinence that is associated with their illness,
- Some medications like antibiotics can cause loose stools/diarrhoea which may make symptoms worse,
- People with inflammatory bowel diseases which can cause diarrhoea and an urgent need to go to the toilet (BLADDERANDBOWELFOUNDATION, 2014j).

Further help If you are concerned about your problem and it is starting to affect your day to day life make an appointment to see your doctor, continence nurse, specialist physiotherapist or colorectal nurse specialist. A continence nurse and specialist physiotherapist are healthcare professionals who specialise in bladder and bowel problems.

Before you see you're GP, it is useful to keep a Bowel Diary for a week or so before your appointment to record things such as how many times you go to the toilet, any accidents you have and what you eat or drink. This will be useful for the Doctor as it may highlight an underlying cause of your symptoms (BLADDERANDBOWELFOUNDATION, 2014j).

Bristol stool form scale

Different people have different bowel habits. Most people who have a bowel movement more than 3 times a week and pass good textured faeces (not too hard or soft) can be said to have 'normal' bowel behaviour.

Since it can be hard to state what is normal and what is abnormal, some health professionals use a scale to classify the type of stool passed. This helps assess how long the stool has spent in the bowel.

Type 1 has spent the longest time in the bowel and type 7 the least time. A normal stool should be a type 3 or 4, and depending on the normal bowel habits of the individual, should be passed once every one to three days.

Download the chart (BLADDERANDBOWELFOUNDATION, 2014e).

Diet

Healthy Eating

Eating healthily doesn't have to be complicated or boring! In fact, it's about making sure you have plenty of variety, so you get all the nutrients you need and maintain a healthy weight.

It's about not eating too much of some things - like saturated fat, sugar and salt - while getting enough of others - like fibre, protein, vitamins and minerals (AGEUK, 2015a).

Fruit and vegetables

Research shows that people who eat plenty of fruit and vegetables are less likely to develop heart disease and certain cancers.

They can be fresh, frozen, dried, canned or juiced and should make up about a third of our diet. Many of us don't eat enough fruit and veg, and it can be hard to know how much a 'portion' actually is. Here are a few simple suggestions, which count as one portion each -

- **Breakfast** - a glass of juice or a heaped tablespoon of dried fruit or a banana with your cereal.
- **Snacks** - an apple or a handful of grapes or a pear.
- **Lunch** - a side salad or a tomato and lettuce in a sandwich or three heaped tablespoons of baked beans.

- **Dinner** - three heaped tablespoons of vegetables like peas or carrots or sweetcorn.

You should try to eat at least 5 portions of different coloured fruit and vegetables a day and each one must be different (AGEUK, 2015a).

Meat, poultry, fish, eggs, beans, lentils and nuts

Eat a portion of any of these foods at 2 of your daily meals. They all contain protein, which helps to build and repair your body. You don't need to eat meat or fish every day - try cheese, well-cooked eggs, beans, lentils or tofu instead.

Try to eat fish twice a week - one portion of white fish such as haddock or cod, and one portion of oily fish such as salmon or sardines. Oily fish are rich in vitamin D and a type of fat that helps to prevent heart disease. Avoid frying meat or fish.

One portion is -

- **Fish** - 140g,
- **Meat** - 80g (about the size of a pack of cards),
- **Beans/pulses** - 2–3 heaped tablespoons (AGEUK, 2015a).

Breads, other cereals and potatoes

Have a serving of starchy food (bread, breakfast cereal, potatoes, yams, rice or pasta) with every meal. These foods give you energy.

Wholegrain foods such as brown rice or wholegrain bread or pasta contain B vitamins, minerals and fibre that are good for you and help prevent constipation.

Why not try -

- **Breakfast** - wholegrain cereal or porridge or wholemeal toast with cut up banana or dried fruit,
- **Lunch** - a sandwich or brown rice or pasta salad,
- **Dinner** - stews, casseroles or curries with potatoes or couscous or pasta or rice.

One portion is -

- 2 tablespoons of cooked pasta, rice or noodles,
- a medium baked potato,
- three tablespoons of cereal (AGEUK, 2015a).

Milk and dairy foods

These are calcium-rich foods, which help to keep bones and teeth strong. Try to have 3 servings a day and choose lower-fat versions, such as semi-skimmed milk, half-fat cheese and low-fat paneer where you can.

Did you know - A pint of whole milk contains 22.8g fat whereas a pint of semi-skimmed has 10.2g.

One portion is -

- A glass of milk (200ml),
- 150g pot of low fat yoghurt,
- 30g of cheese (matchbox size) (AGEUK, 2015a).

Eat healthier

The old adage that "you are what you eat" is true, nutrition experts say.

Here are suggestions for better eating, courtesy of the Academy of Nutrition and Dietetics -

- avoid diets that focus on avoiding one thing, such as sugar or fat,
- eat more vegetables, fruits, beans, nuts, seafood, low-fat dairy and whole grains. Reduce consumption of refined grains, desserts, sweetened beverages, processed meat and red meat,
- fill one-fourth of your plate with whole grains, one-fourth with lean proteins, and the remaining half with fruit and veggies,
- make sure you're eating appropriate portion sizes. Choose healthier unsaturated fats,
- limit added sugars, such as those often found in desserts, coffee, tea or yogurt (DRUGS.COM, 2106).

The truth about fat, sugar and salt

Diets that are high in fat, sugar and salt are associated with a higher incidence of many of today's common health conditions such as heart disease, some types of cancer, high blood pressure, stroke, obesity and tooth decay.

Many processed foods, ready meals and savoury snacks can be relatively high in fat and salt, so try to get in the habit of reading pack labels and comparing brands before you buy.

Foods that are high in fat, sugar or salt should be eaten in moderation as part of a balanced diet and in many cases it may be best to consider them as treats (AGEUK, 2015a).

Fat

Try to keep an eye on the overall amount of fat you eat and what type of fat this is. There are three main types of fat -

- Saturated fat,
- Unsaturated fat,
- Trans fats (AGEUK, 2015a).

Saturated fat is found in foods like cakes, biscuits, sausages, pies, butter, cream, cheese, pastries, chocolate and coconut oil, and is known to raise the 'bad' type of cholesterol in the blood, which increases the risk of heart disease (AGEUK, 2015a).

How much is too much and how much is ok?

- A food with a high level of saturated fat has more than 5g saturates per 100g.
- A food with a low level of saturated fat has 1.5g saturates or less per 100g.

Check for saturates on food labels, or use the 'traffic light' symbols to see how much fat is in packaged food before you buy.

Unsaturated fat is found in foods like vegetable oils, oily fish (sardines, mackerel, salmon, trout), avocados and nuts and seeds.

- Unsaturated fats can be monounsaturated or polyunsaturated.
- Monounsaturated fats are found in certain plant oils, such as olive oil.
- Polyunsaturated fats are found in other plant oils, such as sunflower oil or spreads made from them.

Omega 3 fatty acids are polyunsaturated and may help to protect against heart disease. They are found in some plant oils, but oily fish is the best source.

Having unsaturated fat can help raise the level of 'good' cholesterol in the blood and gives us the essential fatty acids that we need.

Trans fats are found mainly in foods containing hydrogenated vegetable fat, and is typically used in baked goods, such as biscuits and cakes.

Like saturated fats, trans fats tend to raise the 'bad' type of cholesterol in the blood that increases the risk of coronary heart disease. Intake of trans fats is not

high in this country, and many food manufacturers are reducing the amount of trans fat in their products (AGEUK, 2015a).

How to reduce the amount of fat in our diets

- Replace snacks of biscuits and cakes with fruit,
- Buy reduced or lower fat options where possible (for example, with milk, butter, and spreads),
- Grill, steam or bake food instead of frying it,
- Choose poultry or fish, and leaner cuts of red meat, where you trim off any fat from the meat,
- Compare labels at the supermarket and choose options with less fat (AGEUK, 2015a).

Sugar

Sugar is found in foods like fizzy drinks, sweets, cakes and biscuits and too much sugar can make you prone to becoming overweight, as sugary foods tend to be relatively high in calories, particularly if they are fatty as well. Having frequent sugary snacks and drinks can lead to tooth decay.

How much is too much and how much is ok?

- A product with a high amount of sugar has more than 15g sugars per 100g
- A product with a low amount of sugar has 5g sugars or less per 100g

Some of the sugars on the label could represent sugars in fruit or milk, so a food containing milk or fruit will be a healthier choice than one with same amount of sugars, but no milk or fruit ingredients.

How to reduce the amount of sugar in our diets

- Use artificial sweeteners or a sugar substitute in hot drinks,
- Cut down on sugary snacks and have a piece of fruit instead,
- Choose reduced sugar products,
- Choose tinned fruit in natural juice instead of syrup (AGEUK, 2015a).

Salt

Relatively high levels of salt can be found in -

- salted nuts and snacks,

- savoury biscuits,
- cheese,
- preserved meats like bacon, ham and salami,
- canned soups,
- ready/pre-cooked meals, sauces, and stock cubes (AGEUK, 2015a).

Bread and breakfast cereals do not taste salty, but can make a significant contribution to our salt intake because many of us eat a lot of them on a regular basis.

Too much salt is linked to high blood pressure - people with high blood pressure are 3 times more likely to develop heart disease or have a stroke than people with normal blood pressure.

Although salt is essential in our diet, it's only needed in small amounts. Adults should aim for no more than 6g salt each day, but you may be surprised to know that around 75% of the salt we eat is found in the foods we buy, or 'processed' foods, with the remaining 25% added during cooking or at the table.

How much salt is too much and how much is ok?

- A high salt food has more than 1.5g salt per 100g (or 0.6g sodium),
- A low salt food has 0.3g salt or less per 100g (or 0.1g sodium)

How to reduce the amount of salt in our diets

- Don't snack on salty food (for example, salted crisps or peanuts),
- Read and compare food labels at the supermarket,
- Don't add salt while cooking or to food,
- Look out for low salt options (AGEUK, 2015a).

Did you know? Every day 26 million adults in the UK eat too much salt.

Maintaining a healthy weight

Keeping to a healthy weight is important, however, we all know how easy it is for weight to creep up or drop off without us noticing, so check regularly that your weight is within a healthy range.

One way of doing this is by finding out your Body Mass Index (BMI). Use the BMI calculator on NHS Choices to calculate yours (AGEUK, 2015a).

Worried about a poor appetite or unwanted weight loss?

If you're finding it difficult to eat enough, this can result in you lacking essential vitamins and minerals, feeling tired, depressed and low on energy. It may also result in you losing weight.

If you only feel like eating a little, it's important that the food you do eat is nourishing.

- Eat two to three small meals and a few snacks every day. Snack on yoghurt, cheese and biscuits, toast with a savoury topping, a milky drink, a fruit smoothie, or breakfast cereal with milk, rather than biscuits and sweets.
- Keeping active will help improve your appetite. Try going for a short walk every day or find another activity you enjoy that keeps you on the move. If you find movement difficult, ask your GP for advice about activities suitable for your level of mobility and fitness.
- Keep a store of food for when you want a quick meal or snack, such as cans of soup or frozen meals.
- Even if your appetite is poor, make sure you drink plenty of fluids to stay hydrated.
- If you have problems chewing and wear dentures or have a bridge, ask your dentist to check that they fit properly. While any dental problems are being corrected, try easy-to-eat foods such as minced meat, casseroles, mashed potato, canned fruit and cooked vegetables (AGEUK, 2015a).

If you're finding it difficult to shop or cook for yourself, consider getting help. Talk to your local adult social services department and explain any problems you're having with day-to-day tasks.

Shopping online can be convenient if there aren't any shops within walking distance or it's difficult for you to get there - bulk-buying heavier items is a good idea, so that someone else does the lifting for you.

Visit your favourite supermarket's website to see whether they offer home delivery (AGEUK, 2015a).

Trying to lose weight?

Losing weight isn't easy, but being very overweight puts us at risk of serious diseases including heart disease, stroke, diabetes and some cancers, including bowel cancer and breast cancer after the menopause.

The media often talks about obesity in the younger population, but it's a problem among older people too.

If you've gradually gained weight over the years, try to lose it slowly but steadily, for example by losing 1kg (1–2lb) a week rather than crash dieting.

Try keeping a food diary for a week. Write down everything you eat each day then check through to see where you might cut down or change your habits, for example by switching to healthier snacks (AGEUK, 2015a).

Staple food items

Keep a store of basic foods in case you can't get to the shops because of bad weather or illness.

Use your freezer to store a small supply of foods you enjoy. This could include bread, frozen meat and chicken pieces, frozen vegetables, a selection of ready meals, frozen seasonal fruit and ice cream.

Cooking large batches of meals, such as stew or homemade soup, and freezing individual portions is a good idea. You can then defrost the meal for eating when you feel like it.

Try keeping some of these foods in your cupboards -

- **Milk** - long-life, dried, or evaporated milk; canned milky puddings.
- **Meat and fish** - canned corned beef, ham, sardines, salmon, pilchards, mackerel and tuna.
- **Fruit, vegetables and fruit juice** - a variety of canned goods (including baked beans), instant mashed potato, dried fruits, long-life fruit juice.
- **Lentils and beans** - such as dried or canned red kidney beans or chick-peas.
- **Cereals** - breakfast cereals, wholegrain crackers, oatcakes, plain biscuits as well as pasta and rice.
- **Drinks** - tea, coffee, cocoa, malted milk.
- **Other** - canned and dried soups, yeast extract (for example, Bovril, Marmite or Vegemite).

Store-cupboard foods don't keep for ever, so make sure you don't let things go out of date (AGEUK, 2015a).

Eating well on a budget

Some people don't think it's possible to eat healthily on a small budget, but if you plan you can usually save a few pennies as well as giving your body all the nutrients it needs.

Plan your meals a few days ahead and stick to a shopping list so you buy only the items you need.

Cheaper supermarket own brands are a good bet, and remember that frozen and tinned fruit and vegetables count towards your 5 a day, and are often less expensive than fresh varieties.

For fresh fruit and vegetables, it's often better value to shop at a local market rather than at a supermarket, especially if you buy fruit and vegetables that are in season.

- Look for money-off coupons in magazines or online.
- Check for offers on storable foods such as pasta, cereal, and tinned food.
- The reduced items shelf for goods that are reaching their use-by date often has some good bargains.
- If you're tempted by an offer on perishable foods, check the use-by date and think about whether you will definitely use it before it expires.
- If you're newly bereaved or separated, it can be difficult to adjust to cooking for one and keeping within a different budget (AGEUK, 2015a).

Try not to rely on ready meals: making your own usually works out cheaper and ready-meals can be higher in salt, sugar and fat than dishes you prepare for yourself. Try making extra portions of meals and freezing them to have later in the week (AGEUK, 2015a).

Know what's in your food

The symbols found on many food labels can help you make healthy choices. Most pre-packed foods have a nutrition label on the packaging.

The label usually includes the number of calories and the amount of fat, saturated fat, sugar and salt in 100g of the food and per pack, or per portion. Be aware that a manufacturer's idea of a portion may be different to yours.

Some labels include information on how the product fits into your daily diet. Guideline Daily Amounts (GDA) are guidelines about the amount of particular nutrients needed for a healthy diet.

For example, a label might show that the food provides you with 1.3g of salt, which represents 22% of your GDA. In other words, it contains nearly a quarter of an adult's GDA of salt.

Everyone needs different amounts of energy and nutrients, so use them as a rough indication, not a precise guide or target (AGEUK, 2015a).

Traffic light colour-coding

All the major supermarkets have agreed a standard label that you'll increasingly find on the front of food packaging.

Traffic-light colours red, amber and green quickly show you levels of sugar, fat and salt in food, so if you're trying to choose between two similar products, this can help you quickly find the healthier choice.

Red means high, amber means medium and green means low so you can see at a glance whether the food has high, medium or low amounts of fat, saturated fat, sugar and salt.

Red lights indicate the foods you should try to eat less often and in small amounts.

Amber lights indicate the food contains neither high nor low amounts of sugar, salt and fat, so you can eat foods with all or mostly amber lights most of the time. The more green lights, the healthier the choice (AGEUK, 2015a).

'Use by' and 'best before' dates - what's the difference?

When buying food, check the 'use by' date. You will see this on food that goes off quickly, particularly fresh or chilled food including meat, poultry, fish, paté and soft cheese. Even if it seems fine, using it after the 'use by' date could make you ill. Don't take the chance - throw it out.

The 'best before' date is more about the quality of the food than its safety. It's frequently found on foods packaged in cans or jars, or on dried food. Food past its 'best before' date won't make you ill, but it might have lost some of its flavour and texture (AGEUK, 2015a).

Budget friendly superfoods

Ordinary budget-friendly superfoods that won't leave you broke are just as good as the trendy - and ridiculously expensive - nutritional superstars of the moment. "*We should be celebrating more everyday superfoods*", says registered dietitian Nicola Whitehead. "*Ones that are easier to get hold of or simply are cheaper*".

If you strike the pricey spirulina, goji berries and fresh wild salmon off your shopping list and add the following goodies, you'll save a small fortune on grocery bills whilst still enjoying all the benefits of a wholesome, balanced diet (COUGHLIN, 2016).

White cabbage

Good old white cabbage may not be as glam as limelight-stealing kale, but this unassuming leafy green is just as healthy as its more fashionable cousin and easier on the purse.

A vitamin-packed, fibre-rich cruciferous vegetable, cabbage has the potential to lower bad (LDL) cholesterol and also contains glucosinolates, sulphur-based compounds that have been shown to inhibit the growth of cancer tumours (Coughlin, 2016).

Carrots

Dubbed 'poor man's ginseng', carrots are loaded with 490 health-enhancing micronutrients, including powerful antioxidants like beta-carotene and vitamin C.

Affordable enough at the supermarket, carrots from the market, along with most fruit and veg tend to be cheaper. Some stallholders sell 'seconds' to keep prices low - produce that is fine to eat but would be rejected by the supermarkets for cosmetic reasons (Coughlin, 2016).

Broccoli

Broccoli is another cheap cancer-fighting cruciferous vegetable chock-full of essential nutrients such as folate, calcium, vitamins A and C, and both soluble and insoluble fibre.

The veggie is in season right now, so it's likely to be more affordable than ever.

If you can, do shop the seasons. Tomatoes for instance are much lower in price in August and September than during the colder months of the year (Coughlin, 2016).

Sardines

Bursting with omega-3 fatty acids, which are essential for optimal health, sardines are also rich in vitamins B12 and D, fundamental nutrients that support heart and brain function.

If you snap up your sardines in canned form, you'll find that they're about half the price of tinned tuna and the most affordable oily fish in the supermarket. Aim to eat at least one portion of oily fish a week if you want to reap the benefits (Coughlin, 2016).

Lentils

They may not be the most exciting of legumes but lentils have some remarkable health-boosting properties.

Lentils are low in fat and high in fibre and protein, making them a good substitute for meat, fish or dairy in your diet.

They are also rich in folate, magnesium and phytochemicals, which mop up free radical damage and may help prevent or slow the progression of cancer, Parkinson's and other degenerative diseases (Coughlin, 2016).

Kidney beans

Like lentils, kidney beans are a decent cheap source of protein and both soluble and insoluble fibre.

These nutritious pulses also boast high levels of potassium, folate and magnesium, plus the pigment that gives the beans their purple-red colour is a powerful anthocyanin, the same health-enhancing antioxidant that is found in expensive superfood berries like acai and blueberries (Coughlin, 2016).

One thing to beware of with kidney beans is that they're cooked properly, buy tinned kidney beans wherever possible as these will have been pre-cooked. If you buy 'raw or uncooked' kidney beans make sure that you cook them properly, if you don't you will get a most unpleasant stomach upset. Take it from me, I know from bitter experience!

Beetroot

This earthy root vegetable is a nutrition hero with serious superfood appeal. Betaine, the staining purple pigment that gives beetroot its intense colour has been shown to help lower blood pressure and protect the body from chronic disease.

Beetroot is also a good source of folate, vitamins A and C, and iron: the deep purple veggie was even eaten at one time to help relieve the symptoms of anaemia (Coughlin, 2016).

Oats

Beneficial for you and your bank account, oats are full of goodness and low in cost. A significant source of vitamin C, folate and minerals such as zinc and

magnesium, oats have high levels of beta-glucan, a form of soluble fibre that has been shown to reduce bad (LDL) cholesterol levels.

They also contain potent antioxidants called polyphenols, which help the immune system ward off infection and prevent illness (Coughlin, 2016).

Swede

This nourishing vegetable is, believe it or not, an excellent source of vitamin C - a generous portion contains 50% of the daily recommended intake, and its high beta-carotene content helps the body absorb the vitamin more effectively.

Swede is also packed with energy-boosting manganese and potassium, not to mention fibre, folate and phosphorous, which is crucial for a healthy metabolism (Coughlin, 2016).

Red onions

Often overlooked as a superfood, the humble onion is a powerhouse of nutrition, especially the red variety, which contains a powerful antioxidant called quercetin.

Onions are also rich in allicin, a health-enhancing compound with antibacterial and anti-fungal properties that supports heart health. And if that isn't enough to get you to up your intake, onions pack impressive levels of vitamin C and folate, too (Coughlin, 2016).

Storing and preparing food safely

Many of us assume that food poisoning comes from cafés and restaurants, but we're just as likely to get ill from food prepared at home.

Food poisoning can be more than just unpleasant - it can make us seriously ill.

There are a number of bacteria that can cause food poisoning, but those of us over 60 are particularly vulnerable to the severe form of food poisoning caused by a type of bacteria called listeria. It's rare, but severe cases can be life-threatening.

Listeria can live and grow in food and is most likely to be found in chilled ready-to-eat foods, such as paté, soft cheeses such as Brie and Camembert, cooked sliced meat and poultry, smoked salmon and pre-packed sandwiches made with these fillings.

A few simple precautions can prevent food poisoning -

- Set your fridge temperature to 5℃ or below. This helps stop food poisoning bacteria from growing. Bring chilled foods home from the shops as quickly as possible and transfer them straight to the fridge.
- Wash your hands thoroughly before handling any food and after handling raw food (such as meat, poultry, eggs, fish) and its packaging.
- Wash worktops with hot soapy water or an antibacterial cleaning spray before and after preparing food.
- Use a separate chopping board for raw meat. It can contain harmful bacteria that transfers easily to anything it touches.
- Don't wash raw meat such as chicken before cooking it - it isn't necessary and can splash germs onto sinks and work surfaces. Thorough cooking will kill any bacteria present.
- Cover raw meat, poultry and fish, and keep it on the bottom shelf of the fridge, where it can't touch other foods or drip on to them.
- Cook food thoroughly until it's piping hot. Chicken, pork, burgers, sausages and kebabs should be cooked all the way through with no pink meat inside.
- Don't refreeze raw food that has already thawed. Prepare and eat it, or throw it away.
- If you cook extra portions of food to eat later, cool them at room temperature for about an hour then put them in the fridge. Reheat food thoroughly until piping hot, and never reheat more than once.
- Avoid dishes containing raw eggs, such as homemade mousse or mayonnaise. Always cook eggs well until the yolk is solid. Raw or lightly cooked eggs can contain salmonella, a harmful bacteria. Older people are more likely than others to become severely ill if they eat contaminated eggs (AGEUK, 2015a).

Dieting

12 tips to help you lose weight

Don't skip breakfast

Research shows eating breakfast helps you control your weight. Some people skip breakfast because they think it will help them lose weight, but missing meals doesn't help us lose weight and isn't good for us as we can miss out on essential nutrients. It could also encourage us to snack more throughout the day because you feel hungry (LIVEWELL, 2014W).

Eat regular meals

Some people think missing meals will help them lose weight, but it's been shown eating regularly during the day helps burn calories at a faster rate. It also reduces the temptation to snack on foods high in fat and sugar (LIVEWELL, 2014W).

Eat plenty of fruit and veg

Fruit and veg are low in calories and fat, and high in fibre - three essential ingredients for successful weight loss. They also contain plenty of vitamins and minerals (LIVEWELL, 2014W).

Get more active

Studies show regular activity is key to losing weight and keeping it off. As well as providing numerous health benefits, exercise can help burn off the excess calories you can't cut through diet alone. Find an activity you enjoy and are able to fit into your routine (LIVEWELL, 2014W).

Drink plenty of water

People sometimes confuse thirst with hunger. You can end up consuming extra calories when a glass of water is really what you need. You should aim to drink about six to eight glasses (1.2 litres) of fluid, preferably water, every day - or more if it's warm or you're exercising (LIVEWELL, 2014W).

Eat high-fibre foods

Foods containing lots of fibre can help keep you to feel full, which is perfect for losing weight. Fibre is only found in food from plants, such as fruit and veg, oats, wholegrain bread, brown rice and pasta, and beans, peas and lentils (LIVEWELL, 2014W).

Read food labels

Knowing how to read food labels can help you choose healthier options, and keep a check on the amount of calories, fat, salt and sugars you eat. Use the calorie information to work out how a particular food fits into your daily calorie allowance on the weight loss plan (LIVEWELL, 2014W).

Food labels Nutrition labels can help you choose between products and keep a check on the amount of foods you're eating that are high in fat, salt and added sugars.

Most pre-packed foods have a nutrition label on the back or side of the packaging. These labels include information on energy in kilojoules (kJ) and kilocalories (kcal), usually referred to as calories.

They also include information on fat, saturates (saturated fat), carbohydrate, sugars, protein and salt. All nutrition information is provided per 100 grams and sometimes per portion of the food.

Supermarkets and food manufacturers now highlight the energy, fat, saturated fat, sugars and salt content on the front of the packaging, alongside the reference intake for each of these (LIVEWELL, 2015f).

You can use nutrition labels to help you choose a more balanced diet. For a balanced diet -

- eat at least five portions of a variety of fruit and vegetables every day,
- base meals on potatoes, bread, rice, pasta or other starchy carbohydrates - choose wholegrain or higher fibre where possible,
- have some dairy or dairy alternatives, such as soya drinks and yoghurts - choose lower-fat and lower-sugar options,
- eat some beans, pulses, fish, eggs, meat and other protein - aim for two portions of fish every week, one of which should be oily, such as salmon or mackerel,
- choose unsaturated oils and spreads, and eat them in small amounts,
- drink plenty of fluids - the government recommends 6 to 8 cups or glasses a day (LIVEWELL, 2015f).

If you're having foods and drinks that are high in fat, salt and sugar, have these less often and in small amounts.

Try to choose a variety of different foods from the four main food groups. Most people in the UK eat and drink too many calories, too much fat, sugar and salt, and not enough fruit, vegetables, oily fish or fibre (LIVEWELL, 2015f).

Nutrition labels on the back or side of packaging Nutrition labels are often displayed as a panel or grid on the back or side of packaging. For example, the image below shows the nutrition label on a loaf of white bread.

Nutrition

Typical values	100g contains	Each slice (typically 44g) contains	% RI*	RI* for an average adult
Energy	985kJ 235kcal	435kJ 105kcal	5%	8400kJ 2000kcal
Fat	1.5g	0.7g	1%	70g
of which saturates	0.3g	0.1g	1%	20g
Carbohydrate	45.5g	20.0g		
of which sugars	3.8g	1.7g	2%	90g
Fibre	2.8g	1.2g		
Protein	7.7g	3.4g		
Salt	1.0g	0.4g	7%	6g

This pack contains 16 servings

*Reference intake of an average adult (8400kJ / 2000kcal)

Figure 7.1: Food label of a loaf of white bread

This type of label includes information on energy (kJ/kcal), fat, saturates (saturated fat), carbohydrate, sugars, protein and salt.

It may also provide additional information on certain nutrients, such as fibre. All nutrition information is provided per 100 grams and sometimes per portion (LIVEWELL, 2015f).

How do I know if a food is high in fat, saturated fat, sugar or salt? There are guidelines to tell you if a food is high in fat, saturated fat, salt or sugar, or not. These are -

Total fat High - more than 17.5g of fat per 100g, Low- 3g of fat or less per 100g (LIVEWELL, 2015f).

Saturated fat High - more than 5g of saturated fat per 100g, Low - 1.5g of saturated fat or less per 100g (LIVEWELL, 2015f).

Sugars High - more than 22.5g of total sugars per 100g, Low - 5g of total sugars or less per 100g (LIVEWELL, 2015f).

Salt High - more than 1.5g of salt per 100g (or 0.6g sodium), Low - 0.3g of salt or less per 100g (or 0.1g sodium) (LIVEWELL, 2015f).

For example, if you are trying to cut down on saturated fat, limit your consumption of foods that have more than 5g of saturated fat per 100g.

Some nutrition labels on the back or side of packaging also provide information about reference intakes (LIVEWELL, 2015f).

Nutrition labels on the front of packaging Most of the big supermarkets and many food manufacturers also display nutritional information on the front of pre-packed food. This is very useful when you want to compare different food products at a glance.

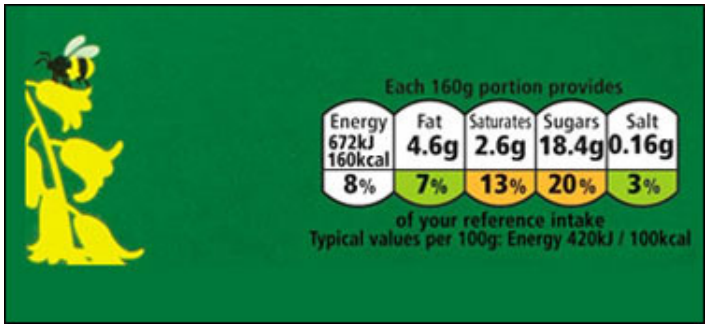

Figure 7.2: A specimen food label

Front-of-pack labels, such as the label in the above image, usually give a quick guide to -

- energy,
- fat content,
- saturated fat content,
- sugars content,
- salt content (LIVEWELL, 2015f).

These labels provide information on the number of grams of fat, saturated fat, sugars and salt, and the amount of energy (in kJ and kcal) in a serving or portion of the food. But be aware that the manufacturer's idea of a portion may be different from yours.

Some front-of-pack nutrition labels also provide information about reference intakes (LIVEWELL, 2015f).

Reference intakes Nutrition labels can also provide information on how a particular food or drink product fits into your daily diet.

Reference intakes are guidelines about the approximate amount of particular nutrients and energy required for a healthy diet (LIVEWELL, 2015f).

Red, amber and green colour coding Some front-of-pack nutrition labels use red, amber and green colour coding, and are also know an 'traffic light' coding.

Figure 7.3: An example of the 'traffic light' colouring

Colour-coded nutritional information, as shown in the image above, tells you at a glance if the food has high, medium or low amounts of fat, saturated fat, sugars and salt.

- red means high,
- amber means medium,
- green means low (LIVEWELL, 2015f).

In short, the more green on the label, the healthier the choice. If you buy a food that has all or mostly green on the label, you know straight away that it's a healthier choice.

Amber means neither high nor low, so you can eat foods with all or mostly amber on the label most of the time.

But any red on the label means the food is high in fat, saturated fat, salt or sugars, and these are the foods we should cut down on. Try to eat these foods less often and in small amounts (LIVEWELL, 2015f).

Ingredients list Most pre-packed food products also have a list of ingredients on the packaging or an attached label. The ingredients list can also help you work out how healthy the product is.

Ingredients are listed in order of weight, so the main ingredients in the packaged food always come first. That means that if the first few ingredients are high-fat ingredients, such as cream, butter or oil, then the food in question is a high-fat food (LIVEWELL, 2015f).

Food shopping tips You're standing in the supermarket aisle looking at two similar products, trying to decide which to choose. You want to make the healthier choice, but you're in a hurry.

If you're buying ready meals, check to see if there's a nutrition label on the front of the pack, and then see how your choices stack up when it comes to the amount of energy, fat, saturated fat, sugars and salt.

If the nutrition labels use colour coding, you will often find a mixture of red, amber and green. So, when you're choosing between similar products, try to go for more greens and ambers, and fewer reds, if you want to make a healthier choice.

But remember, even healthier ready meals may be higher in fat and energy than the homemade equivalent. If you make the meal yourself, you could save money, too (LIVEWELL, 2015f).

Labelling terms and food safety To find out more about food labels, including what terms such as "light/lite" and "low fat" mean, and the difference between "use by" and "best before", read more about food labelling terms (LIVEWELL, 2015f).

Use a smaller plate

Studies show people who use smaller plates tend to eat smaller portions and are still satisfied. By using smaller plates and bowls, you may be able to gradually get used to eating smaller portions without going hungry. It takes about 20 minutes for the stomach to tell the brain it's full, so eat slowly and stop eating before you feel full (LIVEWELL, 2014w).

Don't ban foods

Don't ban any foods from your weight loss plan, especially the ones you like. Banning foods will only make you crave them more. There's no reason you can't enjoy the occasional treat as long as you stay within your daily calorie allowance (LIVEWELL, 2014w).

Don't stock junk food

To avoid temptation, avoid stocking junk food, such as chocolate, biscuits, crisps and sweet fizzy drinks, at home. Instead, stock up on healthy snacks, such as fruit, unsalted rice cakes, oat cakes, unsalted or unsweetened popcorn, and fruit juice (LIVEWELL, 2014w).

Cut down on alcohol

Did you know a standard glass of wine can contain as many calories as a piece of chocolate, and a pint of lager has about the same calorie count as a packet of crisps? Over time, drinking too much can easily contribute to weight gain. Find out more about the calories in alcohol (LIVEWELL, 2014W).

Plan your meals

Plan your breakfast, lunch, dinner and snacks for the week, making sure you stick to your calorie allowance. Try to plan for four to seven days' worth of meals and snacks. Make a shopping list, but don't shop when you're hungry as that can lead to high-calorie impulse buys! (LIVEWELL, 2014W)

Looking after your eyes

Regular exercise and a balanced diet are important for general well-being and protecting against many health conditions. Diet is thought to be important because certain nutrients protect the body against substances called "oxidants". Many of the vitamins and minerals found in a healthy diet are called anti-oxidants (MACULARSOCIETY, 2016A).

Anti-oxidants

Most research has focussed on vitamins A, C and E. These are thought to maintain healthy cells and tissues in the eye. They are found in many fruits and vegetables such as oranges, tomatoes and in green leafy vegetables. They can also be found in nuts, seeds, dairy products, and other food types (MACULARSOCIETY, 2016A).

Lutein

More recently, interest has grown in another anti-oxidant, lutein and a similar substance, zeaxanthin. Both these are yellow plant pigments, which give certain fruit and vegetables their colour, for example the yellow and orange in peppers, sweetcorn and saffron. Surprisingly perhaps, green, leafy vegetables such as kale, spinach and broccoli have high levels of lutein (you can actually see the lutein as the vegetables age and turn yellow).

The human body cannot make lutein or zeaxanthin, they have to be eaten. Several studies suggest that consuming at least 10mg of lutein per day has the most beneficial effects on macular pigment levels (MACULARSOCIETY, 2016a).

What should I eat?

It's important to have a wide range of foods in your diet. Download Nutrition and Eye Health for useful information including a list of which vegetables have the highest amount of lutein.

Eggs contain high levels of lutein and zeaxanthin, which may be easily absorbed by the body because they are eaten with the fat contained in the egg. Zeaxanthin is also found in orange and yellow fruits and vegetables. Some studies are looking at the effects of omega 3, an essential fatty acid found in oily fish, as well as some nuts and seeds such as walnuts and flaxseed (NHS, 2015g).

Should I take a supplement?

Studies into the benefits of taking supplements for eye health are conflicting.

It is widely agreed that if you eat a healthy diet, including at least five portions of fruit and vegetables a day, you should not need a supplement. In reality, most people do not eat the recommended amounts (MACULARSOCIETY, 2016a).

Drinking and alcohol

Water and non-alcoholic drinks

Keeping properly hydrated is vital for our bodies to work properly. Not drinking enough can cause constipation, headaches, tiredness and irritability.

Drink about six to eight cups of liquid a day. This doesn't have to be water. Vary what you drink - tea, coffee, fruit juice or squash - but avoid sugary fizzy drinks as they contain unnecessary calories, which can lead to weight gain.

Don't rely on feeling thirsty to tell you when to drink, as when we get older our sense of thirst gets weaker.

Alcohol

Many of us enjoy a drink now and then, but drinking more than the recommended limits can damage our health, and government guidance says we should drink in moderation -

- men should not regularly drink more than three to four units a day,
- women should not regularly drink more than two to three units a day.

"Regularly" means every day or most days. A pint of beer (4% alcohol) and a 175ml standard glass of wine (13% alcohol) both contain 2.3 units. Having wine or beer most evenings, with your meal or while watching TV, for example, can be as harmful to your health as binge drinking.

It can result in damage to your liver, brain, blood vessels and other organs, and can cause sleep problems and increase the risk of falls. Keep at least two days per week alcohol-free so that your liver, in particular, can recover from the toxic [22] effects of alcohol.

Visit the Drinkaware website for more guidance on alcohol and health.

Drinking water

We need water to help us function properly, and to help control our body temperature, and to carry nutrients and oxygen to the trillions of cells in our bodies. Fluids also help carry waste out of our bodies, and help keep our digestive system, joints and eyes lubricated (Dobson, 2014b).

It's particularly important to drink plenty of water in hot weather and stick to a normal diet to replace salt loss from sweating (ageuk, 2015a).

How much water is in our body? *"About 72% of our weight, not including fat, is water (reducing to about 56% in older men and 47% in older women)"* says Paul McArdle, dietician and spokesperson for the British Dietetic Association (BDA). *"That's around 45 litres in a 70kg man, and a little less in a woman. Most of this is contained in our body cells. The rest is part of the fluid that surrounds cells and plasma"* (unknown, 2015b).

Drink more water in the heat Drinking more fluids when the temperature's high may sound like obvious advice. But it's advice worth following, because we

[22] Capable of causing injury or death, especially by chemical means; poisonous

don't always realise when we are becoming dehydrated. And that's something that happens increasingly as we grow older.

There are reasons why this happens more in our mature years. As we grow older the signals that our bodies send out to tell us that we're thirsty or hungry, become weaker. So we may need to top up our fluids, but may not notice because our body isn't telling us as efficiently as it used to (Dobson, 2014b).

Dementia and hydration People who have Alzheimer's disease or dementia, and those who have had a stroke, have trouble swallowing or have poorly controlled diabetes can struggle to stay hydrated. Some medicines, such as laxatives and drugs that help you pass urine can make you more likely to be dehydrated. And our kidneys may become less efficient as we grow older, with the result that we lose more water and need to drink more to replace it.

Another common condition in our older years - incontinence - can make us dehydrated too, as we drink less to avoid the embarrassment of not being able to control our bladders. But being embarrassed may not be the worst problem. One side-effect of dehydration is confusion and impaired brain function, which can be mistaken for a more serious condition (Dobson, 2014b).

How much should we drink? The European Hydration Institute suggests that once we're over 50 we should make sure that we drink regularly, even if we aren't feeling thirsty. "*Drinking about 1.5 to 2 litres of water or other fluids a day is a good ballpark figure*," says Registered Dietitian Sue Baic, spokesperson for the Association of UK Dietitians. "*But if it's very hot, or you're doing something very active, drink more. Bigger people will probably need more fluids a day, and smaller people may need less*" (Dobson, 2014b).

Tea and coffee If you aren't drinking as much as you used to, or have some signs of dehydration, it can be a good idea to get into the habit of having a drink at certain times of the day. So you could have water or juice and tea or coffee with your breakfast, a hot or cold drink at 9.30 and again at 11.00, and a drink with your lunch, and another afterwards. Making a habit of drinking at regular times may help you drink enough to stay hydrated. Remember to add extra drinks when it's hot.

"*One and a half to two litres of fluid, works out at roughly six to eight glasses or mugs of fluid a day*," says Sue Baic. "*So another way of making sure you drink enough is to have at least one drink with your meals, and one in between. That adds*

up to six servings, so you just need to add two more. The important thing is to get into a habit or pattern of drinking at certain times" (Dobson, 2014b).

Avoid drinking spirits What should you drink? "*Water, tea, herbal tea, coffee, milk and fizzy drinks, all help to hydrate you*," says Sue Baic. "*Spirits, on the other hand, tend to be diuretic - and make you pass more urine. If you do drink spirits, for each alcoholic drink have a soft drink too.*"

Fluids don't just come from drinks. "*You can get around ¾ of a litre a day from foods*," says Sue Baic. "*If you eat five portions of fruit and veg a day, that should give you about 500 mls (0.87 pints) of water*" (Dobson, 2014b).

Where does it all go? We lose fluid from our bodies all the time, through normal bodily functions. We lose about 400mls (0.7 pints) from our lungs, just by breathing, 500 mls (0.87 pints) through urine, and 200 mls (0.35) through faeces (poo). We can lose around 500–700ml (0.87 pints) through sweat, but on a particularly hot day, or if we've been doing something very energetic, this can go up considerably (Dobson, 2014b).

What does water do for the body? Water doesn't just sit there; it's busy, 24 hours a day, keeping the myriad complex processes in our bodies working. The fluids carry nutrients to cells and carry waste away, help most of the chemical reactions in our bodies take place, keep our temperature regulated and help keep our eyes healthy. They also pitch in with the vital lubrication of our joints and digestive and mucous tracts.

"*The levels of our body fluids are very tightly controlled*," explains Rachel Cooke, senior public health dietician and also a spokesperson for the BDA. "*It only takes very small changes in our fluid balance to make us feel unwell, and to make us I'll*".

Unfortunately it seems that we're not terribly good at drinking enough, (and we're not talking about Chablis here). "*Fluid intake is influenced mostly by thirst*," says Rachel Cooke. And the thirst response is very sensitive. We only need to be a few hundred mls short of our ideal water balance to feel thirsty. This may sound reasonable, but by the time we feel thirsty, we may already be slightly dehydrated - in fact it can be one of the first signs of mild dehydration (unknown, 2015b).

***How do our bodies lose water?** We expel fluid from our bodies every day. Around 50% goes out in our urine - along with toxic waste products. About 47% is lost through our skin, although this does depend on how hot it is and how much energy we're expending. The more we sweat, the more water we lose -

go somewhere very hot for your holidays and you could lose 10 litres a day. We lose around 2% of our water in our faeces, and a very small amount through our lungs.

An average, healthy adult can lose almost 2.5 litres of water a day. And with the water you lose electrolytes - minerals like calcium, potassium and sodium - which help maintain your body's fluid balance. Replace the lost fluids and electrolytes and you'll be hunky-dory. It's when you drink less than you expel that your body starts to dry out. And that's when you experience your body's reaction to dehydration (UNKNOWN, 2015b).

Symptoms of dehydration If you are concerned that you or anyone else might be dehydrated, there are some quick and easy ways of checking if you're running dry (DOBSON, 2014b). But as well as feeling thirsty (although this isn't always a reliable sign, especially in older adults and children), you may well have some of the following symptoms of dehydration (UNKNOWN, 2015b) -

- Producing dark, strong-smelling urine,
- A dry mouth and/or dryness under the arms,
- Being confused and disorientated,
- Feeling more tired than usual,
- Feeling weak and dizzy,
- Sunken eyes,
- Loose or slack skin (DOBSON, 2014b),
- Headaches,
- Constipation,
- Poor concentration,
- Dry mouth,
- Tiredness (UNKNOWN, 2015b).

As well as making you feel ill, being dehydrated can cause urinary tract infections and, because it can make you feel dizzy, can increase your risk of falling (DOBSON, 2014b). The most reliable way to check whether you're drinking enough is to look at the colour of your urine. It should be a light straw colour. If it's dark or strong-smelling, you're dehydrated. (This doesn't apply to your first wee of the morning, when you've been without a drink for some hours) (UNKNOWN, 2015b).

If you have any of the symptoms shown above, or are concerned that you or someone else might be dehydrated, have something to drink straight away. Water with a little sugar stirred into it is a good choice, but most other drinks such as tea, herbal tea, coffee, milk and fizzy drinks will help to rehydrate you (DOBSON, 2014b).

What are the causes of dehydration? Dehydration can affect anyone, and it isn't simply a matter of not drinking enough. Older people tend to be more at risk because they have a reduced thirst response, which means they just don't feel as thirsty as they did when they were younger.

Young children and people with chronic illnesses are also at increased risk. Sudden and severe diarrhoea, especially if accompanied by vomiting, a high fever and excessive sweating, can cause dehydration, as can uncontrolled or undiagnosed diabetes. Certain medicines, including some blood pressure medications, diuretics and antihistamines can also make you dehydrated.

If you are mildly dehydrated, you should be able to replenish your body's fluid balance just by drinking more. However, if you - or anyone else - suffers more severe symptoms of dehydration, such as being very thirsty, not urinating for eight hours, having visibly dried-up skin, or being dizzy and confused, you need to get medical help immediately.

In older people especially, confusion caused by lack of fluids can be mistaken for more serious - and possibly permanent - mental decline, so it's important to keep an eye on how much older friends and relatives are drinking (UNKNOWN, 2015b).

How much water should you drink a day? Under normal circumstances, around 1.5 litres of fluid a day (about eight glasses of liquid) should be enough to keep your liquid levels healthy. If it's very hot, or you've been very active and sweaty, or you've had diarrhoea and/or vomiting, you'll need to drink more to keep your stocks from running low.

Plain old tap water is perfect, but you don't have to limit yourself to this. Milk, fruit and vegetable juice, squash and fizzy drinks will all add fluid to your system. Tea and coffee do have a slight diuretic effect - the caffeine in them and in some fizzy drinks can make you produce more urine than other drinks. But in most cases it makes very little difference, so these drinks still help you stay hydrated.

Alcohol is a stronger diuretic, and drinks with a high proportion of alcohol, such as spirits, will increase your fluid loss, and add to the effect you feel the next morning, as dehydration is part of the cause of hangover symptoms. But that doesn't mean you have to stick to mineral water. Drinks that have a low alcohol content, such as wine spritzers and many beers, won't normally upset your fluid balance (UNKNOWN, 2015b).

Have something to drink straightaway If you or someone else becomes severely dehydrated, act at once. The signs can include the symptoms above as well as being delirious, difficulty breathing, low blood pressure, a weak pulse,

fainting and possibly even fits. This is a medical emergency and you must call for medical help immediately (Dobson, 2014b).

Water, drinks and your health

It's easy to overlook, but choosing healthier drinks is a key part of getting a balanced diet.

Many soft drinks - including instant powdered drinks and hot chocolate - are high in sugar. Food and drinks that are high in sugar are often high in calories, and having too many calories can make you more likely to gain weight.

Some energy drinks are high in both sugar and caffeine. Checking the nutrition labels on soft drinks such as fruit juices and fizzy drinks can help you make healthier choices.

The Eatwell Guide says we should drink six to eight glasses of fluid a day. Water, lower fat milk and sugar-free drinks including tea and coffee all count (livewell, 2015v).

Drink plenty of water Water is a healthy and cheap choice for quenching your thirst at any time. It has no calories and contains no sugars that can damage teeth. Plain tea, fruit tea and coffee (without added sugar) can also be healthy.

If you don't like the taste of plain water, try sparkling water or add a slice of lemon or lime. Or heat the water and infuse a tea bag, some coffee or a slice of lemon. You could also add some no-added-sugar squash or fruit juice for flavour (livewell, 2015v).

Drink semi-skimmed, 1% fat or skimmed milk Milk is a good source of calcium, a mineral that helps build and maintain healthy bones. It also contains protein, vitamins and other minerals, and doesn't cause tooth decay.

For a healthier choice, choose semi-skimmed, 1% fat or skimmed milk. Limit your intake of flavoured milks, milkshakes, condensed milk and milk-based energy or malt drinks - these contain added sugar, which is bad for teeth (livewell, 2015v).

Juices, smoothies and 5 A DAY Fruit and vegetable juices and smoothies contain a variety of vitamins that are good for our health. A small glass of fruit juice counts as one of your recommended five daily portions of fruit and vegetables.

But a glass of juice should only ever be one of your portions of 5 A DAY because it doesn't contain the fibre found in whole fruits and vegetables. Have other types of fruit and vegetables for the other four (or more) portions.

Fruit juice also contains sugar that can damage teeth. It's best to drink it with a meal because this can help protect teeth. The sugars found naturally in whole fruit are less likely to cause tooth decay because the sugar is contained within the structure of the fruit.

When fruit is juiced or blended, the sugars are released. Once released, these sugars can damage teeth, especially if you drink juice frequently. Even unsweetened fruit juice is sugary, so keep an eye on the amount of fruit juice and smoothies you consume.

The government's current advice is to limit consumption of fruit/vegetable juices and smoothies to a combined total of 150ml a day (LIVEWELL, 2015v).

Fizzy drinks, flavoured waters, and squashes with added sugar Fizzy drinks, squashes and juice drinks can contain lots of added sugar and very few nutrients, so keep them to a minimum - children should avoid them completely.

Flavoured water drinks can also contain a surprisingly large amount of sugar, so check the label before you buy. Also beware of "juice drinks" as these may not have enough fruit in them to count towards your five portions of fruit and vegetables a day.

A high sugar content means a drink is also high in calories, which can contribute towards you becoming overweight. Cutting down on these drinks is a good way of reducing the number of calories you consume while not missing out on any nutrients.

If you like fizzy drinks, try diluting fruit juice with sparkling water instead. Remember to dilute squashes well to reduce the sugar content in the drink (LIVEWELL, 2015v).

Caffeinated drinks Caffeine is a stimulant. Drinks containing caffeine can temporarily make us feel more alert or less drowsy. Caffeine affects some people more than others, and the effect can depend on how much caffeine you normally consume.

Caffeinated drinks are also unsuitable for toddlers and young children. Drinks that contain high amounts of caffeine include coffee, tea, colas and energy drinks (LIVEWELL, 2015v).

Tea and coffee It's fine to drink tea and coffee as part of a balanced diet. Bear in mind, though, that caffeinated drinks can make the body produce urine more quickly. Some people are more susceptible to this than others, but it also depends on how much caffeine you have and how often you have it.

If you have problems with urinary continence, cutting down on caffeine by changing to low-caffeine tea and coffee, fruit or herbal teas, or other types of drinks can sometimes help.

If you drink tea or coffee with sugar or you have flavoured syrups in your coffee shop drinks, you could be unwittingly damaging your teeth and adding unhelpful calories to your diet.

A wide variety of tablet or granular artificial sweeteners are available and are safe to consume in your hot drinks. Find out more about Artificial sweeteners - how safe are they?.

However, many people who choose to cut out sugar from their hot drinks soon become accustomed to the taste (LIVEWELL, 2015v).

Energy drinks and caffeine Energy drinks often contain high levels of caffeine and are often high in sugar (calories). They may also contain other stimulants and sometimes vitamins and minerals or herbal substances.

The caffeine levels in these drinks vary, but there is often around 80mg of caffeine in a small 250ml can. This is the same as two cans of cola or a small mug of coffee (LIVEWELL, 2015v).

Sports drinks Sports drinks can be useful when you're doing high-level endurance sports and need an energy boost.

But they are no different from any other sugary soft drinks, which means they are high in calories and contribute to tooth decay.

Unless you're taking part in high-level endurance sports, water is the healthier choice and the best way to replace fluids lost through exercise (LIVEWELL, 2015v).

Artificial sweeteners - how safe are they?

Artificial sweeteners are low-calorie or calorie-free chemical substances that are used instead of sugar to sweeten foods and drinks.

They are found in thousands of products, from drinks, desserts and ready meals, to cakes, chewing gum and toothpaste.

Find out what the evidence says on the safety of some of the most common sweeteners approved for use in the UK -

- Acesulfame K,
- Aspartame,
- Saccharin,
- Sucralose,
- Xylitol,
- Stevia (steviol glycosides),
- Sorbitol (LIVEWELL, 2016e).

Both Cancer Research UK and the US National Cancer Institute have said sweeteners don't cause cancer.

"*Large studies looking at people have now provided strong evidence that artificial sweeteners are safe for humans*," states Cancer Research UK.

All sweeteners in the EU undergo a rigorous safety assessment by the European Food Safety Authority (EFSA), before they can be used in food and drink.

As part of the evaluation process, the EFSA sets an acceptable daily intake (ADI), which is the maximum amount considered safe to consume each day over the course of your lifetime.

You don't need to keep track of how much sweetener you consume each day, as our eating habits are factored in when specifying where sweeteners can be used (LIVEWELL, 2016e).

Are sweeteners healthy? Sweeteners may be safe, but are they healthy? Food manufacturers claim sweeteners help prevent tooth decay, control blood sugar levels and reduce our calorie intake.

EFSA has approved the health claims made about xylitol, sorbitol and sucralose (PANEL ON DIETETIC PRODUCTS and ALLERGIES, 2011), among others, in relation to oral health and controlling blood sugar levels.

Dietitian Emma Carder states: "*Research into sweeteners shows they are perfectly safe to eat or drink on a daily basis as part of a healthy diet.*"

She also says they are a really useful alternative for people with diabetes who need to watch their blood sugar levels while still enjoying their favourite foods.

"*Like sugar, sweeteners provide a sweet taste but what sets them apart is that, after consumption, they don't increase blood sugar levels*," she says.

It has been suggested that the use of artificial sweeteners may have a stimulating effect on appetite and, therefore, may play a role in weight gain and obesity.

However, research into sweeteners and appetite stimulation is inconsistent. Also, there is little evidence from longer-term studies to show that sweeteners lead to increased energy intake and contribute to the risk of obesity (LIVEWELL, 2016e).

Acesulfame K Acesulfame potassium, also known as acesulfame K, is a calorie-free sweetener up to 200 times sweeter than sugar and as sweet as aspartame.

It is often blended with sucralose and used to decrease the bitter aftertaste of aspartame.

A wide range of low-calorie foods and drinks contain acesulfame K, including table-top sweeteners, chewing gum, jam, dairy products, frozen desserts, drinks and baked goods.

Acesulfame K is not broken down when digested, nor is it stored in the body. After being consumed, it is quickly absorbed by the body and then rapidly excreted, unchanged.

Acesulfame K has been approved for general use in the EU and the US. Critics say the sweetener has not been studied adequately and may be carcinogenic, affect pregnancy and cause tumours.

The US Center for Science in the Public Interest (CSPI) has questioned the quality of the research on cancer (CSPINET, 2014). However, these claims have been dismissed by the US Food and Drug Administration and the European Food Safety Authority (EFSA).

The EFSA's predecessor, the Scientific Committee on Food, re-examined the cancer studies in 2000 Re-evaluation of acesulfame K with reference to the previous SCF opinion of 1991 and concluded there was no "indication of possible carcinogenicity from these studies".

The reviewing panel also concluded that acesulfame K was not toxic at recommended levels of consumption and could not cause gene mutation (LIVEWELL, 2016a).

Acceptable daily intake: 9mg per kg of body weight

Aspartame Aspartame has been subject to more scare stories than any other sweetener, ranging from allergies and premature births to liver damage and cancer.

It is low calorie and up to 200 times sweeter than sugar. Aspartame is used all over the world as a sugar substitute in thousands of foods and drinks, includ-

ing cereals, sugar-free chewing gum, low-calorie (diet) soft drinks and table-top sweeteners.

Aspartame has been extremely controversial since its approval for use by several European countries in the 1980s. A 1996 report suggested a link between aspartame and an increase in the number of diagnosed brain tumours. However, the study had very little scientific basis and later studies showed that aspartame was in fact safe to consume.

The European Ramazzini Foundation of Oncology and Environmental Sciences published several long-term studies in 2006 and 2007 linking the consumption of aspartame with an increase in cancers - namely lymphomas and leukaemias - in rats.

Following these studies, the US National Cancer Institute conducted a study of nearly half a million people, comparing those who consumed drinks containing aspartame with those who did not. Results of the 2006 study found aspartame did not increase the risk of leukaemia, lymphoma or brain cancer.

In 2013 the European Food Safety Authority (EFSA) conducted a comprehensive review of the evidence and concluded that aspartame was safe for human consumption, including pregnant women and children.

In digestion, aspartame is quickly and completely broken down into by-products - including phenylalanine, aspartic acid and methanol - which then enter our system through normal routes. Hardly any aspartame enters the bloodstream.

However, the EFSA said the acceptable daily intake recommendations did not apply to people with phenylketonuria (PKU), a rare genetic disorder where the body cannot break down phenylalanine. People with this condition need to closely monitor their phenylalanine intake.

The EFSA report stated that, "*PKU mothers with poorly controlled phenylalanine intake in their diet during pregnancy may give birth to babies with congenital heart diseases, microcephalus and impaired neurological function.*"

It is worth noting that phenylalanine occurs naturally in many protein-rich foods, such as milk, eggs and meat. Table-top sweeteners containing aspartame or aspartame-acesulfame K must be marked with "contains a source of phenylalanine" (LIVEWELL, 2016f).

Acceptable daily intake: 40mg per kg of body weight

Saccharin Discovered in the US in 1879, saccharin is the oldest artificial sweetener.

It is calorie-free and 300 to 400 times sweeter than sugar. Some people find it has a bitter or metallic aftertaste.

A wide variety of foods and drinks have saccharin added to them, including baked goods, chewing gum and table top sweeteners.

Saccharin is also used in cosmetic products (such as toothpaste, mouthwash and lip gloss), as well as vitamins and medications.

Saccharin is not broken down when digested. It is slowly absorbed into the system and rapidly excreted, unchanged, by the kidneys.

After being suspected of causing bladder cancer in rats, the Canadian government banned saccharin as a food additive in 1977 (although restricted access to saccharin as a table top sweetener was maintained). The US government also warned that it could cause cancer.

Since then, many studies have disproved any link to cancer.

The European Scientific Committee for Food (SCF) re-evaluated the safety of saccharin in 1995 and concluded that it did not pose a cancer risk to people. It stated: "*While it is unlikely that the tumours in the male rat bladder are of relevance for man, it has not been possible to unequivocally demonstrate this*".

After a complete evaluation of the evidence in 1999, the International Agency for Research on Cancer (IARC) concluded that saccharin could no longer be considered a possible carcinogen in people.

Canada lifted the ban on saccharin in 2014. Some health groups maintain that infants, children and pregnant women should avoid it due to the possibility of having an allergic reaction, although there is no evidence to back this up (NHS, 2016h).

Acceptable daily intake: 5mg/kg body weight.

Sorbitol Sorbitol is a low-calorie sweetener chemically extracted from glucose.

It is used as an alternative to sugar in a range of foods, including low-calorie and sugar-free foods, as well as pharmaceutical and oral health products, such as toothpaste and chewing gum.

Sorbitol has less of an effect on blood sugar levels than sugar, which can benefit people at risk of developing diabetes.

It has the look and feel of table sugar, but with 60% of sugar's sweetness and 30% fewer calories (2.6kcal/g, compared to 4kcal/g for sugar).

When eaten, sorbitol has a mouth-cooling sensation, with virtually no aftertaste. It also helps food stay moist, making it a useful ingredient in the production of confectionery, baked goods and chocolate.

Sorbitol is a polyol - a type of carbohydrate generally manufactured from sugar. Polyols are banned from soft drinks in the EU because of their laxative effect.

Sorbitol naturally occurs in certain foods, such as apples and pears; stoned fruit, such as peaches and apricots; and dried fruit, such as prunes and raisins.

When ingested, sorbitol is slowly and only partially absorbed in the intestine and converted into fructose in the liver. Too much sorbitol in the intestine can cause water retention, resulting in diarrhoea.

If consumed in large amounts, it can cause side-effects such as bloating and wind. Unabsorbed sorbitol is broken down into carbon dioxide and then eliminated.

The EU's Scientific Committee on Food stated in a 1985 report that ingesting 50g a day of sorbitol causes diarrhoea. Foods that are made up of more than 10% sorbitol must carry a warning that excessive consumption may have a laxative effect.

A 2011 report by the European Food Safety Authority (EFSA) on the health claims of polyols, including sorbitol, concluded that they promote dental health by helping to neutralise plaque acidity on teeth and repairing tooth enamel.

The EFSA also accepted the claim that polyols have a lesser effect on blood sugar levels than sugar, due to their slow absorption rate. This could benefit people with impaired glucose tolerance, which is a risk factor for diabetes and cardiovascular disease.

The EFSA has not set an upper limit on daily intake of sorbitol, meaning there is no health risk from normal consumption levels (LIVEWELL, 2016g).

Acceptable daily intake: none specified.

Sucralose Sucralose is a calorie-free artificial sweetener derived from sucrose and is up to 650 times sweeter than sugar.

Valued for having no bitter aftertaste, sucralose-based products are found in a broad range of lower-calorie foods, including table top sweeteners, fizzy drinks, chewing gum, baking mixes, breakfast cereals and salad dressings.

Because it is very sweet, sucralose is often mixed with other sweetening ingredients that are not calorie-free, such as dextrose or maltodextrin, to dilute its intense sweetness.

When consumed, most of the sucralose is not absorbed by the body and is eliminated through excretion. Between 8% and 20% enters the blood and is removed through urine, essentially unchanged. The EU's Scientific Committee on Food (SCF) has concluded that repeated consumption of sucralose is "unlikely" to lead to accumulation in the body.

There have been reports of adverse reactions to sucralose, including claims that it could be a migraine trigger. There is also research suggesting that it could harm the immune system.

However, in a review of the evidence in 2000, the SCF concluded that sucralose is safe for human consumption. In particular, that it is not harmful to the immune system, does not cause cancer, infertility, pose a risk to pregnancy, or affect blood sugar levels.

Sucralose has no effect on tooth decay and is commonly found in oral health products, such as chewing gum. It also has less of an impact on blood glucose than sugar. Both of these health claims were validated in a 2011 review by the European Food Safety Authority (LIVEWELL, 2016h).

Acceptable daily intake: 15mg/kg body weight.

Stevia Stevia-based sweeteners use purified extracts from the leaves of the stevia plant, called steviol glycosides.

Marketed as a "natural sweetener", manufacturers hope steviol glycosides will appeal to consumers looking for a healthier alternative to sugar.

The plant extract - which is 200 to 300 times sweeter than sugar and is also calorie-free - has been used as a sweetener for many years in Asia and South America.

When used as a table-top sweetener, steviol glycosides are often mixed with other artificial sweeteners for texture and to mask their sometimes bitter aftertaste.

Steviol glycosides are approved for use in sugar-free soft drinks, hot beverages, jams, flavoured milk and other dairy products, cakes, desserts and alcohol, among other things.

When consumed, steviol glycosides are broken down into steviol, which is absorbed by the body. The body does not store steviol glycosides and they are rapidly eliminated in faeces and urine.

Steviol glycosides were approved by the EU in 2010 after the European Food Safety Authority (EFSA) carried out a comprehensive analysis of all the available evidence and concluded they were safe for human consumption.

Extensive research has been done on steviol glycosides, involving both humans and animals. After analysing all the available evidence, the EFSA's reviewing panel concluded that steviol glycosides are not carcinogenic or toxic and do not pose a risk to pregnancy or children (LIVEWELL, 2016b).

Acceptable daily intake: 4mg/kg body weight

Xylitol Xylitol is a low-calorie sweetener obtained from a variety of plants.

It is added to a range of foods, medications and oral health products, such as toothpaste and chewing gum.

Chewing gum sweetened with xylitol promotes dental health by helping to neutralise plaque acidity on teeth and repairing tooth enamel.

It has the look and feel of table sugar and is just as sweet, but contains 30% fewer calories (2.4kcal/g, compared to 4kcal/g for sugar). When eaten, it has a mouth-cooling effect, with virtually no aftertaste.

Xylitol is a polyol - a type of carbohydrate generally manufactured from birch and other hardwood trees. Polyols are banned from soft drinks in the EU because of their laxative effect.

A variety of fruits and vegetables naturally contain xylitol, including plums, strawberries and cauliflower. Even the human body produces a small amount.

Xylitol is slowly and only partially absorbed in the intestine, and is converted into glucose in the liver. Too much xylitol in the intestine can cause water retention, which can result in diarrhoea. If consumed in large amounts, side-effects can include bloating and wind. Unabsorbed xylitol is broken down into carbon dioxide and eliminated.

The EU's Scientific Committee on Food said in a 1985 report that ingesting 50g a day of xylitol can cause diarrhoea. Table top sweeteners containing xylitol must carry the warning: "**excessive consumption may induce laxative effects**".

In a 2011 review of xylitol's health claims, the European Food Safety Authority (EFSA) accepted the claim that xylitol has a lesser effect on blood sugar levels than sugar, due to its slow absorption rate. This means it could help people with impaired glucose tolerance, which is a risk factor for diabetes and cardiovascular disease.

There have been claims that xylitol-sweetened chewing gum may help protect against middle ear infections (otitis media); however, the EFSA concluded that there was not enough evidence to support this claim.

The EFSA has not set an upper limit on daily intake of xylitol, meaning there is no health risk from normal consumption levels (LIVEWELL, 2016i).

Acceptable daily intake: none specified

Health benefits of tea and coffee

Coffee is a good source of polyphenol antioxidants.

Findings from early-stage studies on tea and coffee

- Drinking tea or coffee regularly could reduce cognitive decline by as much as 37% as you get older.
- Drinking at least three cups of tea or coffee a day is associated with a reduced risk of Type 2 Diabetes.
- Drinking coffee may protect you from being diagnosed with a more advanced prostate cancer.
- Coffee drinkers (four or more cups a day) may have a 39% decreased risk of developing mouth and pharynx cancers.
- Coffee may cut your risk of being hospitalised due to heart rhythm problems.
- Caffeine may reduce your risk of ovarian cancer (UNKNOWN, 2015a).

For every cup of tea or coffee you drink, you take in around 200 mls of fluid, (depending on the size of your cup). About 40% of the nation's fluid intake comes from tea alone.

Keeping properly hydrated is important. It helps you avoid UTI's, and helps to maintain your cognitive functions. That alone would be good enough reason to drink tea and coffee. But as scientists discover more each year, we're learning that our favourite drinks may offer other important health benefits (UNKNOWN, 2015a).

Is tea good for you?

"*Teas - black and green - come from the same plant, Camellia sinensis. They contain active plant compounds called polyphenols (antioxidants), which have heart health and possibly anti-cancer benefits too*," explains dietitian and nutritionist Dr Carrie Ruxton, a member of the Tea Advisory Panel (TAP).

Polyphenols help to combat oxidation of fats in the blood, and so help protect us against heart disease and their antioxidant action on damaging free radicals protects against some cancers. "*There's pretty strong evidence from controlled trials*

that tea polyphenols relate to a reduced risk of heart disease at around four cups of tea a day," says Dr Ruxton (UNKNOWN, 2015a).

How tea helps heart health

A study in the Netherlands found that people who drank three to six cups of tea a day had a 45% lower risk of dying from heart disease than those who drank less than one cup of tea a day. People who drank two to four cups of coffee a day had a 20% lower risk of heart disease than those who drank less.

"*Other studies relate regular tea consumption with a reduced risk of stroke and type 2 diabetes, but these are quite new areas and need more work*," she said. It's harder to make a clear case at the moment for the cancer-fighting properties of tea, simply because it's hard to carry out reliable trials (UNKNOWN, 2015a).

How tea helps your brain

Tea contains two other elements that benefit us. "*Caffeine, in moderate doses of 50–450mg per day, is very beneficial for cognitive function*," says Carrie Ruxton. "*We have good evidence from controlled trials that after drinking tea our memory improves, we have faster reaction times and a better ability to concentrate.*" So even though tea has about half as much caffeine as coffee (which also gives the little grey cells a boost), it's enough to make a difference.

Despite old wives' tales to the contrary, the caffeine in tea doesn't cause dehydration. A recent study revealed, using blood and urine tests, that four cups of tea a day was just as hydrating as a similar amount of water (UNKNOWN, 2015a).

Why tea makes you feel great

Tea contains an amino acid called L-theanine, which is known to make us feel relaxed. "*You get a fantastic combination of feeling slightly more alert, with your cognitive functions working a bit harder, and at the same time you're more relaxed. We've known for a long time that tea makes us feel good. But it's only recently that we've known why it has that effect*," says Carrie Ruxton.

New research has, however, found that tea may contain higher concentrations of fluoride than previously realised. Instead of the one to two milligrams of fluoride per litre of black tea that most published reports have shown in the past, the new findings show it may be as high as nine milligrams. This isn't a problem for most people, who take in two to three milligrams a day from sources such

as fluoridated water, toothpaste, tea and food. Really serious tea drinkers on the other hand - those who measure their daily tea intake in gallons, and like it good and strong - may be at risk of skeletal fluorosis, a fairly rare disease that can damage joints and bones (UNKNOWN, 2015a).

Green tea benefits

Green tea comes from the same plant as black tea, but is processed differently and doesn't undergo the oxidation process that gives black tea its distinctive colour and taste. As a result it has higher levels of more simple flavonoids, known as catechins. "*It's easier to extract the catechins from green tea*," explains nutritionist and dietitian Lynne Garton, also a member of the TAP. "*So a lot of studies are carried out using green tea extract.*"

In trials, drinking green tea has been associated with lower risk of death from cardiovascular disease and colorectal cancer. It may also protect us against eye disease such as glaucoma, but this research is at a very early stage (UNKNOWN, 2015a).

Green tea and weight loss

In research green tea has produced weight loss results, albeit very modest. However, if you swap a standard, semi-skimmed caffe latte (95 calories) for the same size cup of black tea with semi-skimmed milk (13 calories), over the course of a year you could lose 8lbs in weight (UNKNOWN, 2015a).

Dip or soak the teabag?

To get the most benefit from your tea, go for a relatively strong brew. Caffeine comes out of tea very quickly, so if you just dip your tea bag in a cup of hot water, you'll get the caffeine. However the polyphenols have larger molecules, so take longer to come out (UNKNOWN, 2015a).

Health benefits of coffee

The caffeine in coffee - and tea, and caffeinated drinks - is a stimulant, and that's the substance that perks us up, gets our brain moving and gives us a buzz. There is also evidence that coffee can boost our physical performance and may reduce our risk of depression.

Coffee - one of the most popular drinks in the world - is being subjected to ever-increasing amounts of research. Like tea, coffee is also a good source of polyphenol antioxidants. These mop up the free radicals in our blood, which can cause damage to our bodies. The findings so far indicate that moderate consumption of coffee - four to five cups a day - is fine for most people and may bring health benefits (UNKNOWN, 2015a).

Coffee and stroke risk

Recent research has shown some promising results. A study published in February 2009 linked coffee drinking with a reduced risk of stroke in women. The results showed that the more coffee a woman drank, the lower her risk of stroke. However, as with many studies that hit the headlines this research is still in its early stages (UNKNOWN, 2015a).

Coffee and Parkinson's disease

Scientists have also found evidence that people who drank two to three cups of coffee a day decreased their risk of developing Parkinson's disease by up to 25%. "*These results represent the strongest evidence so far that caffeine may have some protective effects against developing Parkinson's*," says Kieran Breen, Director of Research and Development at the Parkinson's Disease Society (UNKNOWN, 2015a).

Coffee and dementia

Another study, carried out on mice, found that drinking three to five cups of coffee a day in middle age is associated with a 65% decrease in risk of developing Alzheimer's and dementia. Alzheimer's Research Trust spokesperson, Alison Cranage says "*The same team that reported these findings on mice hope to begin human trials of caffeine to see if the findings are replicated in people.*"

Until the scientists can give us more answers, we have to wait and hope that something as everyday as a cup of tea or coffee could be the magic potion that helps keep us healthy (UNKNOWN, 2015a).

Drinking alcohol

Alcohol strength

The strength of wines and beers has quietly been increasing over the decades without anyone batting an eyelid. In the 1970s, it used to be a lot easier to work out how much drink you were getting. A pint of beer used to equal two units, a shot of spirits one unit. Nowadays, beers, lagers and wines are all generally stronger and spirits are commonly sold in measures that are over a unit.

For instance, in 1970 a bottle of wine may have been around 10% in ABV (alcohol by volume) and now the same bottle is more likely to be around 13–14%. So what does this mean? Just a 3% increase in a bottle of wine can have repercussions on your health. This works out to be an extra three units per bottle.

Wines from the 'New World' tend to be stronger, as the hotter climates produce sweeter grapes. As sugar turns to alcohol during fermentation, it means a stronger wine.

Equally, we have seen stronger lager become much more popular over the past couple of decades, with the growth of the five per cent 'premium' lager sector. It may be that the majority of consumers are not aware of ABV and don't even notice. So despite a greater societal concern with being healthy... by stealth we are drinking more pure alcohol than ever (UNKNOWN, 2016).

Units and glass size

One unit equals 8mg of pure alcohol and the liver can only metabolise one unit an hour. Alcohol packs the liver cells with fat, making them susceptible to damage and meaning they don't do their jobs as well.

Our glass sizes have also increased, from 100ml to 175ml and 250ml which could mean we are drinking three units in just one glass. This, coupled with the fact that home-pouring negates any notion of knowing how many units are being consumed, means that we may be putting our liver under undue pressure without knowing. For instance, a bottle of 14% wine contains 10.5 units and a pint of 5% lager contains three units (UNKNOWN, 2016).

The liver

The liver is our largest internal organ. Among hundreds of jobs, it has to deal with the alcohol we drink. If we drink too much, our liver has to literally soak

up the punishment. With few nerve endings to signal pain we wouldn't know if our liver was complaining.

If somebody is drinking a lot on a regular basis, chances are that they will not feel anything happening until their liver has had enough. The harm to your liver at this stage will be severe - and could even be fatal. But your liver does have an incredible capacity to regenerate, and cutting down the amount you drink will improve your liver's health.

This isn't to say you should stop drinking altogether: rather, that you should be more conscious of the units consumed. It can be easy to underestimate how much alcohol you are drinking and often difficult to stop after a certain number of drinks, especially if somebody else is hosting and pouring (UNKNOWN, 2016).

Facts and figures

Research has also shown that even though the volume of alcoholic drinks consumed has remained constant, the number of strong wines and lagers on the market means that Britons are drinking 10% more alcohol than in 2000.

While older people drink fewer units per session than younger adults, those aged 45–54 consume more on average than those aged 35–44.

The Department of Health has recently issued new guidelines, and now recommends that men should not drink more than 14 units of alcohol each week, the same level as for women (UNKNOWN, 2016).

Drinks labelling: what to look out for

Only a third of drinkers find labelling easy to understand. The British Liver Trust is currently feeding into a consultation on drinks labelling calling for mandatory changes to ensure consumers have the opportunity to be better informed on what is in their drink and know the impact it may have on their health. Currently, the drinks industry regulate themselves and only 15% of alcoholic drinks labels carry alcohol by volume (abv) and unit information.

With this lack of information on the drinks you buy it might be fruitful to learn about what the average unit content is of your favourite tipple. See below for a guide -

- Pint of beer, ale or stout (5%): 2.8 units
- Pint of lager at 5% abv: 3 units
- Pint of cider at 6% abv: 3.4 units
- Large glass (250ml) of wine at 12% abv: 3 units (UNKNOWN, 2016).

Unit calculator

Undoubtedly, units are confusing, and after a few glasses or pints, people tend not to care. If you are drinking bottled drinks or cans and they don't have the number of units on its label you can easily work it out yourself using this simple method -

1. multiply the % alcohol content by the volume
2. divided by: 100 if volume stated in centilitres (cls) or
3. divided by: 1000 if volume is stated in millilitres (mls)

Another solution to managing your units is to choose lower abv beers and wines. Even though there is not usually a wide selection in bars and pubs, more options are becoming available in supermarkets. There is usually not a difference in taste and it may put a bit less pressure on your liver (UNKNOWN, 2016).

Understanding alcohol units and strength

New British Government guidelines issued in January 2016 recommend that men should not drink more than 14 units of alcohol each week, the same level as for women (DOBSON, 2014c).

How much is a unit of alcohol?

Alcohol is measured in units. One unit is 10 ml of pure alcohol. The amount of alcohol our bodies can cope with varies depending on your age, health and sex. However, it takes an average adult about an hour to process one unit of alcohol (DOBSON, 2014c).

The idea of counting alcohol units was first introduced in the UK in 1987 to help people keep track of their drinking.

Units are a simple way of expressing the quantity of pure alcohol in a drink. One unit equals 10ml or 8g of pure alcohol, which is around the amount of alcohol the average adult can process in an hour. This means that within an hour there should be, in theory, little or no alcohol left in the blood of an adult, although this will vary from person to person.

The number of units in a drink is based on the size of the drink as well as its alcohol strength. For example, a pint of strong lager contains 3 units of alcohol, whereas the same volume of standard lager has just over 2 units (LIVEWELL, 2015c).

What does alcohol by volume mean?

Some drinks are stronger in terms of alcohol content than others. The amount of alcohol in a bottle or can of drink is shown as a percentage of the content - or volume - of the drink.

You can find out how strong a drink is by looking at its label. This will show a percentage, followed by "ABV" which is short for alcohol by volume. Some labels just use the abbreviation "vol". So if the label on a bottle says 12 ABV, it means that the content contains 12% pure alcohol.

This is a useful way of checking how much alcohol you're consuming, rather than simply how much beer or wine. Some ales, for instance, are 3.5% ABV, but some stronger lagers can be as much as 5% or 6% ABV. This applies to wine too, which can range from 13% ABV to over 14% ABV (Dobson, 2014c).

ABV is a measure of the amount of pure alcohol as a percentage of the total volume of liquid in a drink.

For example, wine that says "12% ABV" or "alcohol volume 12%" means that 12% of the volume of that drink is pure alcohol (livewell, 2015c).

How much alcohol is in your glass?

One unit of alcohol is about half a pint of normal lager, or one measure of spirits. There are about one and a half units of alcohol in a small (125ml) glass of wine.

However, unless you state precisely what strength beer you want, or whether you want a small or large glass of wine, you may be getting more alcohol than you bargained for.

If you drink a pint of strong lager, or a large glass of wine, you could be having more than three units of alcohol. This is at the upper limit of the guidelines for daily consumption (Dobson, 2014c).

Before you down your beer or wine check its ABV.

Small glasses of wine usually contain 125ml (a slightly bigger glass can hold 175 ml), but a large glass contains 250ml. That's a third of a bottle of wine, which can come to about three units of alcohol, in a single glass. Just by having two or three drinks, you could have downed a bottle of wine, and had nearly three times the recommended daily intake (Dobson, 2014c).

Remember to say whether you want a small or large glass of wine.

Drinking at home? Pour yourself small amounts, don't fill your glass to the brim.

Pour your own drinks It's easier to keep track of how much you've had.

How strong is your drink?

Beer

- German Lager 3% to 6% ABV
- Bitter under 3% to 7% ABV
- India Pale Ale 6-7%
- Stout 5-10% (Dobson, 2014c).

Wine

- Table wine 8–14%
- Claret 6–10%
- Shiraz 10–14%
- Rose 10.5%
- White medium 10.7%
- White dry 11%
- Red medium 11.5%
- White sparkling 12%
- Cabernet, Pinot Noir 11–14%
- Dessert wine 14–20%
- Zinfandels 17–22%
- Port 20% (Dobson, 2014c).

Some wines, especially those produced in "New World" countries, such as the USA, Australia, South America and South Africa, have become more alcoholic over recent years. Make sure you check the ABV on the label before buying. The result is that some of these wines now have an ABV of 17%. However, most wines range from 11% ABV to 14% ABV (Dobson, 2014c).

Spirits

- Bourbon 51-79% ABV
- Brandy has 40-45% ABV
- Gin has 37.5% ABV
- Vodka has 35-50% ABV

- Whisky has 40-53% ABV (Dobson, 2014c).

Calories in alcohol

Did you know a standard glass of wine can contain as many calories as a piece of chocolate, and a pint of lager has about the same calorie count as a packet of crisps?

The average wine drinker in England takes in around 2,000kcal from alcohol every month.

Drinking five pints of lager a week adds up to 44,200kcal over a year, equivalent to eating 221 doughnuts.

Many drinkers add to their calorie count by having snacks, such as crisps, nuts or pork scratchings, to accompany their tipple.

A heavy drinking session is often followed by an unhealthy breakfast to help cope with a hangover, which again helps to pile on the pounds.

Going for a fry-up instead of your usual bowl of cereal can add an extra 450kcal to the calorie count from the night before.

The findings are based on an online survey of nearly 2,000 adults in England in March 2009 by YouGov for the Department of Health.

Regularly drinking more than the NHS recommends can have a noticeable impact on your waistline as well as cause less obvious but more serious health problems.

Many women don't realise that two large glasses of white wine not only puts them over the recommended daily limit for regular alcohol consumption, but also provides them with nearly 20% of their recommended daily calorie intake, at approximately 370kcal in total.

Most people would baulk at consuming a full glass of single cream, but wouldn't think twice about the calorie content of a couple of pints. But the calorie content is similar and, over time, excess alcohol intake can easily contribute to gaining weight.

Wine, beer, cider, spirits and all our favourite drinks are made from natural starch and sugar. Fermentation, and distillation for certain drinks, is used to produce the alcohol content. This helps explain why alcohol contains lots of calories - seven calories a gram in fact, almost as many as a gram of fat. And, of course, additional calories can be present in added mixer drinks (livewell, 2014d).

Tips to avoid weight gain

To reduce the chances of gaining weight from drinking alcohol, follow these tips from the British Nutrition Foundation -

- Men and women are advised not to regularly drink more than 14 units a week, which is equivalent to six pints of average strength beer or 10 small glasses of low strength wine.
- Alternate an alcoholic drink with a glass of water - this will help to prevent you becoming dehydrated.
- Don't drink on an empty stomach. If you do reach for snacks while drinking, opt for a healthier option - choose a sandwich instead of crisps or chips, or choose a chicken burger without mayonnaise instead of a kebab with garlic sauce.
- Drinking in rounds can mean you end up drinking more than you intended. Opt out and drink at your own pace.
- Try cutting down with a friend, as you'll be more likely to stick to it with moral support.
- Eat a healthier dinner before you start drinking. Order or cook before you start drinking so you're not tempted to go for the less healthy options.
- Pace yourself by taking small sips.
- Avoid "Binge drinking" - it is not advisable to "save up" your units to splurge at the weekend.
- If you're drinking white wine, why not add a splash of soda water to help the same number of units last longer? (LIVEWELL, 2014d)

How many calories are in your drink?

With a pint of beer the same as a packet of crisps, and a standard bottle of alcopop the same as three teacakes, the calories from alcohol soon add up.

Drink	Calories	Food equivalent
Standard glass (175ml) of 12% wine	126kcal	1 Cadbury heroes miniature bar
Pint of 5% strength beer	215kcal	Packet of McCoy's salted crisps
Glass (50ml) of 17% cream liqueur	118kcal	1 Milky Way bar
Standard bottle (330ml) of 5% alcopop	237kcal	3 Lees teacakes

Drink	Calories	Food equivalent
Double measure (50ml) of 17.5% fortified wine	65 kcal	1 ASDA bourbon biscuit (LIVEWELL, 2014d)

Table 7.1: Calories in alcohol

Alcohol misuse

Alcohol misuse [23] means drinking excessively - more than the lower-risk limits of alcohol consumption.

Alcohol consumption is measured in units. A unit of alcohol is 10ml of pure alcohol, which is about -

- half a pint of normal-strength lager,
- a single measure (25ml) of spirits (NHS, 2015a).

A small glass (125ml) of wine contains about 1.5 units of alcohol (NHS, 2015a).

Risks of alcohol misuse

Short-term The short-term risks of alcohol misuse include -

- accidents and injuries requiring hospital treatment, such as a head injury,
- violent behaviour and being a victim of violence,
- unprotected sex that could potentially lead to unplanned pregnancy or sexually transmitted infections (STIs),
- loss of personal possessions, such as wallets, keys or mobile phones,
- alcohol poisoning - this may lead to vomiting, seizures (fits) and falling unconscious (NHS, 2015a).

People who binge drink (drink heavily over a short period of time) are more likely to behave recklessly and are at greater risk of being in an accident (NHS, 2015a).

The effects of alcohol consumption

Short-term The short-term effects of alcohol consumption are outlined below. This information is based on the assumption that you have a normal tolerance to alcohol.

Dependent drinkers with a higher tolerance to alcohol can often drink much more without experiencing any noticeable effects (NHS, 2015a).

[23] means drinking excessively - more than the lower-risk limits of alcohol consumption

1–2 units

After drinking 1–2 units of alcohol, your heart rate speeds up and your blood vessels expand, giving you the warm, sociable and talkative feeling associated with moderate drinking (NHS, 2015a).

4–6 units

After drinking 4–6 units of alcohol, your brain and nervous system starts to be affected. It begins to affect the part of your brain associated with judgement and decision making, causing you to be more reckless and uninhibited.

The alcohol also impairs the cells in your nervous system, making you feel light-headed and adversely affecting your reaction time and co-ordination (NHS, 2015a).

8–9 units

After drinking 8–9 units of alcohol, your reaction times will be much slower, your speech will begin to slur and your vision will begin to lose focus.

Your liver, which filters alcohol out of your body, will be unable to remove all of the alcohol overnight, so it's likely you'll wake with a hangover (NHS, 2015a).

10–12 units

After drinking 10–12 units of alcohol, your co-ordination will be highly impaired, placing you at serious risk of having an accident. The high level of alcohol has a depressant effect on both your mind and body, which makes you drowsy.

This amount of alcohol will begin to reach toxic (poisonous) levels. Your body attempts to quickly pass out the alcohol in your urine. This will leave you feeling badly dehydrated in the morning, which may cause a severe headache.

The excess amount of alcohol in your system can also upset your digestion, leading to symptoms of nausea, vomiting, diarrhoea and indigestion (NHS, 2015a).

More than 12 units

If you drink more than 12 units of alcohol, you're at considerable risk of developing alcohol poisoning, particularly if you're drinking many units over a short period of time.

It usually takes the liver about an hour to remove one unit of alcohol from the body (NHS, 2015a).

Alcohol poisoning occurs when excessive amounts of alcohol start to interfere with the body's automatic functions, such as -

- breathing,
- heart rate,

- gag reflex, which prevents you choking (NHS, 2015a).

Alcohol poisoning can cause a person to fall into a coma and could lead to their death (NHS, 2015a).

Other risks Some of the other risks associated with alcohol misuse include -

- **accidents and injury** - more than 1 in 10 visits to accident and emergency (A&E) departments are because of alcohol-related illnesses,
- **violence and antisocial behaviour** - each year in England more than 1.2 million violent incidents are linked to alcohol misuse,
- **unsafe sex** - this can lead to unplanned pregnancies and sexually transmitted infections (STIs),
- **loss of personal possessions** - many people lose personal possessions, such as their wallet or mobile phone, when they're drunk,
- **unplanned time off work or college** - this could put your job or education at risk (NHS, 2015a).

Long-term Drinking large amounts of alcohol for many years will take its toll on many of the body's organs and may cause organ damage. Organs known to be damaged by long-term alcohol misuse include the brain and nervous system, heart, liver and pancreas.

Heavy drinking can also increase your blood pressure and blood cholesterol levels, both of which are major risk factors for heart attacks and strokes.

Long-term alcohol misuse can weaken your immune system, making you more vulnerable to serious infections. It can also weaken your bones, placing you at greater risk of fracturing or breaking them (NHS, 2015a).

There are many long-term health risks associated with alcohol misuse. They include -

- high blood pressure,
- stroke,
- pancreatitis,
- liver disease,
- liver cancer,
- mouth cancer,
- head and neck cancer,
- breast cancer,
- bowel cancer,
- depression,
- dementia,

- sexual problems, such as impotence or premature ejaculation,
- infertility (NHS, 2015a).

As well as having a significant impact on your health, alcohol misuse can also have long-term social implications. For example, it can lead to -

- family break-up and divorce,
- domestic abuse,
- unemployment,
- homelessness,
- financial problems (NHS, 2015a).

Kindling

Kindling is a problem that can occur following a number of episodes of withdrawal from alcohol. The severity of a person's withdrawal symptoms may get worse each time they stop drinking, and can cause symptoms such as tremors, agitation and convulsions (seizures).

Alcohol has a suppressing effect on the brain and central nervous system. Research has shown that when alcohol is removed from the body, it activates brain and nerve cells, resulting in excessive excitability (hyperexcitability). This can lead to behavioural symptoms such as seizures.

With each alcohol withdrawal episode, the brain and nervous system becomes more sensitised and the resulting side-effects become more pronounced.

This kindling effect can also occur after chemical stimulus to the brain or body, such as anti-convulsant medication. This means a person's alcohol withdrawal programme needs to be carefully planned, with close monitoring of its effects (NHS, 2015a).

Alcohol myth buster

Having a meal before heading to the pub can be a good idea

Myth A couple of drinks are a real pick me up

Truth Alcohol has a depressant effect. Rather than making you feel better it slows down your reaction time, your reflexes and affects the speed at which you think (Dobson, 2014a).

Myth Coffee will sober me up

Truth A cup of coffee may make you feel more alert, because of the caffeine it contains, but it won't sober you up, or get rid of a hangover. According to Alcohol Concern it may affect your ability to make sensible decisions. So you may feel it's OK to drive your car, because you may not realise that you're still drunk (Dobson, 2014a).

Myth Women can tolerate drink just as well as men

Truth Women don't tolerate alcohol as well as men, because their bodies have a lower water content. Women's body water content is 52% compared to 62% for men. It means that men have a greater capacity for diluting the alcohol in their system (Dobson, 2014a).

Myth Drink lots of water before you go to bed - you'll be fine in the morning

Truth Drinking water after you've had alcohol can help prevent dehydration, and so may mean a milder hangover. However, water won't reduce the effects that alcohol has on your liver, and the rest of your body. And it won't make you less drunk, so don't think it's safe to drive. (Drinking water between alcoholic drinks can help slow down your intake, and help avoid a hangover) (Dobson, 2014a).

Myth Alcohol in food doesn't count, as cooking burns it off

Truth Some of the alcohol does burn off during cooking, but not all of it. The amount that is left depends on how the food was prepared and cooked, and how long it was cooked for. So if you add alcohol to boiling liquid then remove it from the heat, about 85% of the alcohol will still be in the food.

If alcohol is added to a dish, not heated up, and stored overnight, about 70% of the alcohol will remain. And if you prepare a baked or simmered dish, with alcohol stirred into the mixture, about 40% of it will be left after 15 minutes cooking, while only 10% will be left after two hours cooking (Dobson, 2014a).

Myth Tucking into a big meal before you go out will help stop you getting drunk

Truth Having a meal, especially one including carbohydrates, before heading for the pub can be a good idea, as it will slow down the speed at which alcohol enters your blood stream. But if you drink a lot of alcohol, eating first won't stop you getting drunk (Dobson, 2014a).

Myth Alcohol isn't that fattening

Truth Exactly the opposite is true. A pint of lager has the same calories as a slice of pizza. And as drinking can make you feel hungry, you might end up eating that slice of pizza or raiding the fridge, adding more calories to your night's total (Dobson, 2014a).

Myth A quick drink will warm me up

Truth Alcohol - for instance, a shot of brandy - may make you feel warmer briefly, but it won't last. Alcohol lowers your body temperature, so think twice before drinking in very cold weather (Dobson, 2014a).

Hangover Guide

Mature drinkers are more inclined to call it a night after five glasses of Chablis with a nice bit of fish.

Back in my student days a hangover was dismissed as 'feeling a bit shabby'. Nowadays, if I'm foolish enough to incur the wrath of a hangover, I wake to a cacophony of demons drilling rivets into my brain, an oil slick in my stomach and a tongue like Gandhi's flip-flop.

What I wouldn't give for a little shabbiness. So I was surprised by the reams of misleading press coverage given to a University of Southern Denmark study claiming that hangovers get less ghastly with age.

Most of these journalists failed to mention that the survey's findings hinged on its definition of binge drinking as 'five drinks or more'. To paraphrase, the study conceded that mature drinkers are less likely to hit the Jägerbombs after eight pints of lager with whisky chasers, and are more inclined to call it a night after five glasses of Chablis with a nice bit of fish. But this won't sell newspapers (Goodall, 2014b).

Why hangovers get worse as you get older

As we age, both our lean body mass (muscle) and water content decrease, meaning a higher blood-alcohol concentration from the same amount of alcohol consumed, as well as a reduced capacity to process it. In layman's terms, it means you are more likely to require sunglasses when opening the fridge door.

Perhaps we can take some solace from another report that claims we are more likely to experience our worst hangovers around the age of 30, when our alcoholic aspirations and our ability to deal with them are most out of kilter. Despite almost all of us claiming to have the perfect personal remedy, there is, sadly, no known 'cure' for a hangover other than abstinence, and where's the fun in that (Goodall, 2014b)?

Totting up the units of alcohol in your drink

New British Government guidelines issued in January 2016 recommend that men should not drink more than 14 units of alcohol each week, the same level as for women, and everyone should abstain for two or three days a week. What's surprising is just how quickly units can add up in a social situation.

- 2 small (125ml) glasses of champagne = 3 units,
- 2 pints of 'premium' lager = 5.7 units,
- 3 single G&Ts = 3 units,
- 3 pints of Guinness = 6.8 units,
- 2 large (250ml) glasses of 13%ABV Rioja = 6.5 units,
- 1 standard (175ml) glass of cava = 2 units,
- 2 pints of 4%ABV 'cooking bitter' in the pub = 4.5 units,
- 1 alcopop (if you really must!) = 1.4 units (Goodall, 2014b).
- a can of standard lager, beer or bitter - 1.8 units,
- a pint of standard lager, beer or bitter - 2.3 units,
- a small glass of wine (125ml) - 1.5 units,
- a large glass of wine (250ml) - 3 units,
- a measure of spirits (25ml) - 1 unit (livewell, 2014k).

How to avoid getting a hangover in the first place

Alcohol is absorbed via the stomach into the bloodstream, which is why we feel woozy more quickly on an empty stomach; and we''re also likely to drink faster when we haven't eaten. Milk lines the stomach, while foods such as bread, pasta and potatoes are particularly good at soaking up the booze.

A healthy liver can process about one unit of alcohol per hour, so give the poor thing a chance. Try putting your drink down occasionally, and remember that fizzy drinks are absorbed more quickly.

To soften the hangover blow, try to alternate alcohol with soft drinks. Alcohol is a diuretic, so it's sensible to replace lost fluid as you go while providing the fluid to flush the alcohol, which is a poison, through your system.

And, if you remember, drink at least a pint of water before going to bed, possibly with an Alka-Seltzer. Hangover headaches are caused by the lining of the brain shrinking through dehydration, pulling the brain away from the skull to which the lining is attached - sort of cranial bungee-jumping (Goodall, 2014a).

Mixing your drinks and hangovers

It's a myth that mixing your drinks gets you more drunk, but it will crank up the hangover. This is because you'll be consuming more congeners (these are the substances that give booze its colour), which are huge contributors to hangover hell.

The Alcohol Hangover Research Group ranks drinks in escalating order of colour and hangover severity as follows. Note that wine is higher up the scale than some spirits -

1. beer (which, although coloured, is about 96% water),
2. vodka,
3. gin,
4. white wine,
5. whisky,
6. rum,
7. red wine,
8. brandy (Goodall, 2014a).

Have a fry-up for breakfast the morning after...

Alcohol also stimulates our bodies to produce insulin, which reduces sugar in the blood (hypoglycaemia), causing trembling, nausea and hunger. Protein and carbohydrates combat low blood sugar, so a hefty fry-up makes perfect sense, providing you can keep it down. Also, bananas are a good source of potassium, one of the minerals most depleted by dehydration.

...washed down with a 'full-fat Coke' (or other sugary drink)

It is thought that sugary fizzy soft drinks could be more effective than water as they offset the effects of low blood sugar, which might explain the popularity

of Irn Bru in Scotland. Sprite made the headlines last October when Chinese scientists found it to be the most effective drink (out of 57 tested) at boosting the enzymes that break down alcohol. I find that ice cream for sugar replacement and blustery cliff-top walks for head-clearing blasts of ozone work best (Goodall, 2014a).

Hangover cures

Basically, there are none!

Plenty of advice as to how to avoid a hangover, or what to do if you do have a hangover, but a 'hangover cure'? Forget it, none!

Avoid a hangover

The best way to avoid a hangover is not to drink. If you decide to drink -

- limit how much you drink in single session,
- drink more slowly,
- drink with food,
- alternate with water or non-alcoholic drinks (livewell, 2014k).

To avoid a hangover, don't drink more than you know your body can cope with. If you're not sure how much that is, be careful (livewell, 2014k).

To reduce the risk of harming your health if you drink most weeks -

- men and women are advised not to regularly drink more than 14 units a week,
- spread your drinking over three days or more if you drink as much as 14 units a week (livewell, 2014k).

Follow these tips to keep hangovers away -

- Don't drink on an empty stomach. Before you go out, have a meal that includes carbohydrates (such as pasta or rice) or fats. The food will help slow down the body's absorption of alcohol.
- Don't drink dark-coloured drinks if you've found that you're sensitive to them. They contain natural chemicals called congeners (impurities), which irritate blood vessels and tissue in the brain and can make a hangover worse.
- Drink water or non-fizzy soft drinks in between each alcoholic drink. Carbonated (fizzy) drinks speed up the absorption of alcohol into your system.

- Drink a pint or so of water before you go to sleep. Keep a glass of water by the bed to sip if you wake up during the night (LIVEWELL, 2014k).

You've got a hangover!

If you wake up the next morning feeling terrible, you probably didn't follow this advice. Although there are no real cures for hangovers, there are ways to ease the symptoms (LIVEWELL, 2014k).

Water and sports drinks

Conventional wisdom holds that the dehydration caused by heavy drinking is what makes you feel so sick the next day. In fact, experts actually know very little about what causes a hangover. Potential culprits include disrupted biological rhythms or even alcohol withdrawal, and research suggests that congeners - toxic substances found in alcohol, especially dark liquors such as whiskey - may also play a role.

Nevertheless, replacing the fluid you've lost will likely help you feel a little less miserable. "*Juice, water, Gatorade, all those things - they're going to make you feel better*," says Dr. Cutler (HEALTH.COM, 2016).

Treatment involves rehydrating the body so it can deal with the painful symptoms (though the best time to rehydrate is before going to sleep) (LIVEWELL, 2014k).

Alka-Seltzer

Alka-Seltzer turned 80 in 2011, and the famous fizzy medicine has probably been used to treat hangovers for nearly that long. In 2001, the company even introduced a Morning Relief formulation specifically for hangovers.

All Alka-Seltzer varieties contain sodium bicarbonate (also known as baking soda), which will help settle a queasy belly by neutralising stomach acid. Still, other ingredients, notably aspirin and citric acid, may irritate your stomach after a night of heavy drinking (HEALTH.COM, 2016).

Over-the-counter painkillers can help with headaches and muscle cramps. Paracetamol-based remedies are usually preferable, as aspirin may further irritate the stomach and increase nausea and sickness (LIVEWELL, 2014k).

Hangover pills

There are lots of hangover "cures" in a bottle out there - such as Chaser, PreToxx, and RU 21 - but very little evidence to back up their claims. "*Hangover pills that have been studied are not effective, or only help against a few complaints - but not all*," says Joris C. Verster, PhD, an assistant professor of psychopharmacology at Utrecht University in the Netherlands, who studies hangovers.

A 2005 review article in the journal BMJ identified eight peer-reviewed, placebo-controlled studies of hangover remedies, and concluded that "no compelling evidence exists" to support their use.

Dr. Cutler suggests taking a multivitamin instead to restore the nutrients your body may have lost during a Binge drinking (HEALTH.COM, 2016).

Greasy breakfast

There's no scientific evidence that a heaped helping of bacon and eggs will ease hangover anguish, even though many people swear by it. "*Greasy food is just going to give you heartburn*," says Dr. Cutler, who recommends sticking with easy-to-digest foods such as toast or cereal. "*You want to get calories right back into your system.*"

Eat light and stay hydrated, agrees John Brick, PhD, an alcohol research scientist and author of The Doctor's Hangover Handbook. "*No specific foods are recommended, although honey sandwiches are helpful to some people*," Brick says (HEALTH.COM, 2016).

Sugary foods may help you feel less trembly. In some cases, an antacid may be needed to settle your stomach first.

Bouillon soup, a thin vegetable-based broth, is a good source of vitamins and minerals, which can top-up depleted resources. Its main advantage is that it's easy for a fragile stomach to digest.

You can replace lost fluids by drinking bland liquids that are easy on the digestive system, such as water, soda water and isotonic drinks (available in most shops) (LIVEWELL, 2014k).

Coffee

If you're a regular coffee drinker, skipping coffee when you're hung over may - or may not - be a good idea, Brick says. You may wind up layering a pounding

caffeine-withdrawal headache on top of your hangover woes when you miss your regular morning fix.

That said, caffeine narrows your blood vessels and boosts blood pressure. "*Both of these may make the hangover worse*," Brick says. "*If you drink coffee regularly, you might try a very small amount in the morning. Wait 30 to 60 minutes and see how you feel*" (HEALTH.COM, 2016).

"Hair of the dog"

This is drinking more alcohol, which does not help. Drinking in the morning is a risky habit, and you may simply be delaying the appearance of symptoms until the alcohol wears off again (LIVEWELL, 2014k).

Even though the thought of a Bloody Mary may appeal to you, a Virgin Mary is a much better choice the morning after. "*The worst thing to do is to have another drink*," says Charles Cutler, MD, an internist in Norristown, Pa., and the chair of the American College of Physicians' board of governors.

The alcohol may temporarily help your symptoms but could hurt in the long run. Hangovers make you feel horrible because alcohol is toxic, Dr. Cutler explains, and you need to give your body a chance to recover. That morning drink could lead to an even worse hangover the following day (HEALTH.COM, 2016).

If you've had a heavy drinking session, hangover or not, doctors advise that you wait at least 48 hours before drinking any more alcohol, to give your body tissues time to recover. Sometimes, of course, a hangover makes that advice easier to follow (LIVEWELL, 2014k).

Exercise

A gentle workout could help you feel better, if you can manage it (and that's a big if).

"*Remember - if you've been drinking heavily, you could be a little dehydrated, you could be metabolically behind on your nutrition, and exercise is going to require hydration and nutrition*," Dr. Cutler says. "*Exercise is always the right thing to do, but I don't think the morning you wake up with a hangover, exercise is what you need*." What you really need is rest, he adds (HEALTH.COM, 2016).

Sauna

Think you can "sweat out" the alcohol and other toxins you may have consumed during a night of partying? Think again. A sauna can cause potentially dangerous blood vessel and blood flow changes in your body. "*The last thing you need is to disrupt the normal blood-flow patterns by extreme heat*," Dr. Cutler says.

If you're already somewhat dehydrated, excessive sweating can be harmful, and even deadly. Researchers from the Finnish State Alcohol Company's Research Laboratories, in Helsinki, warn that sauna bathing while hung over carries "real health risks," including dangerous drops in blood pressure and abnormal heart rhythms (HEALTH.COM, 2016).

Sleep

People sleep poorly after a night of drinking. Alcohol will put you to sleep quickly, but when it begins to wear off several hours later, the withdrawal your body feels can disrupt sleep and jolt you awake. Although sleep deprivation won't by itself cause a hangover, it definitely can make the symptoms feel worse.

If you have the luxury of "sleeping it off" the next day, do so. Your foggy brain and achy body will thank you. "*The body's got an amazing capacity to heal on its own*," says Dr. Cutler.

In the end, the only surefire treatment for a hangover is time (HEALTH.COM, 2016).

A drinking session?

Before you go out

- Line your stomach - If you eat a nice greasy meal before you go out, the fat will help to line the walls of your stomach, which **slows down the rate of alcohol absorption** (note, it doesn't stop it, just slows it down) which means you'll be less likely to wake up with a splitting headache. Drinking a full glass of milk will also have the same effect (BAILEY, 2016).
- Drink plenty of water - So basically, drinking alcohol blocks the creation of a chemical called vasopressin. This means that your kidneys will send water straight to the bladder instead of absorbing into the body - and is the reason you need so many toilet trips once you 'break the seal'.
  - Drinking booze can expel up to four times as much water, which can lead to you getting dehydrated, the main cause of those dreaded hangover headaches and dry mouths.

  - Ergo, if you want to wake up feeling fresh, make sure you're not dehydrated to begin with. You're supposed to drink eight glasses of water a day so we suggest you get cracking (Bailey, 2016).
- Keep healthy - This is more of a long term goal rather than a quick fix, but you're much **more likely to be affected by hangovers if you're not fit**, active and healthy (Bailey, 2016).
- Stock up on the necessary supplies - ibuprofen, lucozade sport, powerade, eggs, wholemeal bread, bananas, potatoes,

During the drinking session

- Different types of alcohol produce different types of hangover. This is down to the congeners in the drink - something which is produced when the alcohol is fermented. Basically, the more congeners there are the more rotten your hangover is likely to be. As a rule, there are more congeners in darker drinks such as red wine, whiskey or dark rum. White wine, vodka and gin on the other hand contain much less, so are a better choice (but will still leave you feeling rough!) (Bailey, 2016).
- Drink plenty of water - The main reason you get headaches is because you don't have enough water in your system; the other organs in your body will steal their supply from your brain causing it to shrink and cause discomfort and upsets in your head (Bailey, 2016).
- Walk home - NEVER walk home alone - particularly when you've been drinking alcohol - and don't attempt to walk in heels or on any paths that aren't well trodden - we don't want you getting hurt! This aside, walking home can help you to sober up and clear your head, making for a much less painful morning time (Bailey, 2016).
- Pace yourself - the NHS recommends that you should not drink more than 2–3 units of booze a day. To put this in perspective, a small glass of wine is about 1.5 units and a beer somewhere between 2 and 3. It also takes your body around **1 hour to break down 1 unit of alcohol**. It's when you go above this that the problems begin. If you leave a gap between your next drink you'll give your body a chance to process the alcohol you're drinking and lessen the hangover effect (Bailey, 2016).
  - pacing yourself and drinking some soft drinks is a great idea, but be careful what you choose. Drinking fizzy drinks will actually speed up the rate at which alcohol is absorbed into your system and rather defeat the point. And, before you ask, this also applies if the alcoholic drink your drinking is fizzy too. So a vodka orange or apple juice would be a better choice than a vodka coke mixer (Bailey, 2016).

- Avoid mixing - mixing different types of alcohol never really ends well in the hangover stakes. Because different types of alcohol have different level of congeners as well as other chemicals, they'll all have a slightly different effect on you. Add it all together and the result is a mixed up mess and a banging headache. Pick your poison of choice and stick to it (Bailey, 2016).

The morning after

Alcohol can take up to 11 hours to leave your system, but these tips will help you to recover faster (Bailey, 2016).

- **Painkillers** - Your first thought will probably be to reach for some painkillers, and it's not a bad idea as they will help with your headache - just make sure to pick the right ones. Aspirin will do the trick, but it can wreak havoc if you've got a sensitive stomach and leave you feeling sick and worse than you were before. Much safer to just stick to the Ibuprofen, but only the recommended dose. Also note that Ibruprofen is not a good choice for anyone suffering from long term stomach lining issues such as ulcers (Bailey, 2016).
  - If you can manage to remember to take a pain killer before you slump into bed - or get up at around 7am, drink loads of water, take an Ibuprofen and then go back to sleep - you'll wake up feeling healed (sort of) (Bailey, 2016).
- **Drink more water** - If you do manage to drag yourself out of bed then be sure to take a bottle of water with you on your travels (Bailey, 2016).
  - Sports drinks like Lucozade sport or Powerade can work wonders on hangovers, as they're designed to replace sugars quickly and give you the energy and rehydration you need after strenuous exercise. Who cares if the only exercise you've had that day has been the walk to the shops to pick up the sports drinks (Bailey, 2016).
- **Eat sensibly** - Eating, even if it seems like the worst idea in the world, is really important for getting you on the road to recovery. You can't eat just anything, but there are a few options. Depending on how bad you feel, a trusty fry-up is always a great option as they help replace fatty acids and break down the alcohol in your liver. Eggs are particular savours here as they contain something called *taurine*, which has been shown to even reverse liver damage caused by alcohol! If you're feeling a bit too delicate to face a fry-up, a safer option to get you going would be some mild flavoured carbohydrates such as wholemeal toast or crackers, which should give you a boost without upsetting your fragile stomach too much. Drinking too

much can also deplete your potassium levels so eating some bananas or potatoes in the morning will also help (a swift banana before bed is also a great idea if you can remember!) (Bailey, 2016).

- **Drink fluids to restore your balance** - A glass of **fruit juice** helps by giving you a sugary kick and energy, as well as getting rid of the toxins in your body whilst replacing some of the essential minerals you've lost. Milk will work well to replace the calcium you've lost, while **ginger tea** (or even just ginger on its own) can help with nausea. Another option is drinking **milk thistle tea**, which is said to be a hangover godsend. **Boiled water with honey and lemon** will also help boost your blood sugar and vitamins. Sports drinks are a great option as they replace the necessary sugars and give you a bit of much-needed energy boost. Rehydration sachets such as Dioralyte are also little packets of hangover gold dust! They work hard to replace all the good salts you've lost the night before, and set you on the path to full recovery (Bailey, 2016).
- **Distract yourself** - Distract yourself with something enjoyable but not too taxing like catching up on your favourite TV shows, books or just looking at pictures of cute cats (Bailey, 2016).
- **Don't drink coffee** - Coffee may be the obvious port-of-call for most sufferers, but it's actually a diuretic and causes your body to lose water quickly. Opt instead for some water, fruit juice, or anything we mentioned before instead and you'll feel better in the long run (Bailey, 2016).
- **Don't start drinking again** - Hair of the dog? Forget it! Drinking more might ease your pain for a few hours but it will only make the crash even worse when you get to that point (Bailey, 2016).
- **Have a long shower** - Freshening up can do wonders for your mind. Be careful not to make it too hot, otherwise the heat can go to your head and make you nauseous. A great option is to shower with the window open for a bit of fresh air too (Bailey, 2016).
- **Sleep it off** - One of the other side-effects of drinking is the disruption of your sleep cycle, which is one of the reasons you still feel a bit lousy even if you did get a decent amount of sleep. Combat this the only way you know how - just sleep some more! If you're not going to be productive anyway, you might as well just admit defeat, and instead focus on getting the sleep you need to get back on form (Bailey, 2016).
- **Exercise** - Some gentle exercise, with lots and lots of water so you don't get dehydrated, can boost your endorphin levels and give you a mental kick (Bailey, 2016).
- **Sunglasses** - Along with all the other pearls of a hangover, you might also find yourself prey to hypersensitivity to bright lights or loud music. Make

sure everyone turns it down a notch for the day and if you need to leave the house, put on your sunglasses (Bailey, 2016).

Alcohol's hidden harms - effects on our health

What may seem like just a drink or two most evenings can do a lot of harm to your body, inside and out.

You might notice that you're building up a bit of a spare tyre, if you drink alcohol regularly. That's because there can be a lot of calories in alcohol. Or perhaps your mood can be a bit low in the mornings. Maybe your skin's not as clear as it was. And we all know how drinking too much can lead to decreased sexual performance, especially for men (NHS, 2016a).

Health harms of alcohol

As well as the things you notice on the outside, there can be some serious stuff happening on the inside. Regularly drinking over the low-risk guidelines increases the chances of suffering more serious health harms such as -

- Cancer of the throat, oesophagus or larynx. Regularly drinking two large glasses of wine (ABV 13%) or two pints of strong lager (ABV 5.2%) a day could make you three times as likely to get mouth cancer,
- Breast cancer in women. Regularly drinking just above the guidelines increases the risk of getting breast cancer by around 20%,
- A stroke,
- Heart disease or an irregular heartbeat, which can lead to a heart attack,
- High blood pressure,
- Liver disease such as cirrhosis and liver cancer. If you regularly drink just above the lower-risk guidelines, the risk of liver cirrhosis increases 1.7 times,
- Pancreatitis,
- Reduced fertility (NHS, 2016a).

People who regularly drink just above the low-risk guidelines increase their risk of ill-health significantly.

The more you drink, and the more often, the greater the risk to your health. And for people with a medical condition (such as diabetes or high blood pressure) or are suffering from depression or anxiety, alcohol often makes life worse (NHS, 2016a).

Tips on cutting down

If you regularly drink more than 14 units a week, try these simple tips to help you cut down.

Fourteen units is equivalent to six pints of average strength beer or 10 small glasses of low strength wine (LIVEWELL, 2016j).

Make a plan

Before you start drinking, set a limit on how much you're going to drink (LIVEWELL, 2016j).

Set a budget Only take a fixed amount of money to spend on alcohol (LIVEWELL, 2016j).

Let them know If you let your friends and family know you're cutting down and that it's important to you, you could get support from them (LIVEWELL, 2016j).

Take it a day at a time Cut back a little each day. That way, every day you do is a success (LIVEWELL, 2016j).

Make it a smaller one You can still enjoy a drink but go for smaller sizes. Try bottled beer instead of pints, or a small glass of wine instead of a large one (LIVEWELL, 2016j).

Have a lower-strength drink Cut down the alcohol by swapping strong beers or wines for ones with a lower strength (ABV in %). You'll find this information on the bottle (LIVEWELL, 2016j).

Stay hydrated Drink a pint of water before you start drinking, and don't use alcohol to quench your thirst. Have a soft drink instead (LIVEWELL, 2016j).

Take a break Have several drink-free days each week (LIVEWELL, 2016j).

Benefits of cutting down

The immediate effects of cutting down include -

- feeling better in the mornings,
- being less tired during the day,
- your skin may start to look better,
- you'll start to feel fitter,
- you may stop gaining weight (LIVEWELL, 2016j).

Long-term benefits include -

Mood There's a strong link between heavy drinking and depression, and hangovers often make you feel anxious and low. If you already feel anxious or sad, drinking can make this worse, so cutting down may put you in a better mood generally (LIVEWELL, 2016j).

Sleep Drinking can affect your sleep. Although it can help some people fall asleep quickly, it can disrupt your sleep patterns and stop you from sleeping deeply. So cutting down on alcohol should help you feel more rested when you wake up (LIVEWELL, 2016j).

Behaviour Drinking can affect your judgement and behaviour. You may behave irrationally or aggressively when you're drunk. Memory loss can be a problem during drinking and in the long term for regular heavy drinkers (LIVEWELL, 2016j).

Heart Long-term heavy drinking can lead to your heart becoming enlarged. This is a serious condition that can't be completely reversed, but stopping drinking can stop it getting worse (LIVEWELL, 2016j).

Immune system Regular drinking can affect your immune system. Heavy drinkers tend to catch more infectious diseases (LIVEWELL, 2016j).

Alcohol poisoning

Alcohol poisoning occurs when a person drinks a toxic amount of alcohol, usually over a short period of time.

This is often known as binge drinking.

Poisoning is exposure to a substance that can damage your health and put your life in danger.

Alcohol poisoning can also occur if a person drinks household products that contain alcohol - children sometimes drink these by accident (NHS, 2014a).

Symptoms

The level of alcohol in a person's blood can continue to rise for up to 30–40 minutes after their last drink. This can cause their symptoms to suddenly worsen. It's important to be aware of the signs of alcohol poisoning (NHS, 2014a).

Signs of alcohol poisoning

Signs a person may have alcohol poisoning include -

- confusion,
- severely slurred speech,
- loss of co-ordination,
- vomiting,
- irregular or slow breathing,
- hypothermia (pale or blue-tinged skin caused by low body temperature),
- stupor (being conscious but unresponsive),
- passing out and being unconscious (NHS, 2014a).

If a person is poisoned by alcohol they could -

- choke on their vomit,
- stop breathing,
- have a heart attack,
- inhale vomit, leading to fatal lung damage,
- become severely dehydrated, which can cause permanent brain damage in extreme cases,
- develop more severe hypothermia,
- have seizures (fits) as a result of lowered blood sugar levels (NHS, 2014a).

Repeated vomiting and retching can lead to the vomiting of blood as a result of a torn blood vessel (Mallory-Weiss tear) at the junction of the stomach and gullet.

In the most severe cases, alcohol poisoning can lead to coma, brain damage and death (NHS, 2014a).

Other related risks Drinking too much alcohol can affect a person's judgement and put them in situations where their health and safety are at risk. For example, they may -

- have an accident or get injured,
- become involved in violent or antisocial behaviour,
- have unsafe sex, which can lead to an unplanned pregnancy or a sexually transmitted infection (STI),
- lose personal possessions (NHS, 2014a).

Treatment

Someone who has alcohol poisoning won't be able to help themselves.

When you're drinking with a group of people, it's important to be aware of the signs and symptoms of alcohol poisoning and know what to do when someone has had too much to drink.

Following the advice below could save someone's life (NHS, 2014a).

What you should do If you suspect someone has alcohol poisoning, dial 999 and ask for an ambulance. While you're waiting -

- try to keep them sitting up and awake,
- give them water if they can drink it,
- if they've passed out, lie them on their side in the recovery position and check they're breathing properly,
- keep them warm,
- stay with them and monitor their symptoms (NHS, 2014a).

What you shouldn't do There are many myths about how to 'sober someone up' when they're drunk, most of which are wrong and can even be dangerous. You shouldn't -

- give them coffee because it will dehydrate them more,
- leave them alone or lying on their back, even if they're asleep,
- walk them around,
- put them under a cold shower,
- let them drink any more alcohol (NHS, 2014a).

Hospital treatment Someone with alcohol poisoning needs to be taken to hospital.

Medical staff at hospital will closely monitor the person until all the alcohol has left their system. They may also need to -

- insert a tube into their mouth and windpipe (intubation) to open the airway, remove any blockages and help with breathing,
- fit an intravenous drip, which goes directly into a vein, to top up their water, blood sugar and vitamin levels,
- fit a catheter (thin tube) to their bladder to drain urine straight into a bag so they don't wet themselves,
- pump their stomach by flushing fluids through a tube inserted into their nose or mouth (NHS, 2014a).

Preventing alcohol poisoning

Alcohol passes quickly into your bloodstream. The physical and mental effects can occur very suddenly.

To avoid getting drunk and risking alcohol poisoning, it helps to be aware of how much you're drinking and the effect this could have on your body (NHS, 2014a).

The effects of alcohol Around 1–2 units

- your heart rate will speed up and your blood vessels will expand,
- you get the warm, sociable feeling associated with moderate drinking (NHS, 2014a).

Around 4–6 units

- your decision making and judgement will start to be affected, making you lose your inhibitions and become more reckless,
- the cells in your nervous system will start to be affected, making you feel lightheaded,
- your co-ordination will be affected and your reaction time may be slower (NHS, 2014a).

Around 8–9 units

- your reaction times will be much slower,
- your speech will be slurred,
- your vision will begin to lose focus,
- your liver won't be able to remove all of the alcohol overnight, so it's likely you'll wake up with a hangover (NHS, 2014a).

At this stage you should seriously consider not drinking any more alcohol.

If you do -

Around 10–12 units

- your co-ordination will be seriously impaired, placing you at high risk of having an accident,
- you may stagger around or feel unstable on your feet,
- you'll feel drowsy or dizzy,
- the amount of alcohol in your body will begin to reach toxic levels,
- you may need to go to the toilet more often as your body attempts to quickly pass the alcohol out of your body in your urine,
- you'll be dehydrated in the morning, and probably have a severe headache,
- the excess alcohol in your system may upset your digestive system, leading to nausea, vomiting, diarrhoea or indigestion (NHS, 2014a).

More than 12 units

- you're at high risk of developing alcohol poisoning, particularly if you're drinking lots of units in a short space of time,
- the alcohol can begin to interfere with the automatic functions of your body, such as your breathing, heart rate and gag reflex,
- you're at risk of losing consciousness (NHS, 2014a).

Tips for drinking less Below is some advice about how to drink less alcohol and avoid getting alcohol poisoning.

- Replace some of your drinks with non-alcoholic or low-alcohol drinks.
- If you drink mainly when you go out, try going out later or having your first drink later.
- If you drink mainly at home, buy non-alcoholic or low-alcohol alternatives.
- Buy smaller glasses and be careful about how much you pour.
- If you drink pints in the pub or cans of beer, remember lower-strength lagers and beers are available.
- If you use alcohol to 'wind down' after a hard day, find alternatives, such as exercise classes or relaxation techniques.
- Avoid drinking on an empty stomach.
- Don't mix different alcoholic drinks, such as beer with wine, or spirits with beer (NHS, 2014a).

Keeping a drink diary If you're not sure how much you're drinking on a daily basis, try keeping a drink diary. Every day make a note of -

- all the alcoholic drinks you had,
- how many units of alcohol you drank,

- what time you had them and where you were (NHS, 2014a).

This should give you a good idea of how much you're drinking, the situations in which you drink and where you could start to cut down (NHS, 2014a).

Binge drinking

Binge drinking usually refers to drinking lots of alcohol in a short space of time or drinking to get drunk.

Researchers define binge drinking as consuming eight or more units in a single session for men and six or more for women.

However, this definition does not apply to everyone because the tolerance and the speed of drinking in a session varies from person to person (LIVEWELL, 2014c).

To reduce the risk of harming your health if you drink most weeks -

- men and women are advised not to regularly drink more than 14 units a week,
- spread your drinking over three days or more if you drink as much as 14 units a week (LIVEWELL, 2014c).

Fourteen units is equivalent to six pints of average strength beer or 10 small glasses of low strength wine.

During a single drinking session, try to -

- limit how much you drink,
- drink more slowly,
- drink with food,
- alternate with water or non-alcoholic drinks (LIVEWELL, 2014c).

Keeping track of your drinking is even more important if you are out in risky or unfamiliar circumstances. You can be at risk from others, and may not be able to look after your friends.

You can easily lose control of what you do or say and may make risky decisions, thinking you're invulnerable.

Binge drinking increases the risk of -

- accidents, like head injuries and fractures,
- alcohol poisoning,
- heart disease (LIVEWELL, 2014c).

Drink-by-drink guide

Below is a drink-by-drink guide, based on a standard (175ml) 12% volume glass of white wine and 4% strength pint of lager, showing how quickly alcohol can affect your mind and body (LIVEWELL, 2014c).

One glass of white wine or a pint of lager (approximately two units) -

- You're talkative and you feel relaxed.
- Your self-confidence increases.
- Driving ability is already impaired, which is why it is best to drink no alcohol if you're driving (LIVEWELL, 2014c).

Two glasses of white wine or two pints of lager (approximately four units) -

- Your blood flow increases.
- You feel less inhibited and your attention span is shorter.
- You start dehydrating, one of the causes of a hangover (LIVEWELL, 2014c).

Three glasses of white wine or three pints of lager (approximately six units) -

- Your reaction time is slower.
- Your liver has to work harder.
- Your sex drive may increase, while your judgement may decrease (LIVEWELL, 2014c).

Four glasses of white wine or three and a half pints of lager (approximately eight units) -

- You're easily confused.
- You're noticeably emotional.
- Your sex drive could now decrease and you may become less capable (LIVEWELL, 2014c).

Bear in mind that some people (including women, young people and those with smaller builds) may experience the effects after drinking smaller amounts of alcohol.

If you have developed a tolerance to alcohol you may find that some of these effects do not apply to you.

In that case, consider whether it is time to cut back on your drinking or whether you need to seek help (LIVEWELL, 2014c).

Falls

Every year about a third of people aged over 65 fall (Health, 2015), with 5%–15% of falls resulting in significant injuries such as fractures and head trauma (Cunningham, 2016). Although if you have a long-term condition or learning disability, then falls can happen at a much younger age. If you have experienced a fall you may feel afraid of falling again. Even if you think your fall was just 'one of those things', there may be steps you can take to help stop it happening again (Health, 2015). In the UK there is 1 fall associated death every 5 hours. So, falls in the elderly pose a significant health problem (Cunningham, 2016).

Falls are not a normal part of getting older, they are a sign of an underlying problem and you should always speak to your doctor or a health professional if you are having frequent falls (hants, 2016b).

Causes

There are several reasons why people fall over and not all are related to poor eyesight. You are most at risk of falling if you -

- Are aged over 75,
- Are a woman,
- Have fallen before (lookafteryoureyes, 2016a),
- weak muscles and stiff joints as a result of conditions such as arthritis,
- heart conditions or changes in blood pressure,
- some health conditions, such as Parkinson's disease,
- hearing problems, which can affect your balance,
- changes to your sight,
- side-effects of some medications,
- tiredness or confusion,
- alcohol, which affects you more as you get older (indepenedentage, 2016),
- Have Parkinson's disease, arthritis, diabetes, Meniere's disease or dementia and/or,
- Are taking sedatives, antidepressants or more than four prescription medicines a day (lookafteryoureyes, 2016a).

The cause of a fall may not always be straight forward and may be multifactorial. Risk factors include increasing age, living in residential care and chronic disease (Cunningham, 2016).

You can assess your own risk of falling by using the NHS falls risk assessment tool.

Intrinsic Causes

Neurological Stroke, cerebellar disorders, visual impairment, Parkinsonism, seizures (Cunningham, 2016).

Cardiovascular Heart attack, arrhythmia, orthostatic hypotension (Cunningham, 2016).

Metabolic Hypoglycaemia, hypothyroidism, dehydration (Cunningham, 2016).

Gastrointestinal Diarrhoea, bleeding (Cunningham, 2016).

Musculoskeletal Arthritis, muscular weakness (Cunningham, 2016).

Genitourinary Incontinence, nocturia (Cunningham, 2016).

Psychological Delirium, dementia, depression (Cunningham, 2016).

Pharmacological Polypharmacy, antihypertensives, diuretics, alcohol (Cunningham, 2016).

Environmental Causes

Poor lighting, steps, ice, shoes, rugs, walking aids (Cunningham, 2016).

Medical

History

- Depending on the circumstances, it may be necessary to obtain a collateral history from somebody else, a carer or family member,
- Environmental cause e.g. fall down stairs,
- What can they remember before and after - retrograde and anterograde amnesia are worrying symptoms of head injury,
- What were they doing at the time - a fall after standing from sitting or lying is suggestive of postural hypotension,

- Symptoms before fall e.g. dizziness,
- Loss of consciousness - suggestive of head injury or epilepsy,
- Symptoms after fall,
- Associated injuries (Cunningham, 2016).

Past Medical History

A detailed past medical history may indicate the cause. Specifically ask about -

- Previous falls,
- Recent infection,
- Recent vomiting and diarrhoea (Cunningham, 2016).

Drug History

- Beta blockers and diuretics can cause postural hypotension (Cunningham, 2016).

Social History

- Alcohol history,
- Mobility,
- Use of adaptions e.g. walking aids, handrails,
- Housing,
- Care (Cunningham, 2016).

Examination

Neurological

- Conscious level,
- Orientation: consider MMSE,
- Muscle bulk, tone, power, coordination and sensation,
- Visual acuity and visual fields (Cunningham, 2016).

Cardiovascular

- Pulse: arrhythmias,
- Postural BP (Cunningham, 2016).

Musculoskeletal

- Signs of arthritis e.g. deformities, crepitus,
- Range of movement (Cunningham, 2016).

Mnemonic

The mnemonic I HATE FALLING can be used to remind you of the common treatable causes of falls which may be apparent on physical examination.

- **I** - inflammation of joints,
- **H** - hypotension,
- **A** - auditory and visual abnormalities,
- **T** - tremor (e.g. Parkinson's),
- **E** - equilibrium problems,
- **F** - foot problems,
- **A** - arrhythmia, heart block or valvular disease,
- **L** - leg-length discrepancy,
- **L** - lack of conditioning (generalised weakness),
- **I** - illness,
- **N** - nutrition (e.g. poor, weight loss),
- **G** - gait disturbance (Cunningham, 2016).

Investigations

- FBC - macrocytosis may point to alcoholism, anaemia may suggest blood loss,
- U&Es,
- LFTs,
- TFTs,
- Random blood glucose,
- Urinalysis,
- ECG (Cunningham, 2016).

Are you at risk of breaking a bone?

Work out if you're at risk of developing osteoporosis and breaking a bone in the next 10 years.

The online Fracture Risk Assessment Tool (FRAX) uses a range of risk factors to predict a person's risk of fracture because of weak bones.

The self-assessment tool gives a 10-year probability of a fracture in the spine, hip, shoulder or wrist for people aged between 40 and 90.

Estimating your fracture risk could be the first step to getting early treatment to strengthen your bones and reduce your fracture risk.

"*Osteoporosis treatment has shown to reduce the risk of fracture by 30 to 50%*," says Professor Anthony Woolf, a rheumatologist at the Royal Cornwall Hospitals NHS Trust. "*It's never too late for someone to start treatment.*"

Osteoporosis is usually diagnosed with a bone density scan (called a DEXA or DXA scan). However, low bone density is not a perfect measure of fracture risk and needs to be considered alongside other risks, such as age, gender, general health and genes.

The FRAX tool, which can be done without a DEXA score, can be a prompt for further discussion about your bone health with your GP to see if a DXA scan is necessary to estimate your risk of future fracture.

"*There is more to fracture risk than just bone density*," says Sarah Leyland of the National Osteoporosis Society.

"*There are people who have low bone density who never break a bone and there are people who break a bone with minimal force and yet their bone density isn't in the osteoporosis range*," says Leyland. "*Tools like FRAX take into consideration a range of proven risk factors for breaking bones, meaning a DEXA isn't always necessary*" (LIVEWELL, 2015d).

Osteoporosis risk factors

The main risk factors for developing osteoporosis and fractures, some of which are used by the FRAX tool, are -

- **Age** - as we get older, bones become more fragile and more likely to break generally, whatever your bone density.
- **Genes** - a family history of osteoporosis increases your risk. In families with smaller bones, fractures, especially of the hip, are more common.
- **Race** - black people are at a lower risk than white or Asian people because their bones tend to be bigger and stronger.
- **Gender** - women have smaller bones than men and lose bone naturally due to the menopause.
- **Low body weight** - a BMI below 19 is often associated with smaller and finer bones and less body fat, which can be protective in a fall.
- **Diet** - a diet lacking in sufficient levels of calcium and vitamin D is associated with weaker bones.

- **Exercise** - regular physical activity has been shown to build strong bones during youth and reduce the rate of bone loss as we get older.
- **Smoking** - research shows regular smokers have weaker bones, although the exact role tobacco plays in osteoporosis isn't clearly understood.
- **Alcohol** - excessive alcohol consumption is thought to affect your ability to absorb calcium, which can result in weaker bones.
- **Previous fractures** - if you've already broken bones easily, you are much more likely to have fractures in the future.
- **Anorexia** - a low food intake can cause calcium deficiency, causing weak bones. In women, anorexia can stop menstruation, which also weakens bones.
- **Steroids** - taking prednisolone (a type of steroid) for more than three months can cause weaker bones.
- **Diabetes** - people with type 1 diabetes require medication because they can't produce insulin, a hormone thought to promote bone strength.
- **Thyroid problems** - too much thyroid hormone, because of an overactive thyroid or hormone treatment for an underactive thyroid, can cause bone loss.
- **Lack of testosterone** - a reduction of the sex hormone testosterone as a result of ageing or illness, such as cancer, is associated with weaker bones.
- **Premature menopause** - women who have menopause before the age of 45 have lower oestrogen levels, which can cause lower bone density (LIVEWELL, 2015d).

You cannot see or feel your bones getting thinner and many people are unaware of any problems until they break a bone.

If you think you have risk factors for osteoporosis and fractures then you should discuss this with your GP (LIVEWELL, 2015d).

Reduce the chances of falls

- Try to keep your eyes healthy - see Maintaining good eyesight.
- Have good lighting. Energy saving bulbs are fine as long as you position them correctly. We recommend having lamps close to where you need the light (for example, a lamp near the chair where you sit to read).
- Make sure you turn the lights on at home when it is dark, so that you can see where you are going.
- Make sure that your carpets are well fitted and do not have trip hazards, such as creases, in them. If you have a rug that is on a slippery floor, make sure that it does not slip or move when you walk on it.

- Wear suitable footwear when you are walking around, both at home and outside.
- Having a good contrast between things can make them easier to see. Examples would be having a dark toilet seat on a white toilet (and a dark bathroom floor if you have a white toilet, sink and so on) and having dark edges on steps or stairs.
- If you are dazzled by the sunshine when you are out, wear sunglasses that absorb the UV light or a hat with a brim to shield you from the sunlight.
- If your optometrist has told you that you should wear glasses for distance (watching television, walking about and so on) you should keep them on when you are walking outside your home.
- If you wear bifocals or varifocals, you may be more likely to fall, even if you are used to them. If you take part in regular outdoor activities, it may be a good idea to have a pair of distance glasses to wear outdoors and when you are in unfamiliar places, or to take your glasses off if your distance prescription is not very strong. Your optometrist will be able to advise you about this.
- An optometrist may be able to reduce your chance of falling. If you have had a big change in prescription for glasses, ask your optometrist whether they can change the strength of your glasses gradually to make is easier for you to get used to your new prescription. You should only wear your new glasses at home until you are used to them. (LOOKAFTERYOUREYES, 2016a).
- remove things that you can trip over (papers, books, clothes, shoes and trailing wires) from stairs and places where you walk,
- make sure you have adequate lighting so you can see any trip hazards,
- remove small rugs and mats or use double-sided tape to keep the rugs from slipping,
- keep items you often use in easy reach so you don't have to climb to get them,
- have grab bars put in next to your toilet and in the bath or shower,
- use non-slip mats in the bath and on shower floors,
- have handrails and lights put on all staircases,
- wear shoes inside and outside the house or well fitting slippers (HANTS, 2016b).

Begin a regular exercise programme

Regular exercise has many health benefits for muscles, joints, confidence and well being. Specific exercises that improve strength, balance and coordination are the most beneficial for reducing the risk of falls.

Balance exercises are run in all parts of the country, and are a great way to improve stability.

If you're fit, you are less likely to fall. Exercise can help to keep muscles strong and improve your balance. Try to do some regular exercise, such as -

- swimming,
- gardening,
- walking,
- dancing (INDEPENEDENTAGE, 2016).

If you haven't exercised for a while, talk to your GP first. They might be able to give you some strength and balance exercises to do at home or recommend a local exercise class, such as Extend classes (INDEPENEDENTAGE, 2016).

The NHS recommends the following simple exercises to do while seated which you can do at home (HANTS, 2016b).

Sitting exercises Performing these gentle sitting exercises will help improve your mobility and prevent falls, and can even be done at home.

Don't worry if you've not done much for a while, these seated exercises are gentle and easy to follow. If you're not very active, you may want to get the all-clear from a GP before starting.

For these chair-based exercises, choose one that is stable, solid and without wheels.

You should be able to sit with your feet flat on the floor and knees bent at right angles. Avoid chairs with arms, as this will restrict your movement.

Wear loose, comfortable clothing and keep some water handy.

Build up slowly and aim to gradually increase the repetitions of each exercise over time.

Try to do these exercises at least twice a week and combine them with the other routines in the series to help improve strength, balance and co-ordination (LIVEWELL, 2014u).

Eat well

Make sure you eat a balanced diet, which should include -

- calcium-rich food, such as cheese and milk, to strengthen bones,
- oily fish, like sardines and tuna, which contain vitamin D (INDEPENEDENTAGE, 2016).

Low levels of vitamin D can increase your risk of falling but taking supplements can be effective. Ask your GP or pharmacist for advice (INDEPENEDENTAGE, 2016).

Medication

Some medications may have side-effects that can affect your balance. Tell your GP if any of your medication is making you feel dizzy or unwell and ask your GP or pharmacist for a review of your medication every year (INDEPENEDENTAGE, 2016).

Maintaining good eyesight

Have your eyes checked by an optician at least once a year. You may be wearing the wrong glasses or have a condition like glaucoma or cataracts that limits your vision. Poor vision can increase your chances of falling (HANTS, 2016b).

There are things that you can do to try to maintain good eyesight -

- Have regular eye examinations. This will allow your optometrist to spot early signs of eye disease, when it is easier to treat. Most people should have an eye examination at least every two years.
- Stop smoking. Smoking has been linked to AMD (the leading cause of blindness in the UK) and cataracts.
- Eat a diet that is rich in leafy greens and and coloured fruit and vegetables and maintain a healthy weight. This may reduce your risk of developing AMD.
- Be aware of your vision in each eye separately. Many conditions appear in one eye first. If you regularly check your vision (with glasses if you need them) by covering each eye in turn, you are more likely to notice changes. If you notice changes in your vision you should contact your optometrist for advice. Things you should look out for include straight lines, such as door or window frames, appearing distorted or wavy, or seeing blank or blurry spots in your vision.

- Wear UV absorbing sunglasses to protect your eyes from sunlight. Not all sunglasses will absorb the UV, so it is important to check this. Some studies suggest that exposure to high levels of sunlight throughout your life may increase your risk of developing cataracts and AMD, although this has not been proven for AMD (LOOKAFTERYOUREYES, 2016a).

Make sure you have regular hearing and eye tests. You will qualify for free NHS eye tests if you are over 60 or receiving certain benefits. Action on Hearing Loss has an online hearing test and your GP can arrange a full sight or hearing test (INDEPENEDENTAGE, 2016).

Nutritional supplements

There are many nutritional supplements available which claim to be good for your eyes. One of the formulations has been shown to help people who are at high risk of developing wet age-related macular degeneration by reducing the rate of worsening. It is not clear whether the other supplements that are on the market are of benefit or not. The general advice remains for individuals to eat a good balanced diet and not to smoke (LOOKAFTERYOUREYES, 2016b).

Can nutritional supplements prevent or cure eye disease?

The Age-Related Eye Disease Study (AREDS) (AREDS, 2001) showed that one particular formulation (available commercially as Ocuvite Preser Vision AREDS formula) could help slow down the progression to advanced AMD if the patients were at high risk of developing the condition. However, for most people there was no significant benefit of taking the supplement.

Since the ARED Study, several new formulations of nutrients have been developed and some are currently being tested. Until these studies have been completed we do not know whether these are benficial in slowing down the progression of AMD.

Without definitive scientific evidence of the effectiveness of these supplements, the general advice is not to smoke, and to eat a good balanced diet which contains lots of coloured fruit and vegetables (LOOKAFTERYOUREYES, 2016b).

Are there any dangers in taking nutritional supplements?

The formulation used in AREDS contained much higher concentrations of some of the ingredients than is normally recommended for daily intake. One of these,

beta carotene, has been linked to an increased risk of lung cancer in smokers, and so the formulation is not recommended for people who smoke. Vitamin E supplementation is associated with an increased risk of heart failure in patients with diabetes or vascular disease.

It is therefore recommended that you discuss your individual case with your optometrist before taking any nutritional supplements (LOOKAFTERYOUREYES, 2016b).

Is there anything else I can do to protect my eyes?

AMD has been linked to smoking and obesity so we would recommend that you try to keep to a healthy weight and stop smoking.

Although there is no definitive scientific evidence of the effectiveness of nutritional supplements for most people we believe that good health advice is to eat more dark leafy green vegetables (e.g. spinach and kale) which contain carotenoids (lutein and zeaxanthin) as these may help to protect your macular (the central area of your retina) from damaging blue light. We also believe that including oily fish in your diet may be beneficial for AMD (LOOKAFTERYOUREYES, 2016b).

Osteoporosis

Osteoporosis is a condition where bones become fragile and liable to break easily. It happens as part of a natural aging process and causes no pain or other symptoms until a bone breaks, usually as a result of a fall. Some people with osteoporosis may notice that they become shorter, or their spine becomes more curved over the years (HEALTH, 2015).

Medical conditions

Some medical conditions are associated with an increased risk of falling. These include arthritis, stroke, Parkinson's disease and diabetes. If you are prescribed medication it is important that you take it. However, some types of medication are also known to increase the risks of falls so it is important to discuss the benefits and side-effects of your medication with your doctor (HEALTH, 2015).

Medication

Taking four or more different medications, particularly certain types of drugs, for example those for high blood pressure, depression, diabetes, sleeping problems, heart conditions or Parkinson's disease, can increase the risk of a fall.

In the community your pharmacist will be able to give you advice which you will be able to discuss with your nurse or doctor.

If you feel dizzy, weak, unsteady or confused, ask your doctor if this could be linked to your medication. However, never stop taking prescribed medication without discussing it with your doctor (Health, 2015).

Ask your GP or local pharmacist to review all the medicines you take, even over-the-counter medicines. Some medicines, or combinations of medicines, can make you sleepy or dizzy and can cause you to fall (hants, 2016b).

Blood pressure

Some people experience a drop in their blood pressure when they stand up. This is called *postural hypotension* and it can cause a person to fall or even faint. If you are having a further assessment of your risk of falling, you will have your blood pressure checked by a nurse.

Three recordings will be taken, one after lying down for five minutes, one immediately on standing and a further recording after standing up for two minutes. If there is a drop in your blood pressure the nurse will inform the doctor, who will check to see if your medication may contribute to this or if you need to have further tests to determine a cause. Always tell your doctor if you experience dizzy spells or blackouts.

- **Tip** - If you feel dizzy when you stand up, tell your doctor (Health, 2015).

Vision

If you are unable to read the words on a newspaper, or recognise objects across a room with or without glasses, your vision may be increasing your risk of falling. Your healthcare worker may suggest you make an appointment for an eye test.

Have your eyes checked every year by an optician and wear glasses as instructed. Some opticians will visit you at home if you are unable to get out (Health, 2015).

Hearing

If you have difficulty hearing people talking around you, with or without a hearing aid, your hearing may be increasing your risk of falling. If you have a hearing aid but are having problems with it, or it needs servicing, your healthcare worker will be able to organise this.

- **Tip** - If you have a hearing aid make sure you wear it whenever you are awake, not just when you need to hear people talking (Health, 2015).

Mobility problems

Many older people experience problems with balance, walking, getting up, sitting down, turning or transferring from one surface to another. These problems can increase the risk of falling and cause a fear of falling.

- **Tip** - If you have mobility problems speak to your doctor who can refer you to a physiotherapist who can work with you to improve your balance and the strength of your leg muscles.

Occupational therapists can help in improving your ability to carry out daily tasks, such as washing and dressing safely (Health, 2015).

Feet and foot care problems

Ill-fitting and high-heeled shoes can increase the risk of fall. Shoes should fit comfortably around the heel. They should allow room for the toes to wriggle, have a lace, velcro or buckle fastening, have a small heel and a thin sole with a good grip. Never walk on slippery floors in tights or socks. Foot problems, such as corns, ulcers and long toenails may need the attention of a podiatrist (chiropodist).

- **Tip** - Discuss this with your doctor or healthcare worker or make an appointment. Most health centres offer podiatry services. If you would like further information on caring for your feet and foot care problems please ask us (Health, 2015).

Look after your feet

Keep your toenails trimmed and visit a chiropodist if you have any foot problems. Talk to your GP to see if you qualify for free NHS foot care services or contact the

Society of Chiropodists and Podiatrists to find a registered chiropodist in your area (INDEPENEDENTAGE, 2016).

Continence issues

Many older people fall when rushing to the toilet. If incontinence is a problem for you, speak to your GP (INDEPENEDENTAGE, 2016).

Fainting, blackouts and unexplained falls

If you have experienced a fall as a result of dizziness, fainting or a blackout, or you cannot remember why you fell (perhaps you found yourself on the ground and could not remember how you got there), you may have a medical condition that may contribute to falls but which can be treated. This condition causes low blood pressure and a slow heart rate, especially during movements like getting up and turning the head, and can lead to dizziness or blackouts.

It is important that you describe the circumstances of each fall to enable your healthcare worker to determine if you have had a blackout. If you suspect you have experienced a blackout, please tell your doctor or healthcare worker as soon as possible. You may be offered tests, if this is appropriate.

- **Tip** - If you have had a fall and cannot remember how you fell, make sure your doctor is aware (HEALTH, 2015).

Helpful hints

Food and drinks

Nutrition is an important factor in reducing your risk of falls and fractures. Eat regularly and avoid long periods during the day without food, especially if you have diabetes. If you have a small appetite, you should eat more often than usual, for example three small meals and three small snacks every day. Having a good variety of foods every day, including fruit and vegetables - five portions daily, if possible - will provide you with a good range of nutrients. To ensure you have an adequate fluid intake, have at least six to eight drinks ($1\frac{1}{2}$ to 2 litres of fluid) each day.

Losing weight without trying, or being underweight, may increase your risk of falls. If you have any concerns about your weight/food intake, first discuss them with your doctor who can then refer you to a dietician if necessary.

Drinking alcohol may also increase your risk of falling by affecting your balance or interacting with any medication you are taking. You can discuss any concerns about alcohol with your pharmacist or doctor (Health, 2015).

Calcium and Vitamin D

Calcium and Vitamin D are needed to keep our bones healthy so try to include a variety of sources in your diet.

Our main source of calcium is dairy produce (milk, cheese and yogurt). Other sources include bread and cereal products, green leaf vegetables, pulses, calcium-enriched soya drinks and tap water (in hard water areas).

Vitamin D is formed when sunlight shines directly on to our skin. This is our main source but dietary sources include oily fish, liver, eggs and fortified products, such as margarine and some breakfast cereals.

If you are housebound or have osteoporosis your doctor may prescribe a calcium and Vitamin D supplement (Health, 2015).

Being safe at home

It is important to make sure your home environment is as safe as possible and that any potential hazards are removed or made safe.

Lighting

Keep stairs and living areas well lit. Use the highest wattage bulbs that are safe for the fitting and consider using long-life light bulbs. Remember that these often have a slight delay before achieving full brightness. Always put a light on at night if getting up (Health, 2015).

Floors

Avoid using rugs and keep floor areas clutter free. Ensure carpets are secure and use door bars to make safe edges at doorways. Avoid having flexes or cables on the floor in walking areas (Health, 2015).

Stairs

Never leave objects on stairs that could cause a trip hazard. Ensure stair areas are well lit. Consider having a rail fitted if you have difficulty climbing stairs.

- **Tip** - If you wear bifocal glasses take extra care on stairs. People who wear bifocals fall more often on stairs than those who do not (Health, 2015).

Bathrooms

Use non-slip rubber mats in the bath or shower. Remove other loose mats from the floor. If you have difficulty getting on or off the toilet, a handrail or raised toilet seal may help. Talk to your doctor, nurse or therapist about this (Health, 2015).

Clothing

Try not to wear clothes that trail on the floor, such as long nightdresses and trousers. They may cause you to trip (Health, 2015).

Phone

Never rush to answer the phone. Anyone really important will wait. Use an answerphone or cordless phone and consider having an extension socket fitted in your bedroom.

Consider having an emergency pendant alarm system installed. This will enable you to summon help if you fall. Always wear your alarm and check it monthly (Health, 2015).

Entrance to your home

Ensure that your steps, footpaths, driveway etc are kept clear from clutter or rubbish. Wet leaves on a footpath can make the surface slippery. If outdoor areas need repairing consider contacting your local council. There are many schemes using reputable workers, at little or no cost, who can carry out necessary repairs. It is important to make sure your home is a safe as possible. Make sure any potential hazards are removed or made safe (Health, 2015).

What to do in the event of a fall

If you are able to get up you should do so but do inform your doctor, nurse or therapist so you can discuss the fall and how to prevent future falls (Health, 2015).

- try not to panic,
- if you are hurt, don't move (hants, 2016b),
- **summon help** - get help by using your personal alarm, the phone or by shouting and banging on the wall or floor (Health, 2015),
- if you have to wait for help, try to keep warm, get comfortable, wriggle away from fires or hot radiators (hants, 2016b),
- **move to a soft surface** - such as carpet. Use something such as a pillow or a rolled up cardigan,
- **keep warm** - by covering yourself with clothing or even use a table cloth or a rug,
- **keep moving** - regularly roll and move position to avoid pressure sores, stiffness and help circulation. This will also help to keep you warm. If you need to empty your bladder, roll away from damp areas or use a newspaper or item of clothing to soak up the urine (Health, 2015),
- if you are not hurt, try to roll onto your hands and knees and crawl to a sturdy piece of furniture such as a chair. Facing the chair, put your hands on it, ease yourself into a standing position and turn to sit on the chair,
- always tell your doctor or a health professional that you have had a fall (hants, 2016b).
- **Tip** - *Lifeline* is a means of summoning help in the event of a fall in your home or if you are taken suddenly unwell. It is a 24-hour service which is active 365 days of the year. It is connected through the phone system and is operated by a push button on the pendant.

Further information is available from your local district council (Health, 2015).

What can you expect from the NHS

Older people, who are receiving services in the community, or who are admitted to hospital, will be asked a few questions by a healthcare worker which will identify if you have a significant risk of falling in the future. You may also be offered investigation and treatment for falls and osteoporosis to minimise your risk of breaking a bone in the future.

If you are found to be at risk you will have a further assessment of your medication, blood pressure, vision, hearing difficulty, mobility, foot care and general

safety. Problems in these areas are closely linked with an increased risk of falling so, by looking at them, we may be able to reduce the risk to you in the future.

You should be fully informed and involved in any decisions made about your care. The healthcare professionals involved should respect your knowledge and experience about your health. You can expect them to have undergone training and assessing a person's risk of falling (Health, 2015).

What can you do to help yourself?

Be honest about any worries you have about falling. Working with your therapists to improve your strength and balance will help enormously. Include regular exercise in your daily life; at least 30 minutes' exercise five times a week is recommended. If you have other health problems you need to check with your healthcare worker, who will advise you of the best way to start exercising safely. For less mobile people activity is still important. Try walking and doing chair-based exercises. Many local leisure centres provide special exercise and swimming classes for older people.

- **Tip** - To maintain muscle strength and balance, continue with any exercise programme you are given. Do not sit in your chair for prolonged periods.

Finally, many older people become afraid of falling and limit their activities in the hope of reducing their risk of a fall. However, this can often have a negative effect as muscles become weaker if they are not used enough.

One of the most effective ways of reducing your risk of falling is by keeping as active as possible.

So don't forget to keep fit, stay healthy and keep moving (Health, 2015).

Hearing

How does hearing work?

- The outer ear collects sound waves and works like a funnel to send them through a narrow tube (ear canal) that leads inside the ear. At the end of the ear canal is the eardrum (tympanic membrane).
- The tympanic membrane is a thin membrane that vibrates when sound waves strike it. It divides the area called the outer ear from the middle ear. It is attached to a set of three tiny bones in the middle ear.

- These bones are called the hammer (malleus), anvil (incus), and the stirrup (stapes). The bones pass the vibrations of sound waves to a small organ in the hearing part of the inner ear called the cochlea, which is a coiled structure like a snail shell.
- The inner ear is filled with a thin fluid that transmits pressure changes throughout the cochlea.
- Inside the cochlea are tiny hair cells that pick up sound vibrations from the fluid and cause nerve impulses in the auditory nerve.
- The auditory nerve carries the message to the brain, where it is interpreted as sound (CLEVELANDCLINIC, 2010).

Keeping cool in hot/warm weather

Most of us welcome hot weather, but when it's too hot for too long there are health risks. If a heatwave hits this summer, make sure the hot weather doesn't harm you or anyone you know.

The very young, the elderly and the seriously ill are the groups who are particularly at risk of health problems when the weather is very hot. In particular, very hot weather can make heart and breathing problems worse

"*There is considerable evidence that heatwaves are dangerous and can kill*," says Graham Bickler of Public Health England. In August 2003, temperatures hit 38'C (101'F) during a nine-day heatwave, the highest recorded in the UK.

"*In the 2003 heatwave, there were 2,000 to 3,000 excess deaths [more than usual] in England. Across Europe, there were around 30,000 excess deaths*".

Public Health England has advice on how to stay safe during a heatwave. Knowing how to keep cool during long periods of hot weather can help save lives.

"*Most of the information is common sense*," says Bickler. "*It's not rocket science, but it can have a dramatic effect*" (LIVEWELL, 2014l).

The sun and skin health

It's very important to ensure that your skin isn't exposed to the sun for long periods, as this can lead to sunburn and make you more susceptible to skin cancer. Anyone can develop skin cancer, so it's important to protect yourself whatever your skin type (AGEUK, 2016).

Protecting your skin

Use sunscreen of at least sun protection factor (SPF) 15 with four or five stars. Apply it generously and top up at least every two hours and if you've been in water, reapply when you are dry. The sunscreen's star rating shows its ability to protect your skin from damage and premature ageing.

Apply sunscreen to any uncovered parts of your body. A hat will protect your head, face, ears and eyes.

Choose sunglasses that have a CE mark, UV400 label or a statement that they offer 100% UV (ultraviolet) protection.

When the weather is hot, your skin may also feel drier than usual. Using moisturiser can help keep your skin healthy.

If you have moles or brown patches on your skin, they usually remain harmless. But if they bleed, or change size, shape or colour, show them to your GP without delay (AGEUK, 2016).

Sun exposure and vitamin D

Although it's important to protect your skin, some direct exposure to the sun is essential for the production of vitamin D.

Don't let your skin burn, but try to go outside once or twice every day without sunscreen for short periods from March to October. The more of your skin that is exposed, the better your chance of making enough vitamin D.

There are some food sources of vitamin D - salmon, sardines and other oily fish, eggs and fortified spreads - but sunshine is the major source.

The Government recommends vitamin D supplements for some groups of the population, including people aged 65 and over.

If you think you could be at risk of not getting enough vitamin D, particularly if you are housebound or cover your skin for cultural reasons, raise this with your GP. Always speak to your GP before starting to take a vitamin supplement or over-the-counter medicine on a daily basis (AGEUK, 2016).

When heat becomes a problem

An average temperature of 30'C by day and 15'C overnight would trigger a health alert (this figure varies slightly around the UK). These temperatures can have a

significant effect on people's health if they last for at least two days and the night in between.

The Meteorological Office has a warning system that issues alerts if a heatwave is likely. Level one is the minimum alert and is in place from June 1 until September 15 (which is the period that heatwave alerts are likely to be raised) (LIVEWELL, 2014l).

- minimum alert - people should be aware of what to do if the alert level is raised,
- Heatwave - level two alert - there is a high chance that a heatwave will occur within the next few days,
- Heatwave - level three alert - when a heatwave is happening,
- Heatwave - level four alert - when a heatwave is severe (LIVEWELL, 2014l).

Why is a heatwave a problem?

The main risks posed by a heatwave are -

- Dehydration (not having enough water),
- overheating, which can make symptoms worse for people who already have problems with their heart or breathing,
- Heat exhaustion,
- Heatstroke (LIVEWELL, 2014l).

Who is most at risk?

A heatwave can affect anyone, but the most vulnerable people in extreme heat are -

- older people, especially those over 75,
- babies and young children,
- people with a serious chronic condition, especially heart or breathing problems,
- people with mobility problems - for example, people with Parkinson's disease or who have had a stroke,
- people with serious mental health problems,
- people on certain medications, including those that affect sweating and temperature control,
- people who misuse alcohol or drugs,
- people who are physically active - for example, labourers or those doing sports (LIVEWELL, 2014l).

Tips for coping in hot weather

The following advice applies to everybody when it comes to keeping cool and comfortable and reducing health risks -

- Shut windows and pull down the shades when it is hotter outside. If it's safe, open them for ventilation when it is cooler,
- Avoid the heat: stay out of the sun and don't go out between 11am and 3pm (the hottest part of the day) if you're vulnerable to the effects of heat,
- Keep rooms cool by using shades or reflective material outside the windows. If this isn't possible, use light-coloured curtains and keep them closed (metallic blinds and dark curtains can make the room hotter),
- Have cool baths or showers, and splash yourself with cool water,
- Drink cold drinks regularly, such as water and fruit juice. Avoid tea, coffee and alcohol,
- Stay tuned to the weather forecast on the radio or TV, or on the Met Office website,
- Plan ahead to make sure you have enough supplies, such as food, water and any medications you need,
- Identify the coolest room in the house so you know where to go to keep cool,
- Check up on friends, relatives and neighbours who may be less able to look after themselves (LIVEWELL, 2014l).
- Don't spend long periods sitting or working outside during the hottest time of the day: late morning to mid-afternoon.
- If you're travelling by car or public transport always take a bottle of water.
- Avoid strenuous activity, and limit activities like housework and gardening to the early morning or evening when it's cooler.
- Keep windows shut while it's cooler inside than out and open them when it gets hotter inside. If it's safe, you could leave a window open at night when it's cooler.
- Wear loose, lightweight, light-coloured, cotton clothing.
- Splash your face with cool (not cold) water, or place a damp cloth on the back of your neck to help you cool off.
- Eat normally - even if you aren't hungry, you need a normal diet to replace salt losses from sweating. In addition, try to have more cold foods, particularly salads and fruit, as these contain a lot of water (AGEUK, 2016).

There are more useful tips on keeping cool at home in the beat the heat checklist.

Find out more about what to do during a Heatwave - level two alert, Heatwave - level three alert, or Heatwave - level four alert.

If you're worried about yourself or a vulnerable neighbour, friend or relative, you can contact the local environmental health office at your local authority.

Environmental health workers can visit a home to inspect it for hazards to health, including excess heat. Find your local authority on the GOV.UK website (LIVEWELL, 2014l).

What else can you do?

- If you live alone, consider asking a relative or friend to visit or phone to check that you're not having difficulties.
- If you know a neighbour who lives alone, check regularly that they are OK.
- If a heatwave is on its way or the weather is hot for several days, listen to local radio so you know the latest advice for your area. Check weather reports and temperature warnings on TV and radio, and through The MET Office.
- If you have breathing problems or a heart condition, your symptoms might get worse when it's very hot. Contact your GP for advice.
- Bacteria on food can multiply quickly in hot weather, which increases the risk of food poisoning. Don't leave food out in a warm room or the sun (AGEUK, 2016).

How do I know if someone needs help?

If someone feels unwell, get them somewhere cool to rest. Give them plenty of fluids to drink.

Seek medical help if symptoms such as breathlessness, chest pain, confusion, weakness, dizziness or cramps get worse or don't go away (LIVEWELL, 2014l).

Stay hydrated

It's essential to stay hydrated in hot weather so you should drink more fluids than normal throughout the day and evening. It's also a good idea to -

- limit the amount of caffeine you drink,
- avoid alcohol,
- eat cold foods, such as salads and fruit, as they contain water (CARERSUK, 2014b).

Dehydration

Dehydration occurs when your body loses more fluid than you take in.

When the normal water content of your body is reduced, it upsets the balance of minerals (salts and sugar) in your body, which affects the way it functions.

Water makes up over two-thirds of the healthy human body. It lubricates the joints and eyes, aids digestion, flushes out waste and toxins, and keeps the skin healthy (NHS, 2015d).

Some of the early warning signs of dehydration include -

- dizziness,
- headaches (CARERSUK, 2014b),
- feeling thirsty and lightheaded,
- a dry mouth,
- tiredness,
- having dark coloured, strong-smelling urine,
- passing urine less often than usual (NHS, 2015d).

The body is affected even when you lose a small amount of fluid (NHS, 2015d). Dehydration can lead to urine infections, constipation and kidney stones (CARERSUK, 2014b).

Dehydration can be mild, moderate or severe, depending on how much of your body weight is lost through fluids (NHS, 2015d).

Extreme heat and dry conditions can cause you to dehydrate and your body to overheat.

It's important to eat a balanced diet to help your body replace any salt you lose by sweating. Aim to drink 6–8 glasses of liquid a day, and more if it's hot.

You may also need to be careful if you're taking some types of medication that affect water retention. Speak to your GP if you're concerned.

Watch out for certain signs - particularly for muscle cramps in your arms, legs or stomach, mild confusion, weakness or sleep problems. If you have any of these, rest in a cool place and drink plenty of fluids. Seek medical advice if your symptoms persist or worsen (AGEUK, 2016).

Note If you're dehydrated, drink plenty of fluids such as water, diluted squash or fruit juice. These are much more effective than large amounts of tea or coffee. Fizzy drinks may contain more sugar than you need and may be harder to take in large amounts.

If you're finding it difficult to keep water down because you're vomiting, try drinking small amounts more frequently.

If left untreated, severe dehydration can be serious and cause fits (seizures), brain damage and death (NHS, 2015d).

Symptoms

Two early signs of dehydration are thirst and dark-coloured urine. This is the body's way of trying to increase water intake and decrease water loss (NHS, 2015d).

Other symptoms may include -

- dizziness or light-headedness,
- headache,
- tiredness,
- dry mouth, lips and eyes,
- passing small amounts of urine infrequently (less than three or four times a day) (NHS, 2015d).

Dehydration can also lead to a loss of strength and stamina. It's a main cause of heat exhaustion.

You should be able to reverse dehydration at this stage by drinking more fluids.

If dehydration is ongoing (chronic), it can affect your kidney function and increase the risk of kidney stones. It can also lead to muscle damage and constipation (NHS, 2015d).

When to see your GP See your GP if your symptoms continue despite drinking fluids.

If dehydration is suspected, you may be given a blood test or a urine test to check the balance of salts (sodium and potassium) in your body (NHS, 2015d).

Severe dehydration If dehydration is left untreated, it can become severe.

Severe dehydration is a medical emergency and requires immediate medical attention (NHS, 2015d).

Contact your GP, out-of-hours service or NHS 111 straight away if you have any of the following symptoms -

- feeling unusually tired (lethargic) or confused, and you think you may be dehydrated,

- dizziness when you stand up that doesn't go away after a few seconds,
- not passing urine for eight hours,
- a weak pulse,
- a rapid pulse,
- fits (seizures),
- a low level of consciousness (NHS, 2015d).

If severe dehydration is not treated immediately, it can lead to complications. This level of dehydration needs hospital treatment and you will be put on a drip to restore the substantial loss of fluids (NHS, 2015d).

Causes

Dehydration is caused by not drinking enough fluid or by losing more fluid than you take in. Fluid is lost through sweat, tears, vomiting, urine or diarrhoea.

The severity of dehydration can depend on a number of factors, such as climate, level of physical activity and diet.

There are several causes of dehydration, which are described below (NHS, 2015d).

Illness Dehydration is often the result of an illness, such as gastroenteritis, where fluid is lost through persistent bouts of diarrhoea and vomiting (NHS, 2015d).

Sweating You can also become dehydrated if you sweat excessively after a fever, exercise, or carrying out heavy, manual work in hot conditions.

In these situations, it's important to drink regularly to replace lost fluids. It doesn't necessarily need to be hot for you to lose a significant amount of fluid from sweating.

Children and teenagers are particularly at risk because they may ignore the symptoms of dehydration, or not know how to recognise and treat them (NHS, 2015d).

Alcohol Dehydration can also occur as a result of drinking too much alcohol. Alcohol is a diuretic, which means it makes you wee more.

The headache associated with a hangover indicates that your body is dehydrated. You should try to drink plenty of water when you have been drinking alcohol (NHS, 2015d).

Diabetes If you have diabetes, you're at risk of becoming dehydrated because you have high levels of glucose in your bloodstream. Your kidneys will try to get rid of the glucose by creating more urine, so your body becomes dehydrated from going to the toilet more frequently (NHS, 2015d).

Who's at risk? The groups of people most at risk of dehydration are -

- **babies and infants** - their low body weight makes them sensitive to even small amounts of fluid loss,
- **older people** - they may be less aware they're becoming dehydrated and need to drink fluids,
- **people with a long-term health condition** - such as diabetes or alcoholism,
- **athletes** - they can lose a large amount of body fluid through sweat when exercising for long periods (NHS, 2015d).

Treatment

The best way to treat dehydration is to rehydrate the body by drinking plenty of fluids, such as water, diluted squash or diluted fruit juice.

A sweet drink can help to replace lost sugar, and a salty snack can help to replace lost salt (NHS, 2015d).

Oral rehydration solutions When you're dehydrated, you lose sugar and salts, as well as water. Drinking a rehydration solution will enable you to re-establish the right balance of body fluids. The solution should contain a mixture of potassium and sodium salts, as well as glucose or starch.

There are several different rehydration products available over the counter from pharmacies or on prescription from your GP.

Ask your GP or pharmacist for advice about the most suitable rehydration solution for you (NHS, 2015d).

Severe dehydration Seek immediate medical help if you suspect someone is severely dehydrated (see symptoms of severe dehydration).

They may need to be admitted to hospital for treatment. In particular, elderly people will need urgent treatment if they become dehydrated.

Fluid may be given up the nose using a nasogastric tube or using a saline drip into a vein (intravenously). This will provide essential nutrients faster than using solutions that you drink.

If you have had bowel surgery, some rehydration solutions may not contain enough salt. In this instance, you will need a higher-strength solution. Your GP or surgeon can recommend a suitable rehydration solution for you (NHS, 2015d).

Prevention

You should drink plenty of fluids to avoid becoming dehydrated.

Most of the time, you can prevent dehydration by drinking water regularly throughout the day. Be guided by your thirst, but be aware that in hot weather, when exercising and during illness, you should drink more.

Mild dehydration can be relieved by drinking more water and diluted fruit squash. If necessary, you can purchase oral rehydration solutions (ORS) from a pharmacy. As a guide, passing pale or clear-coloured urine (wee) is a good sign that you're well hydrated (NHS, 2015d).

Drink regularly If you're active, or if the weather is particularly hot, there's a greater risk that you will become dehydrated. To prevent becoming dehydrated, you should increase your fluid intake.

As different people sweat at different rates, it's very difficult to provide specific recommendations about how much fluid you should drink. However, you should drink more than normal while exercising, and it's particularly important to keep well hydrated if you're exercising in warm conditions. This is because you will sweat more and fluid will be lost from your body more rapidly.

Rarely, drinking more fluid than your body can process can reduce the amount of sodium (salt) in your blood. This can lead to a serious and potentially fatal condition called hyponatraemia. If you start to feel discomfort and bloating from drinking, stop drinking and allow time to recover (NHS, 2015d).

Illness If you, or someone you are caring for is ill, particularly with a fever, vomiting or diarrhoea, there's a high risk of becoming dehydrated, so it's important to start replacing fluid as soon as possible (NHS, 2015d).

Heatwave - level two alert

The Met Office raises a level two alert if a heatwave is imminent. This means there is a high chance that temperatures over the next few days could pose significant health risks (LIVEWELL, 2014o).

High temperatures can be dangerous, especially for -

- the elderly,
- the very young,
- people with chronic or long-term medical conditions (LIVEWELL, 2014o).

In a level two alert, you don't need to take immediate action. If the level of alert is raised, more information will be issued (see Heatwave: level three alert) (LIVEWELL, 2014o).

If a level two alert is issued, take the following steps in preparation -

- Stay tuned to the weather forecast on the TV or radio.
- If you're planning to travel, check the forecast at your destination.
- Plan ahead - stock up with supplies so that you don't need to go out during extreme heat, and think about what medicines, food and non-alcoholic drinks you'll need.
- Keep plenty of water to hand and stay in the shade whenever possible.
- Identify the coolest room in the house, so you can go there to keep cool (LIVEWELL, 2014o).

Remember -

- Enjoy the weather, but try to stay cool.
- Don't go outside between 11am and 3pm, as this is the hottest part of the day.
- Spend time in the shade and avoid strenuous activity.
- Help others - check up on neighbours, relatives and friends who may be less able to look after themselves (for example, if they have mobility problems).
- Drink water or fruit juice regularly.
- Avoid tea, coffee and alcohol, and if you do drink alcohol make sure you have lots of water or other non-alcoholic drinks as well.
- Keep rooms cool by using shade or reflective material external to the glass; if this isn't possible, close light-coloured curtains (metallic blinds and dark curtains can make the room hotter).
- Keep the windows closed while the room is cooler than it is outside and, if it's safe, open windows at night when the air is cooler.

- People with heart problems, breathing difficulties or serious illnesses may find their symptoms become worse in hot weather, so make sure you have enough medicines in stock and take extra care to keep cool (LIVEWELL, 2014o).

Heatwave - level three alert

A level three heatwave alert means that there will be heatwave temperatures in one or more regions, and you should take steps to stay cool.

Heat can affect your health more than you might think. Prolonged exposure to hot temperatures can lead to worsening of heart problems, respiratory difficulties and serious health problems, and can also cause heatstroke, which is potentially fatal (LIVEWELL, 2014n).

High temperatures can be dangerous, especially for -

- the elderly,
- the very young,
- people with chronic or long-term medical conditions, such as a heart condition or breathing problems (LIVEWELL, 2014n).

During alert level three -

- Listen to alerts on the radio and TV about keeping cool.
- Avoid unnecessary travel.
- Visit or phone people who are vulnerable, such as older people living on their own or people with health conditions.
- Stay inside and in the coolest room in your home as much as possible, and splash yourself with cool water.
- Keep rooms cool by using shade or reflective material outside the glass; if that's not possible, have light-coloured curtains and close them (metal blinds and dark curtains can make the room hotter).
- Keep the windows closed while the room is cooler than it is outside, and, if it's safe, open the windows at night when the air is cooler than the room (LIVEWELL, 2014n).

Remember -

- Enjoy the weather, but try to stay cool.
- Avoid going outside between 11am and 3pm, as this is the hottest part of the day.
- Spend time in the shade and avoid strenuous activity.
- Help others: check up on neighbours, relatives and friends who may be less able to look after themselves (for example, if they have mobility problems).

- It is more important to keep yourself and others cool if you or they have a heart or respiratory condition. If symptoms become worse, seek medical advice.
- Drink water or fruit juice regularly.
- Avoid tea, coffee and alcohol, and if you do drink alcohol make sure you have water or other non-alcoholic drinks too (LIVEWELL, 2014n).

Heatwave - level four alert

A level four alert is the highest heatwave alert in Britain, and is an emergency situation. It is raised when a heatwave is severe and/or prolonged, as the hot weather can cause problems.

At level four, the health risks from a heatwave can affect fit and healthy people, not just those in high-risk groups such as the elderly, the very young and people with chronic medical conditions.

The more prolonged a heatwave is, the greater the potential risk to our health, especially for those in high-risk groups.

If a level four alert is declared, follow the health information given during a level three alert. Check that anyone around you who is in a high-risk group is coping well with the heat (LIVEWELL, 2014m).

During a heatwave, make sure you -

- Listen to alerts on the radio and TV about keeping cool.
- Avoid unnecessary travel.
- Visit or phone people who are less able to look after themselves, such as older neighbours, relatives and friends, and people with health conditions or mobility problems.
- Stay inside and in the coolest room in your home as much as possible, and splash yourself with cool water.
- Keep rooms cool by using shade or reflective material outside the glass; if that's not possible, have light-coloured curtains and keep them closed (metallic blinds and dark curtains can make the room hotter).
- Keep the windows closed while the room is cooler than it is outside, and, if it's safe, open the windows at night when the air is cooler than the room.
- Drink water or fruit juice regularly.
- Avoid tea, coffee and alcohol, and if you do drink alcohol be sure to have water or other non-alcoholic drinks as well (LIVEWELL, 2014m).

People with heart problems, breathing difficulties or serious illnesses may find their symptoms become worse in hot weather. Make sure you have enough medicines in stock and take extra care to keep cool (LIVEWELL, 2014m).

Heat exhaustion and heatstroke

Heat exhaustion and heatstroke are two potentially serious conditions that can occur if you get too hot.

They usually happen during a heatwave or in a hot climate, but can also occur when you're doing very strenuous physical exercise (NHS, 2015f).

- **Heat exhaustion** is where you become very hot and start to lose water or salt from your body, which leads to the symptoms listed below and generally feeling unwell.
- **Heatstroke** is where the body is no longer able to cool itself and a person's body temperature becomes dangerously high (sunstroke is when this is caused by prolonged exposure to direct sunlight) (NHS, 2015f).

Heatstroke is less common, but more serious. It can put a strain on the brain, heart, lungs, liver and kidneys, and can be life-threatening.

If heat exhaustion isn't spotted and treated early on, there's a risk it could lead to heatstroke (NHS, 2015f).

Symptoms

Heat exhaustion or heatstroke can develop quickly over a few minutes, or gradually over several hours or days (NHS, 2015f).

Heat exhaustion The symptoms of heat exhaustion include -

- tiredness (CARERSUK, 2014b),
- headaches,
- dizziness,
- nausea and vomiting,
- muscle weakness or cramps,
- pale skin,
- a high temperature (LIVEWELL, 2014n),
- a decrease in blood pressure,
- heavy sweating,
- a fast pulse,

- urinating less often and having much darker urine than usual (NHS, 2015f).

If this happens, move somewhere cool and drink plenty of water or fruit juice. If you can, take a lukewarm shower or sponge yourself down with cold water.

Heatstroke can develop if heat exhaustion is left untreated, but it can also occur suddenly and without warning (NHS, 2015f).

Heatstroke Symptoms of heatstroke include -

- muscle cramps,
- dizziness,
- hyperventilation (CARERSUK, 2014b),
- headaches,
- nausea,
- intense thirst,
- sleepiness,
- hot, red and dry skin,
- a sudden rise in temperature,
- confusion,
- aggression,
- convulsions,
- loss of consciousness (NHS, 2015f).

Heatstroke can result in irreversible damage to your body, including the brain, or death (NHS, 2015f).

What to do

If you notice that someone has signs of heat exhaustion, you should -

- **get them to lie down in a cool place** - such as a room with air conditioning or somewhere in the shade,
- **remove any unnecessary clothing** to expose as much of their skin as possible,
- **cool their skin** - use whatever you have available, such as a cool, wet sponge or flannel, cold packs around the neck and armpits, or wrap them in a cool, wet sheet,
- **fan their skin while it's moist** - this will help the water to evaporate, which will help their skin cool down,
- **get them to drink fluids** - this should ideally be water, fruit juice or a rehydration drink, such as a sports drink (NHS, 2015f).

Stay with the person until they're feeling better. Most people should start to recover within 30 minutes.

If the person is unconscious, you should follow the steps above and place the person in the recovery position until help arrives (see below). If they have a seizure, move nearby objects out of the way to prevent injury (NHS, 2015f).

When to get medical help

Severe heat exhaustion or heatstroke requires hospital treatment (NHS, 2015f).

You should call 999 for an ambulance if -

- **the person doesn't respond to the above treatment within 30 minutes**,
- **the person has severe symptoms, such as a loss of consciousness, confusion or seizures** (NHS, 2015f).

Continue with the treatment outlined above until the ambulance arrives.

If the person is feeling better after using the above measures, but you have any concerns about them, contact your GP or NHS 111 for advice (NHS, 2015f).

Who's most at risk?

Anyone can develop heat exhaustion or heatstroke during a heatwave or while doing heavy exercise in hot weather. However, some people are at a higher risk (NHS, 2015f).

These include -

- elderly people,
- babies and young children,
- people with a long-term health condition, such as diabetes or a heart or lung condition,
- people who are already ill and dehydrated (for example, from gastroenteritis),
- people doing strenuous exercise for long periods, such as military soldiers, athletes, hikers and manual workers (NHS, 2015f).

You're more likely to experience problems if you're dehydrated, there's little breeze or ventilation, or you're wearing tight, restrictive clothing.

Certain medications can also increase your risk of developing heat exhaustion or heatstroke, including diuretics, antihistamines, beta-blockers, antipsychotics and recreational drugs, such as amphetamines and ecstasy (NHS, 2015f).

How to prevent heat exhaustion and heatstroke

Heat exhaustion and heatstroke can often be prevented by taking sensible precautions when it's very hot.

During the summer, check for heatwave warnings, so you're aware when there's a potential danger. The government uses a system called Heat-Health Watch to warn people about the chances of a heatwave. This is a system of four different warning levels based on the expected temperature.

Public Health England (PHE) has also published a Heatwave plan for England, which suggests following the advice below during a heatwave to help prevent heat-related illnesses (NHS, 2015f).

Stay out of the heat

- Keep out of the sun between 11am and 3pm.
- If you have to go out in the heat, walk in the shade, apply sunscreen and wear a hat and light scarf.
- Avoid extreme physical exertion.
- Wear light, loose-fitting cotton clothes (NHS, 2015f).

If you're travelling to a hot country, be particularly careful for at least the first few days, until you get used to the temperature (NHS, 2015f).

Cool yourself down

- Have plenty of cold drinks, and avoid excess alcohol, caffeine and hot drinks.
- Eat cold foods, particularly salads and fruit with a high water content.
- Take a cool shower or bath.
- Sprinkle water over your skin or clothing, or keep a damp cloth on the back of your neck (NHS, 2015f).

If you're not urinating frequently or your urine is dark, it's a sign that you're becoming dehydrated and need to drink more (NHS, 2015f).

Keep your environment cool

- Keep windows and curtains that are exposed to the sun closed during the day, but open windows at night when the temperature has dropped.
- If possible, move into a cooler room, especially for sleeping.
- Electric fans may provide some relief.

- Turn off non-essential lights and electrical equipment, as they generate heat.
- Keep indoor plants and bowls of water in the house, as these can cool the air (NHS, 2015f).

In the longer term, it can help to have your loft and cavity walls insulated, as this will keep the heat in when it's cold and keep it out when it's hot. Using light-coloured, reflective external paint on your house may also be useful (NHS, 2015f).

Look out for others

- Keep an eye on isolated, elderly, ill or very young people and make sure they are able to keep cool.
- Ensure that babies, children or elderly people are not left alone in stationary cars.
- Check on elderly or sick neighbours, family or friends every day during a heatwave.
- Be alert and call a doctor or social services if someone is unwell or further help is needed (NHS, 2015f).

If you're on medication Get advice from your GP if you are on medication that affects the amount of fluid you can drink.

Some medication can affect your body temperature and your ability to cope in hot weather. Talk to your GP or pharmacist for advice on how to manage this (CARERSUK, 2014b).

What to wear It's important to protect yourself from sunburn and stay cool if you are going outside. You should wear -

- loose-fitting, light-coloured cotton clothes,
- a hat,
- sunglasses with a CE mark, UV400 label or statement that they provide 100% UV protection,
- high-factor sunscreen, eg SPF 15 or higher (CARERSUK, 2014b).

Apply sunscreen half an hour before you go out and reapply it every two to three hours (CARERSUK, 2014b).

Keep cool The hottest time of day is between 11am and 3pm so avoid doing too much then and save housework or gardening for early morning or late evening.

- if you're going out, take a bottle of water with you,
- a cool bath or shower can help to cool you down or just a damp cloth on the back of your neck,
- be prepared - check the Met Office weather forecast and keep a thermometer in a room you use a lot (CARERSUK, 2014b).

Around the house It might be cooler indoors than outside. You can keep your rooms cooler by closing the windows and pulling the curtains to keep the heat out. You could also -

- buy a good quality electric fan,
- try going somewhere that is air-conditioned, such as a local library or cinema (CARERSUK, 2014b).

Sunscreen and sun safety

There's no safe or healthy way to get a tan. A tan doesn't protect your skin from the sun's harmful effects.

Snow, sand, concrete and water can reflect the sun's rays on to your skin and eyes, and the sun is more intense at high altitudes.

Aim to strike a balance between protecting yourself from the sun and getting enough vitamin D from sunlight (LIVEWELL, 2015s).

What factor sunscreen (SPF) should I use?

When buying sunscreen, the label should have -

- the letters "UVA" in a circle logo and at least four-star UVA protection,
- a sun protection factor (SPF) of at least 15 to protect against UVB (LIVEWELL, 2015s).

Make sure the sunscreen is not past its expiry date. Most sunscreens have a shelf life of two to three years.

To avoid the risk of sunburn, also cover up with suitable clothing and seek shade from strong sunlight (LIVEWELL, 2015s).

What are the SPF and star rating?

The sun protection factor, or SPF, is a measure of the amount of ultraviolet B radiation (UVB) protection.

SPFs are rated on a scale of 2 to 50+ based on the level of protection they offer, with 50+ offering the strongest form of UVB protection.

The star rating measures the amount of ultraviolet A radiation (UVA) protection. You should see a star rating of up to five stars on UK sunscreens. The higher the star rating, the better.

The letters "UVA" inside a circle is a European marking. This means the UVA protection is at least one third of the SPF value, and meets EU recommendations.

Sunscreens that offer both UVA and UVB protection are sometimes called broad spectrum (LIVEWELL, 2015s).

How to apply sunscreen

Most people do not apply enough sunscreen. The amount of sunscreen needed for the body of an average adult to achieve the stated sun protection factor (SPF) is around 35ml, or six to eight teaspoons of lotion.

If sunscreen is applied too thinly, the amount of protection it gives is reduced. If you're worried that you might not be applying enough SPF15, you could use a stronger SPF30 sunscreen (LIVEWELL, 2015s).

If you plan to be out in the sun long enough to risk burning, sunscreen needs to be applied twice -

- 30 minutes before going out,
- just before going out (LIVEWELL, 2015s).

Sunscreen should be applied to all exposed skin, including the face, neck and ears - and head if you have thinning or no hair - but a wide-brimmed hat is better.

Sunscreen needs to be reapplied liberally and frequently, and according to the manufacturer's instructions.

This includes applying it straight after you've been in water - even if it is "water-resistant" - and after towel drying, sweating or when it may have rubbed off (LIVEWELL, 2015s).

How long can I stay in the sun?

Don't spend any longer in the sun than you would without sunscreen.

In the UK the sun is at its strongest from March to October, especially from 11am to 3pm. Try to spend time in the shade between these times. You can still burn in cloudy conditions, even if it's not warm (LIVEWELL, 2015s).

Swimming and sunscreen

Water washes sunscreen off, and the cooling effect of the water can make you think you're not getting burned. Water also reflects ultraviolet (UV) rays, increasing your exposure.

Water-resistant sunscreen is needed if sweating or contact with water is likely.

Sunscreen should be reapplied straight after you've been in water - even if it's "water resistant" - and after towel drying, sweating or when it may have rubbed off (LIVEWELL, 2015s).

Protect your eyes in the sun

A day at the beach without proper eye protection can cause a temporary but painful burn to the surface of the eye, similar to sunburn.

Reflected sunlight from snow, sand, concrete and water, and artificial light from sunbeds, is particularly dangerous.

Always avoid looking directly at the sun. Staring directly at the sun can cause permanent eye damage (LIVEWELL, 2015s).

Clothing and sunglasses

Wear clothes and sunglasses that provide sun protection, such as -

- a wide-brimmed hat that shades the face, neck and ears,
- a long-sleeved top,
- trousers or long skirts in close-weave fabrics that do not allow sunlight through,
- sunglasses with wraparound lenses or wide arms with the CE Mark and European Standard EN 1836:2005 (LIVEWELL, 2015s).

How to deal with sunburn

Sponge sore skin with cool water, then apply soothing aftersun or calamine lotion.

Painkillers, such as paracetamol or ibuprofen, will ease the pain by helping to reduce inflammation caused by sunburn.

Seek medical help if you feel unwell or the skin swells badly or blisters. Stay out of the sun until all signs of redness have gone (LIVEWELL, 2015s).

Sunburn is skin damage caused by ultraviolet (UV) rays. It usually causes the skin to become red, sore, warm, tender and occasionally itchy for about a week.

The skin will normally start to flake and peel after a few days and will usually fully heal within seven days.

While sunburn is often short-lived and mild, it's important to try to avoid it, because it can increase your chances of developing serious health problems, such as skin cancer, in later life.

It's easy to underestimate your exposure to the sun when outside, as the redness doesn't usually develop for several hours. Breezes and getting wet (such as going in and out of the sea) may cool your skin, so you don't realise you're getting burnt.

You should always be aware of the risk of sunburn if you're outside in strong sun, and look out for your skin getting hot (NHS, 2015j).

What to do if you're sunburnt If you are sunburnt, you should get out of the sun as soon as possible - head indoors or into a shady area.

You can usually treat mild sunburn at home, although there are some circumstances where you should seek medical advice (see below) (NHS, 2015j).

The following advice may help to relieve your symptoms until your skin heals -

- Cool the skin by sponging it with cold water or by having a cold bath or shower - applying a cold compress such as a cold flannel to the affected area may also help.
- Drink plenty of fluids to cool you down and prevent dehydration.
- Apply a water-based emollient or petroleum jelly (such as Vaseline) to keep your skin cool and moist.
- Take painkillers such as ibuprofen or paracetamol to relieve any pain - aspirin should not be given to children under 16 (NHS, 2015j).

Try to avoid all sunlight, including through windows, by covering up the affected areas of skin until your skin has fully healed (NHS, 2015j).

When to seek medical advice You should contact your GP, attend an NHS walk-in centre, or call NHS 111 for advice if you feel unwell or have any concerns about your sunburn, particularly if you are burnt over a large area or have any of the more severe symptoms listed below (NHS, 2015j).

Signs of severe sunburn can include -

- blistering or swelling of the skin (oedema),

- chills,
- a high temperature (fever) of 38'C (100.4'F) or above, or 37.5'C (99.5'F) or above in children under five,
- dizziness, headaches and feeling sick (symptoms of heat exhaustion) (NHS, 2015j).

Your GP may recommend using hydrocortisone cream for a few days (this is also available over the counter at pharmacies) to reduce the inflammation of your skin.

Severe sunburn may require special burn cream and burn dressings from your GP or a nurse at your GP surgery. Very occasionally, hospital treatment may be needed (NHS, 2015j).

Who's at risk of sunburn? Everyone who is exposed to UV light is at risk of getting sunburn, although some people are more vulnerable than others (NHS, 2015j).

You should take extra care when out in the sun if you -

- have pale, white or light brown skin,
- have freckles or red or fair hair,
- tend to burn rather than tan,
- have many moles,
- have skin problems relating to a medical condition,
- are only exposed to intense sun occasionally - for example, while on holiday,
- are in a hot country where the sun is particularly intense,
- have a family history of skin cancer (NHS, 2015j).

People who spend a lot of time in the sun, whether it's for work or play, are at increased risk of skin cancer if they don't take the right precautions.

Snow, sand, concrete and water can reflect the sun's rays onto your skin, and the sun is more intense at high altitudes (NHS, 2015j).

Dangers of UV rays The short-term risks of sun exposure are sunburn and sun allergy (NHS, 2015j).

The longer-term risks (over decades) include -

- actinic (solar) keratoses - rough and scaly pre-cancerous spots on the skin,
- skin cancer - including both melanoma and non-melanoma skin cancer,
- eye problems - such as photokeratitis (snow blindness) and cataracts,
- premature ageing of the skin and wrinkling (NHS, 2015j).

Preventing sunburn Skin should be protected from strong sunlight by covering up with suitable clothing, seeking shade and applying sunscreen.

In the UK, the risk of getting sunburnt is highest from March to October, particularly from 11am to 3pm, when the sun's rays are strongest.

There is also a risk of getting sunburn in other weather conditions - for example, light reflecting off snow can also cause sunburn. You can also burn in cloudy and cool conditions (NHS, 2015j).

Suitable clothing -

- a wide-brimmed hat that shades the face, neck and ears,
- a long-sleeved top,
- trousers or long skirts in close-weave fabrics that do not allow sunlight through,
- sunglasses with wraparound lenses or wide arms with the CE Mark and European Standard EN 1836:2005 (NHS, 2015j).

Sunscreen -

- When buying sunscreen, make sure it's suitable for your skin and blocks both ultraviolet A (UVA) and ultraviolet B (UVB) radiation (NHS, 2015j).

The sunscreen label should have -

- the letters "UVA" in a circle logo and at least 4-star UVA protection,
- at least SPF15 sunscreen to protect against UVB (NHS, 2015j).

Most people do not apply enough sunscreen. The amount of sunscreen needed for the body of an average adult to achieve the stated sun protection factor (SPF) is around 35ml or 6 to 8 teaspoons of lotion.

If sunscreen is applied too thinly, it provides less protection. If you're worried you might not be applying enough SPF15, you could use a stronger SPF30 sunscreen (NHS, 2015j).

If you plan to be out in the sun long enough to risk burning, sunscreen needs to be applied twice -

- 30 minutes before going out,
- just before you go out (NHS, 2015j).

Sunscreen should be applied to all exposed skin, including the face, neck and ears (and head if you have thinning or no hair), but a wide-brimmed hat is better.

How long it takes for your skin to go red or burn varies from person to person. The Cancer Research UK website has a handy tool where you can find out your skin type, to see when you might be at risk of burning.

Water-resistant sunscreen is needed if sweating or contact with water is likely.

Sunscreen needs to be reapplied liberally, frequently and according to the manufacturer's instructions. This includes straight after you've been in water (even if it is "water-resistant") and after towel drying, sweating or when it may have rubbed off (NHS, 2015j).

Who should take extra care in the sun?

You should take extra care in the sun if you -

- have pale, white or light brown skin,
- have freckles or red or fair hair,
- tend to burn rather than tan,
- have many moles,
- have skin problems relating to a medical condition,
- are only exposed to intense sun occasionally - for example, while on holiday,
- are in a hot country where the sun is particularly intense,
- have a family history of skin cancer (LIVEWELL, 2015s).

People who spend a lot of time in the sun, whether it's for work or play, are at increased risk of skin cancer if they don't take the right precautions.

People with naturally brown or black skin are less likely to get skin cancer, as darker skin has some protection against UV rays. However, skin cancer can still occur.

The Cancer Research UK website has a tool where you can find out your skin type to see when you might be at risk of burning (LIVEWELL, 2015s).

Protect your moles

If you have lots of moles or freckles, your risk of getting skin cancer is higher than average, so take extra care.

Avoid getting caught out by sunburn. Use shade, clothing and a sunscreen with an SPF of at least 15 to protect yourself (LIVEWELL, 2015s).

Keep an eye out for changes to your skin. Changes to check for include -

- a new mole, growth or lump,
- any moles, freckles or patches of skin that change in size, shape or colour (LIVEWELL, 2015s).

Report these to your doctor as soon as possible. Skin cancer is much easier to treat if it's found early.

Use the mole self-assessment tool to see whether you could have a cancerous mole (LIVEWELL, 2015s).

Using sunbeds

The British Association of Dermatologists advises that people should not use sunbeds or sunlamps.

Sunbeds and lamps can be more dangerous than natural sunlight because they use a concentrated source of ultraviolet (UV) radiation (LIVEWELL, 2015s).

Your skin will still be exposed to harmful UV rays. Health risks linked to sunbeds and other UV tanning equipment include -

- skin cancer,
- premature skin ageing,
- sunburnt skin,
- eye irritation (LIVEWELL, 2015s).

It is illegal for people under 18 years old to use sunbeds, including in tanning salons, beauty salons, leisure centres, gyms and hotels (LIVEWELL, 2015s).

Keeping warm in cold weather

Cold weather can affect your health. The Met Office provides the weather forecasts for broadcasts on radio and TV, so listen in to these bulletins regularly to keep up-to-date with the weather. Severe weather warnings are also issued on the Met Office website, through the Met Office Twitter feed, or you can ring the Weather Desk on 0870 900 0100 (LIVEWELL, 2014z).

Follow these tips to keep you, your family and those around you warm and well in extremely cold weather -

- Draw your curtains at dusk and keep your doors closed to block out draughts.
- Have regular hot drinks and eat at least one hot meal a day if possible. Eating regularly helps keep energy levels up during winter.
- Wear several light layers of warm clothes (rather than one chunky layer).
- Keep as active in your home as possible.
- Wrap up warm and wear shoes with a good grip if you need to go outside on cold days.

- If you have reduced mobility, are 65 or over, or have a health condition such as heart or lung disease, you should heat your home to at least 18C. It's a good idea to keep your bedroom at this temperature all night if you can and make sure you wear enough clothes to stay warm. During the day, you may prefer your living room to be slightly warmer.
- If you're under 65 and healthy and active, you can safely have your house cooler than 18C, if you're comfortable (LIVEWELL, 2014z).

Keep warm, keep well

Cold homes have a significant impact on people's health. One of the best ways of keeping yourself well during winter is to stay warm.

Keeping warm over the winter months can help prevent colds, flu or more serious health conditions such as heart attacks, strokes, pneumonia and depression (LIVEWELL, 2014s).

The chances of these problems are higher if you're vulnerable to cold-related illnesses because of one or more of the following -

- you're over 65,
- you're on a low income (so can't afford heating),
- you have a long-term health condition, such as heart, lung or kidney disease,
- you are disabled (LIVEWELL, 2014s).

How to fight flu

Flu is a highly infectious illness that can spread rapidly. You may be eligible for a free flu jab if you're at risk of complications from flu (LIVEWELL, 2014s).

The injected flu vaccine is offered free of charge on the NHS to people who are at risk. This is to ensure they are protected against catching flu and developing serious complications (NHS, 2015l).

You are eligible to receive a free flu jab if you -

- are 65 years of age or over,
- are pregnant,
- have certain medical conditions -
  - chronic (long-term) respiratory diseases, such as asthma (which requires an inhaled or tablet steroid treatment, or has led to hospital admission in the past), chronic obstructive pulmonary disease (COPD), or bronchitis,

  - chronic heart disease, such as heart failure,
  - chronic kidney disease,
  - chronic liver disease, such as hepatitis,
  - chronic neurological conditions, such as Parkinson's disease or motor neurone disease,
  - diabetes,
  - problems with your spleen - for example, sickle cell disease or if you have had your spleen removed,
  - a weakened immune system as the result of conditions such as HIV and AIDS, or medication such as steroid tablets or chemotherapy (NHS, 2015l),
- are very overweight,
- are living in a long-stay residential care home or other long-stay care facility,
- receive a carer's allowance, or you are the main carer for an elderly or disabled person whose welfare may be at risk if you fall ill,
- are a front-line health and social care worker. It is your employer's responsibility to arrange vaccination for you (NHS, 2015l).

Flu jab for health and social care workers Outbreaks of flu can occur in health and social care settings, and, because flu is so contagious, staff, patients and residents are all at risk of infection.

If you're a front-line health and social care worker, you are eligible for an NHS flu jab to protect yourself, your colleagues and other members of the community.

It is your employer's responsibility to arrange vaccination for you. So, if you are an NHS-employed front-line healthcare worker, the NHS will pay for your vaccination. If you are a social care worker, your employer - for example, your local authority - will pay for vaccination.

In the case of health and social care workers employed by private companies, those companies will arrange and pay for the vaccinations.

The NHS has this advice on flu vaccination of health and social care workers (NHS, 2015l).

Fuel poverty facts

On average, there are around 25,000 excess winter deaths each year in England. There is strong evidence that some of these winter deaths are indeed 'extra' and are related to cold temperatures as well as infectious diseases such as flu.

In 2013 there were 2.35 million households in England in fuel poverty. This is when a household is living below the poverty line and has higher than average energy bills (LIVEWELL, 2014s).

Keep your home warm

If you have reduced mobility, are 65 or over, or have a health condition such as heart or lung disease, you should heat your home to at least 18C. It's a good idea to keep your bedroom at this temperature all night if you can. During the day you may prefer your living room to be slightly warmer. Make sure you wear enough clothes to stay warm.

If you're under 65 and healthy and active, you can safely have your house cooler than 18C, if you're comfortable.

You can also use a hot water bottle or electric blanket (but not both at the same time) to keep warm while you're in bed (LIVEWELL, 2014s).

Eat well in winter

Food is a vital source of energy, which helps keep your body warm. Try to make sure that you have hot meals and drinks regularly throughout the day and keep active in the home if you can (LIVEWELL, 2014s).

Stay active

We all know that exercise is good for your overall health - and it can keep you warm in winter. If you can stay active, even moderate exercise can bring health benefits. If possible, try not to sit still for more than an hour or so. Remember to speak to your GP before starting any exercise plan (LIVEWELL, 2014s).

Wear warm clothes

Wrap up warm, inside and out. Wear lots of thin layers - clothes made from cotton, wool or fleecy fibres are particularly good and help to maintain body heat. Wear shoes with a good grip to prevent slips and falls when walking outside. If possible, stay inside during a cold period if you have heart or respiratory problems (LIVEWELL, 2014s).

Help your neighbours in winter

Check on older neighbours or relatives to make sure they're safe and well. Make sure they're warm enough, especially at night, and have stocks of food and medicines so they don't need to go out during very cold weather.

If you're worried about a relative or an elderly neighbour, contact your local council or ring the Age UK helpline on 0800 00 99 66 (LIVEWELL, 2014s).

Cold weather benefits

You may also be able to claim financial and practical help with heating your home. Grants available include the Winter Fuel Payment and Cold Weather Payment (LIVEWELL, 2014s).

Winter Fuel Payment A Winter Fuel Payment of between £100 and £300 tax-free is available to help you pay your heating bills if you were born on or before January 5 1953 (LIVEWELL, 2014s).

Cold Weather Payment Cold Weather Payment may be available to you if you receive certain benefits. Payments are made when your local temperature is either recorded as, or forecast to be, an average of 0'C or below over seven consecutive days.

You'll get a payment of £25 for each seven-day period of very cold weather between November 1 2015 and March 31 2016 (LIVEWELL, 2014s).

Protect your health in the cold

Public Health England's cold weather plan has tips on how to protect your health during cold weather.

Make sure you are receiving any benefits you are entitled to, such as the Winter Fuel Payment and Cold Weather Payment.

The Met Office has advice on getting ready for winter and some suggestions for practical things you can do to prepare for winter weather, including cold, ice and snow, high winds and flooding. The advice also tells you ways you can save money (LIVEWELL, 2014z).

Keep yourself and your home warm

Keeping yourself and your home warm can be a lifesaver in winter As you get older it takes longer to warm up which can be bad for your health. The cold thickens blood and increases blood pressure, and breathing in cold air can increase the risk of chest infections (METOFFICE, 2016b).

Keep your home warm Heating your home to at least 18'C in winter poses minimal risk to your health when you are wearing suitable clothing. This temperature is particularly important if you have reduced mobility, are 65 and over, or have a health condition, such as heart or lung disease. Having room temperatures slightly over 18'C could be good for your health (METOFFICE, 2016b).

- If you are under the age of 65, active and wearing appropriate clothing, you may wish to keep your home at a comfortable temperature even if it is slightly lower than 18'C.
- Overnight, people who are 65 and over or who have pre-existing health conditions, may find bedroom temperatures of at least 18'C are good for their health; this may be less important if you are a healthy adult under 65 and have appropriate clothing and bedding (METOFFICE, 2016b).

Fire kills In severe weather you may be making use of fires and candles for warmth, ambience, or in the event of power cuts, for light.

To stay safe using fire, you are advised to ensure that you have a smoke alarm on every level of your home and that you test it regularly (METOFFICE, 2016b).

You should also do the following -

- **Open fires** - sweep your chimney, use a fireguard, make sure the fire is put out properly before you leave the room.
- **Electric heaters** - keep away from curtains and furniture, and do not use for drying clothes. Always unplug when you go out or go to bed.
- **Electric blankets** - do not use a hot water bottle, even if the blanket's switched off. Unplug blankets before you go to bed, unless they have thermostat-control for safe all-night use.
- **Candles** - lit candles must never be left unattended and should be secured in a proper holder away from materials that may catch fire - like curtains (METOFFICE, 2016b).

Keep yourself warm

- Keep your hands and face warm - if they get cold they can trigger a rise in blood pressure which puts you at risk of a heart attack.
- Remember that several thin layers of clothing will keep you warmer than one thick layer, as the layers trap warm air.
- Wear warm clothes in bed. When very cold, wear thermal underwear, bed socks and even a hat - a lot of heat is lost through your head (METOFFICE, 2016b).

Keep moving to keep warm It's important to stay active as this generates heat and helps to keep you warm. Try to keep moving when you're indoors, and don't sit still for more than an hour. If walking is difficult, you can do chair-based exercises. Even simply moving your arms and legs and wiggling your toes will get your circulation going. But remember to speak to your GP before starting any exercise plan (METOFFICE, 2016b).

Eat well to keep warm It's important to make sure you eat enough in winter and hot meals and drinks will help to keep you warm. Follow our tips to keep you eating well this winter -

- Try to eat at least one hot meal each day and have hot drinks during the day.
- Include a good range of foods in your diet and aim for five portions of fruit and vegetables each day, so that you're getting plenty of nutrients and vitamins. Remember that frozen vegetables are just as good as fresh.
- If you're worried about a poor appetite, speak to your GP.
- Have a hot drink before bed and keep one in a flask by your bedside (METOFFICE, 2016b).

Look after yourself

- Food is a vital source of energy and helps to keep your body warm so have plenty of hot food and drinks.
- Aim to include five daily portions of fruit and vegetables. Tinned and frozen vegetables count toward your five-a-day.
- Stock up on tinned and frozen foods so you don't have to go out too much when it's cold or icy.
- Exercise is good for you all year round and it can keep you warm in winter.
- If possible, try to move around at least once an hour. But remember to speak to your GP before starting any exercise plans.
- Wear lots of thin layers - clothes made from cotton, wool or fleecy fibres are particularly good and maintain body heat.

- Wear good-fitting slippers with a good grip indoors and shoes with a good grip outside to prevent trips, slips and falls.
- Make sure you have spare medication in case you are unable to go out (METOFFICE, 2016a).

Also see Cold or flu?, Coping with colds and flu and Colds.

Staying healthy

If you are over 65, you are also eligible for a pneumo jab, a one-off jab that protects against pneumonia, meningitis and septicaemia. Once you've had the jab you'll be protected for life (CARERSUK, 2014c).

Keep your medicine cabinet stocked up with a range of every day medicines in case you get ill, such as -

- painkillers,
- cough medicine,
- throat lozenges,
- sore throat sprays (CARERSUK, 2014c).

Your pharmacist can give you advice if you are feeling unwell and some pharmacies operate a minor ailment scheme, which may enable you to get medicine for some minor illnesses. These are free of charge if you don't normally pay for prescriptions. Some pharmacies also offer a home delivery service for repeat prescriptions (CARERSUK, 2014c).

Lack of sunshine in winter can mean you don't get enough vitamin D. Other sources of vitamin D, apart from sunlight, include -

- oily fish, such as salmon, sardines, or mackerel,
- eggs,
- meat,
- some margarines,
- some cereals and dairy products (CARERSUK, 2014c).

Anyone at risk of vitamin D deficiency, including everyone aged 65 or over, should take a daily supplement. Ask your GP or pharmacist for advice before taking any supplements (CARERSUK, 2014c).

Travel carefully in icy weather

Icy pavements and roads can be extremely slippery. Take extra care if you go out, and wear boots or shoes with good grip on the soles. The Met Office advises

putting grit or cat litter on paths and driveways to lessen the risk of slipping. It adds you should wait until the roads have been gritted if you're travelling by car.

Bear in mind that black ice on pavements or roads might not be clearly visible, and compacted snow may turn to ice and become slippery (LIVEWELL, 2014z).

Look in on vulnerable neighbours and relatives

Check up on friends, relatives and neighbours who may be more vulnerable to cold weather. Cold weather is especially dangerous for older people or people with serious illnesses, so check in on them if you can. Read about how to spot and treat hypothermia.

People with heart or respiratory (breathing) problems may have worse symptoms during a cold spell and for several days (up to four weeks) after temperatures return to normal (LIVEWELL, 2014z).

Wipe out winter tiredness

Do you find it harder to roll out of bed every morning when the temperature drops and the mornings are darker? If so, you're not alone. Many people feel tired and sluggish during winter. Here are six energy-giving solutions (LIVEWELL, 2014ac).

What is winter tiredness?

If you find yourself longing for your warm, cozy bed more than usual during winter, blame the lack of sunlight.

As the days become shorter, your sleep and waking cycles become disrupted, leading to fatigue. Less sunlight means that your brain produces more of a hormone called melatonin, which makes you sleepy.

Because the release of this sleep hormone is linked to light and dark, when the sun sets earlier your body also wants to go to bed earlier - hence you may feel sleepy in the early evening.

While it's normal for all of us to slow down generally over winter, sometimes lethargy can be a sign of more serious winter depression. This health condition,

known medically as seasonal affective disorder [24], affects around one in 15 of us but can be treated. If your tiredness is severe and year-round, you could have chronic fatigue syndrome [25].

Try these tactics to boost your vitality during the winter months (LIVEWELL, 2014ac).

Sunlight is good for winter tiredness

Open your blinds or curtains as soon as you get up to let more sunlight into your home. And get outdoors in natural daylight as much as possible, even a brief lunchtime walk can be beneficial.

Make your work and home environment as light and airy as possible (LIVEWELL, 2014ac).

Fight fatigue with vitamin D

The decrease in sunshine over the winter months can mean you don't get enough vitamin D, and that can make you feel tired.

The main source of vitamin D is sunlight, but here in the UK we can't make any vitamin D from winter daylight between November and March so it's especially important to get vitamin D from your diet.

Good food sources of vitamin D are oily fish (for example salmon, mackerel and sardines), eggs and meat. Vitamin D is also added to all margarine, and to some breakfast cereals, soya products, dairy products and low-fat spreads.

Even with a healthy, balanced diet it's possible to become vitamin D deficient.

The latest National Diet and Nutrition Survey found evidence of vitamin D deficiency in all ages especially toddlers, 11–18 year old girls and men and women over the age of 65.

The government recommends that people at risk of vitamin D deficiency - including everyone 65 or over - should take a daily supplement (LIVEWELL, 2014ac).

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[24] Seasonal affective disorder is a type of depression that comes and goes in a seasonal pattern. It often improves and disappears in the spring and summer, although it may return each autumn and winter in a repetitive pattern

[25] this causes persistent fatigue (exhaustion) that affects everyday life and doesn't go away with sleep or rest

Get a good night's sleep

When winter hits it's tempting to go into hibernation mode, but that sleepy feeling you get in winter doesn't mean you should snooze for longer. In fact if you do, chances are you'll feel even more sluggish during the day.

We don't technically need any more sleep in winter than in summer. Aim for about eight hours of shuteye a night and try to stick to a reliable sleep schedule. Go to bed and get up at the same time every day. And make sure your bedroom is conducive to sleep - clear the clutter, have comfortable and warm bedlinen and turn off the TV (LIVEWELL, 2014ac).

Fight winter tiredness with regular exercise

Exercise may be the last thing you feel like doing on dark winter evenings, but you'll feel more energetic if you get involved in some kind of physical activity every day, ideally so you reach the recommended goal of 150 minutes of exercise a week. Exercise in the late afternoon may help to reduce early evening fatigue, and also improve your sleep.

Winter is a great time to experiment with new and different kinds of activity. For instance, if you're not used to doing exercise, book a session at one of the many open-air skating rinks that open during the winter. Skating is a good all-round exercise for beginners and aficionados alike. There are also many dry ski slopes and indoor snow centres in the UK, which will offer courses for beginners.

If you're more active, go for a game of badminton at your local sports centre, or a game of 5-a-side football or tennis under the floodlights.

If you find it hard to get motivated to exercise in the chillier, darker months, focus on the positives - you'll not only feel more energetic but stave off winter weight gain (LIVEWELL, 2014ac).

Learn to relax

Feeling time-squeezed to get everything done in the shorter daylight hours? It may be contributing to your tiredness. Stress has been shown to make you feel fatigued.

There's no quick-fire cure for stress but there are some simple things you can do to alleviate it. So, if you feel under pressure for any reason, calm down with meditation, yoga, exercise and breathing exercises (LIVEWELL, 2014ac).

Eat the right foods

Once the summer ends, there's a temptation to ditch the salads and fill up on starchy foods such as pasta, potatoes and bread. You'll have more energy, though, if you include plenty of fruit and vegetables in your comfort meals.

Winter vegetables such as carrots, parsnips, swede and turnips can be roasted, mashed or made into soup for a warming winter meal for the whole family. And classic stews and casseroles are great options if they're made with lean meat and plenty of veg.

You may find your sweet tooth going into overdrive in the winter months, but try to avoid foods containing lots of sugar - it gives you a rush of energy but one that wears off quickly (LIVEWELL, 2014ac).

Avoid winter weight gain

Winter weight gain isn't just an urban myth. Research has shown most of us could gain around a pound (half a kilo) during the winter months. That may not sound like much, but over the course of a decade it can add up.

"*There's good evidence that people put on weight over the winter*," says dietitian Sian Porter. "*The more overweight you are, the more you tend to put on. And the most worrying aspect of this seasonal weight gain is that the pounds tend to stay on. People don't seem to lose the extra weight.*"

The three main reasons that people put on weight in the winter are lack of physical activity, comfort eating and overindulging at Christmas.

Cold weather and shorter days make it harder to exercise outdoors, so it's easy not to do any exercise over winter. If you're not outside as much, there's more time and temptation to reach into the kitchen cupboard for high-calorie sweet snacks, such as biscuits and cakes.

Then of course there are the festivities surrounding Christmas. "*What used to be a couple of days of parties and overeating now seems, for some, to be six weeks of overdoing it*," says Porter.

So what's the solution? Here are four simple ways to avoid winter weight gain (LIVEWELL, 2014b).

Stock up your kitchen cupboards

Keep your store cupboard stocked with staples such as cans of tomatoes, spices, beans and pulses, dried wholewheat pasta, wholewheat cereals, noodles, couscous and dried fruit.

Keep some extra bread in the freezer if there's space. That way, you'll be able to create a quick and nutritious evening meal, such as a lentil or vegetable soup or stew, at short notice. You'll save money and avoid the temptation to order a high-calorie takeaway (LIVEWELL, 2014b).

Exercise more in winter

When the outside temperature drops, it's easy to give up on outdoor exercise. In winter, we stop doing calorie-burning outdoor activities such as short walks and gardening. But reducing the amount of physical activity you do is one of the biggest contributors to winter weight gain.

Cold weather and shorter days don't mean you have to abandon exercise completely. Instead, rearrange your schedule to fit in what you can. You don't need formal exercise to burn calories.

A brisk walk can be revitalising after being indoors with the central heating on, and it'll also help boost your circulation. Put on some warm clothes and jog around the neighbourhood, or start a snowball fight with the kids.

Most leisure centres have heated swimming pools and indoor tennis and badminton courts. If you'd rather stay at home, buy some dance or workout DVDs, and always walk up the stairs at work rather than using the lift. "*These little things can make all the difference when it comes to avoiding that pound of weight gain over winter*," says Porter (LIVEWELL, 2014b).

Watch out for high-calorie drinks

It's important to consume hot drinks throughout winter because it will help you keep warm. But some hot drinks are high in calories.

Milky, syrupy coffee shop drinks and hot chocolate with whipped cream can add a lot of calories to your diet. A Starbucks medium caffe mocha, for instance, contains more than 360 calories.

Stick to regular coffee or tea, or ask for your drink to be "skinny" (made with skimmed milk). Also, limit your alcohol intake as much as possible (LIVEWELL, 2014b).

Get your winter greens

Eating a wide variety of foods ensures you get a range of nutrients, including vitamins and minerals. Don't get stuck eating the same food every day.

Look out for root vegetables, such as swedes, parsnips and turnips, and winter veggies such as cauliflower, brussels sprouts, kale and artichokes. They're filling as well as nutritious, so they will help you resist a second helping of trifle (LIVEWELL, 2014b).

10 winter illnesses

Some health problems, such as asthma, sore throat and cold sores, are triggered or worsened by cold weather. Here's how to help your body deal with cold weather ailments (LIVEWELL, 2014a).

Colds

You can help prevent colds by washing your hands regularly. This destroys bugs that you may have picked up from touching surfaces used by other people, such as light switches and door handles.

It's also important to keep the house and any household items such as cups, glasses and towels clean, especially if someone in your house is I'll (LIVEWELL, 2014a). Also see Cold or flu?

- **Top tip** - If you get a cold, use disposable tissues instead of cloth handkerchiefs to avoid constantly reinfecting your own hands (LIVEWELL, 2014a).

Sore throat

Sore throats are common in winter and are almost always caused by viral infections. There's some evidence that changes in temperature, such as going from a warm, centrally heated room to the icy outdoors, can also affect the throat (LIVEWELL, 2014a).

- **Top tip** - One quick and easy remedy for a sore throat is to gargle with warm salty water. It won't heal the infection, but it has anti-inflammatory properties and can have a soothing effect. Dissolve one teaspoon of salt in a glass of part-cooled boiled water (LIVEWELL, 2014a).

Asthma

Cold air is a major trigger of asthma symptoms such as wheezing and shortness of breath. People with asthma should be especially careful in winter (LIVEWELL, 2014a).

- **Top tip** - Stay indoors on very cold, windy days. If you do go out, wear a scarf over your nose and mouth. Be extra vigilant about taking your regular medications, and keep rescue inhalers close by and in a warm place (LIVEWELL, 2014a).

Norovirus

Also known as the winter vomiting bug, norovirus is an extremely infectious stomach bug. It can strike all year round, but is more common in winter and in places such as hotels and schools. The illness is unpleasant, but it's usually over within a couple of days (LIVEWELL, 2014a). Also see Norovirus.

- **Top tip** - When people are ill with vomiting and diarrhoea, it's important to drink plenty of fluids to prevent dehydration. Young children and the elderly are especially at risk. By drinking oral rehydration fluids (available from pharmacies), you can reduce the risk of dehydration (LIVEWELL, 2014a).

Painful joints

Many people with arthritis say their joints become more painful in winter, though it's not clear why this is the case. Only joint symptoms such as pain and stiffness are affected by the weather. There's no evidence that changes in the weather cause joint damage (LIVEWELL, 2014a).

- **Top tip** - Many people get a little depressed during the winter months, and this can make them perceive pain more acutely. Everything feels worse, including medical conditions. Daily exercise can boost a person's mental and physical state. Swimming is ideal as it's easy on the joints (LIVEWELL, 2014a).

Cold sores

Most of us recognise that cold sores are a sign that we're run down or under stress. While there's no cure for cold sores, you can reduce the chances of getting one by looking after yourself through winter (LIVEWELL, 2014a).

- **Top tip** - Every day, do things that make you feel less stressed, such as having a hot bath, going for a walk in the park, or watching one of your favourite films (LIVEWELL, 2014a).

Heart attacks

Heart attacks are more common in winter. This may be because cold snaps increase blood pressure and put more strain on the heart. Your heart also has to work harder to maintain body heat when it's cold (LIVEWELL, 2014a).

- **Top tip** - Stay warm in your home. Heat the main rooms you use to at least 18C and use a hot water bottle or electric blanket to keep warm in bed. Wrap up warm when you go out and wear a hat, scarf and gloves (LIVEWELL, 2014a).

Cold hands

Raynaud's phenomenon is a common condition that makes your fingers and toes change colour and become very painful in cold weather. Fingers can go white, then blue, then red, and throb and tingle. It's a sign of poor circulation in the small blood vessels of the hands and feet. In severe cases, medication can help, but most people live with their symptoms (LIVEWELL, 2014a).

- **Top tip** - Don't smoke or drink caffeine (they can both worsen symptoms) and always wear warm gloves, socks and shoes when going out in cold weather (LIVEWELL, 2014a).

Dry skin

Dry skin is a common condition and is often worse during the winter, when environmental humidity is low.

Moisturising is essential during winter. Contrary to popular belief, moisturising lotions and creams aren't absorbed by the skin. Instead, they act as a sealant to stop the skin's natural moisture evaporating away.

The best time to apply moisturiser is after a bath or shower while your skin is still moist, and again at bedtime (LIVEWELL, 2014a).

- **Top tip** - Have warm, rather than hot, showers. Water that is too hot makes skin feel more dry and itchy. Hot water will also make your hair look dull and dry (LIVEWELL, 2014a).

Flu

Flu is a major killer of vulnerable people. People aged 65 and over and people with long-term health conditions, including diabetes and kidney disease, are particularly at risk.

The best way to prevent getting flu is to have the flu jab (or flu nasal spray for children aged 2 to 18). The flu vaccine gives good protection against flu and lasts for one year (LIVEWELL, 2014a). See also Influenza Aging and Trans - Part 2 - General conditions

- **Top tip** - Find out if you're at risk of getting flu by asking your GP, or read our article on who should have the flu jab. If you're in a high-risk group, see your GP to get the vaccination (LIVEWELL, 2014a).

Five ways to stay healthy this winter

It may be cold outside, but winter needn't be the unhealthiest time of year for you and your family.

Here are five ways to make sure that, even when your body is telling you to hibernate, you can keep healthy and fit, no matter what the weather's like (LIVEWELL, 2014j).

Eliminate your sleep debt

"*On average we sleep six-and-a-half hours a night, much less than the seven to nine hours recommended*," says Jessica Alexander, spokesperson at The Sleep Council, which aims to raise awareness of the importance of a good night's sleep for health and wellbeing.

But in winter, we naturally sleep more because of the longer nights. "*It's perfectly natural to adopt hibernating habits when the weather turns cold*," says Jessica. "*Use the time to catch up*" (LIVEWELL, 2014j).

Drink more milk

You are 80% more likely to get a cold in winter, so making sure your immune system is in tip-top condition is important. Milk and dairy products such as cheese, yoghurt and fromage frais are great sources of protein and vitamins A and B12.

They're also an important source of calcium, which helps keep our bones strong. Try to go for semi-skimmed or skimmed milk - rather than full-fat - and low-fat yoghurts (LIVEWELL, 2014j).

Eat more fruit and veg

When it's cold and dark outside, it can be tempting to fill up on unhealthy comfort food, but it's important to ensure you still have a healthy diet and include five portions of fruit and veg a day.

If you find yourself craving a sugary treat, try a juicy clementine or satsuma instead, or sweet dried fruits such as dates or raisins.

Winter vegetables such as carrots, parsnips, swede and turnips can be roasted, mashed or made into soup for a comforting winter meal for the whole family. Explore varieties of fruit and veg that you may not normally eat (LIVEWELL, 2014j).

Try new activities for the whole family

Don't use the cold winter months as an excuse to stay in and lounge around. Instead, get out with the whole family to try out a new activity - maybe ice skating, or taking a bracing winter walk on the beach or through the park.

Regular exercise helps control your weight, boost your immune system, and is a good way to break the tension that can build if the family is constantly cooped up inside the house (LIVEWELL, 2014j).

Have a hearty breakfast

Winter is the perfect season for porridge. Eating a warm bowlful on a cold morning isn't just a delicious way to start your day, it also helps boost your intake of starchy foods and fibre.

These give you energy and help you feel fuller for longer, stopping the temptation to snack mid-morning. Oats also contain lots of vital vitamins and minerals.

Make your porridge with semi-skimmed or skimmed milk or water, and don't add sugar or salt. Add a few dried apricots, some raisins, a sliced banana or other fruit for extra flavour and to help you hit your 5-a-day target (LIVEWELL, 2014j).

Keep well

Winter weather can bring many risks to you and your family. There's the usual winter coughs, colds and flu, but then there's also risks to your health associated with flooding and storms (METOFFICE, 2016a).

If you are normally healthy, many of the coughs, colds and minor illnesses that seem to happen more frequently during winter can be safely managed yourself.

As we get older, it becomes harder for our bodies to detect how cold we are. The longer we're exposed to the cold, the more at risk we are of heart attacks, strokes, pneumonia, depression, worsening arthritis and increased accidents at home (associated with loss of strength and dexterity in the hands) (METOFFICE, 2016c). Each winter, one older person dies every 7 minutes from the cold (AGEUK, 2015d)!

Protect the elderly - keep warm in winter

The longer someone is exposed to cold, the more at risk they are of the above effects. To counter this, try using these ideas -

- keep living room temperature at 70'F (21'C),
- keep bedroom at 65'F (18'C),
- keep your bedroom window closed at night when the weather is cold (METOFFICE, 2016c).
- heat your home to at least 18'C (65'F). Above this and you may waste money - below this you may risk your health. This will keep your home warm and may lower your bills,
- if you can't heat all the rooms you use, heat the living room during the day and your bedroom just before you go to bed,
- get your heating system and cooking appliances checked and keep your home well ventilated,
- use your electric blanket as instructed and get it tested every three years. Never use a hot water bottle with an electric blanket,
- do not use a gas cooker or oven to heat your home - it is inefficient and there is a risk of carbon monoxide poisoning and this can kill,
- if you are not on mains gas or electricity, make sure you have a good supply of heating oil, solid fuel, or LPG to make sure you do not run out in winter,
- fit draught proofing to seal any gaps around windows and doors,
- make sure you have loft insulation. And if you have cavity walls, make sure they are insulated too,
- insulate your hot water cylinder and pipes,

- draw your curtains at dusk to help keep heat generated inside your rooms,
- make sure your radiators are not obstructed by furniture or curtains,
- if possible, try to move around at least once an hour. But remember to speak to your GP before starting any exercise plans,
- wear lots of thin layers - clothes made from cotton, wool or fleecy fibres are particularly good and maintain body heat (HANTS, 2016a).

Flu

Flu affects people in different ways. If you are usually healthy you will usually shake it off within a week. However, the injected flu vaccine is offered free of charge on the NHS to people who are at risk. This is to ensure they are protected against catching flu and developing serious complications (METOFFICE, 2016a).

Free flu vaccinations are available for those who -

- are aged 65 or older,
- certain categories of children, which aren't relevant here,
- are pregnant,
- are aged six months to under 65, **and**
- have a serious medical condition such as chronic heart, lung, neurological, liver or kidney disease or diabetes,
- have a weakened immune system due to HIV or treatments that suppress the immune system such as chemotherapy,
- have had a stroke or transient ischaemic attack (TIA),
- are living in a long-stay residential care home or other long-stay care facility (not prison or university halls),
- are the main carer for an elderly or disabled person whose welfare may be at risk if you fall ill (METOFFICE, 2016a).

Pandemic Influenza

An influenza pandemic [26], often called 'Pan Flu', happens when a new influenza virus emerges and spreads round the world.

Because the particular strain of influenza is new, most people will not have immunity to it, which means that large numbers of people may become infected across many countries in a relatively short space of time. It is possible that millions of people might become ill in just a few weeks. A pan flu outbreak is also

[26] this is the name given to the worldwide spread of a new disease

likely to cause more serious symptoms than seasonal flu [27] in anyone who catches it.

There have been a number of pan flu outbreaks in the last 100 years, so it's right that the country remains prepared. These include the "Spanish flu", which killed millions of people across the world in 1918 and is reputed to have killed more people than all the soldiers who died in the whole of World War 1! And "swine flu", which turned out to be a relatively mild pandemic in 2009, but still caused serious illness and death in a small number of cases.

If there is an outbreak of pandemic flu, it is likely that it will start outside the UK. This means that you may hear about people becoming ill in other countries first before it reaches the UK. In the event of a pandemic, updates and advice will be given out on national and local media and via the internet. Regular updates will tell you what symptoms you should look out for in you and your family and what to do if you think you, or anyone you live with or look after, has become ill with the virus. Your doctor or other healthcare professional will also be able to advise you on treatment options such as vaccines and antiviral medicines and medicines that are available at your local pharmacy to alleviate the symptoms (METOFFICE, 2016a).

What to do in severe weather

On the move

Think carefully about whether you should travel now or wait until conditions improve. Before setting off -

- Check weather, news and travel reports - the closer to the time you leave, the better,
- Take your kit of essential Your emergency kit,
- Tell someone where you're going,
- Think about other ways to get to and from your destination,
- Charge your mobile phone (REDCROSS, 2016).

In your community

A few things you can do to help people in your area -

- Check on neighbours, family and friends, especially those who live on their own,

[27] the kind of flu that affects many people every winter

- Clear snow or ice from the pathways of those who can't do it themselves,
- Think about who will help anyone you normally look after, if you are stranded,
- Volunteer to help vulnerable people in your neighbourhood (REDCROSS, 2016).

Your emergency kit

What to have at home

How long could you last without power, heat, water and a trip to the shops? Take time now to put these essential items into a kit -

- list of emergency contact numbers,
- battery operated torch and spare batteries (or a wind-up torch),
- battery operated radio and spare batteries (or a wind-up radio),
- any essential medication, some toiletries and a first aid kit,
- three days' supply of bottled water and ready-to-eat food that won't spoil,
- copies of important documents, such as insurance policies and birth certificates,
- pencil, paper, penknife and whistle,
- spare keys to your home and car,
- spare glasses or contact lenses (REDCROSS, 2016).

What to take on the move

Whether you're travelling by car, foot or any other type of transport, check the weather forecast and pack these items -

- suitable clothes for the weather, such as winter boots with grips, warm clothing or waterproofs,
- ready-to-eat food, a warm drink in a flask and bottled water,
- mobile phone and charger,
- any essential medication,
- spare glasses or contact lenses,
- cash and credit cards,
- list of emergency contact numbers (REDCROSS, 2016).

What to keep in the car

Before you set off, make sure you have the following -

- ice-scraper and de-icer,
- snow shovel,
- map for unplanned diversions,
- blanket and warm clothes,
- first aid kit,
- battery operated torch and spare batteries (or a wind-up torch),
- battery operated radio and spare batteries (or a wind-up radio),
- jump leads (REDCROSS, 2016).

Loneliness

Older people are especially vulnerable to loneliness and social isolation - and it can have a serious effect on health. But there are ways to overcome loneliness, even if you live alone and find it hard to get out.

Hundreds of thousands of elderly people are lonely and cut off from society in this country, especially those over the age of 75.

According to Age UK, more than 2 million people in England over the age of 75 live alone, and more than a million older people say they go for over a month without speaking to a friend, neighbour or family member.

People can become socially isolated for a variety of reasons, such as getting older or weaker, no longer being the hub of their family, leaving the workplace, the deaths of spouses and friends, or through disability or illness.

Whatever the cause, it's shockingly easy to be left feeling alone and vulnerable, which can lead to depression and a serious decline in physical health and wellbeing.

Someone who is lonely probably also finds it hard to reach out. There is a stigma surrounding loneliness, and older people tend not to ask for help because they have too much pride.

It's important to remember loneliness can - and does - affect anyone, of any age. Here are ways for older people to connect with others and feel useful and appreciated again (LIVEWELL, 2015m).

Smile, even if it feels hard

Grab every chance to smile at others or begin a conversation - for instance, with the cashier at the shop or the person next to you in the GP waiting room. If

you're shy or not sure what to say, try asking people about themselves (LIVEWELL, 2015m).

Invite friends for tea

If you're feeling down and alone, it's tempting to think nobody wants to visit you. But often friends, family and neighbours will appreciate receiving an invitation to come and spend some time with you.

If you would prefer for someone else to host, Contact the Elderly is a charity that holds regular free Sunday afternoon tea parties for people over the age of 75 who live alone. You will be collected from your home and driven to a volunteer host's home for the afternoon. Apply online or call Contact the Elderly on 0800 716 543 (LIVEWELL, 2015m).

Keep in touch by phone

Having a chat with a friend or relative over the phone can be the next best thing to being with them. Or you can call The Silver Line, a helpline for older people set up by Esther Rantzen, on 0800 4 70 80 90.

You can also call Independent Age on 0800 319 6789, Age UK on 0800 169 2081, or Friends of the Elderly on 020 7730 8263 to receive a weekly or fortnightly friendship call from a volunteer who enjoys talking to older people.

Community Network brings people together on the phone each week. To join or start a telephone group, call 020 7923 5250 (LIVEWELL, 2015m).

Learn to love computers

If your friends and family live far away, a good way to stay in touch, especially with grandchildren, is by using a personal computer or tablet (a handheld computer).

You can share emails and photos with family and friends, have free video chats using services such as Skype, FaceTime or Viber, and make new online "friends" or reconnect with old friends on social media sites such as Facebook or Twitter and website forums.

A tablet computer can be especially useful if you can't get around very easily, as you can sit with it on your knee or close to hand and the screen is clear and bright.

A sponge-tip stylus pen or speech recognition may help if the touchscreen is difficult for arthritic hands or fingers with poor circulation.

Libraries and community centres often hold regular training courses for older people to learn basic computer skills - as well as being a good place to meet and spend time with others in their own right.

Local branches of Age UK run classes in computing to help older people get to grips with smartphones, tablet computers and email.

Get some tips and advice on how to become more confident using the internet, including how to access your GP surgery online and how to look for reliable online health information.

You can find somewhere local to take free or low-cost computer courses through UK Online Centres (LIVEWELL, 2015m).

Get involved in local community activities

These will vary according to where you live, but the chances are you'll have access to a singing or walking group, book clubs, bridge, bingo, quiz nights and faith groups.

Not to mention local branches of regional and national organisations that hold social events, such as the Women's Institute, Rotary, Contact the Elderly, and Brendoncare clubs in the south of England. The Silver Line helpline (0800 470 8090) can let you know what's going on in your local area (LIVEWELL, 2015m).

Fill your diary

It can help you feel less lonely if you plan the week ahead and put things in your diary to look forward to each day, such as a walk in the park, going to a local coffee shop, library, sports centre, cinema or museum.

Independent Age has published a guide to help you find free groups and classes in your area. Download Wise Guide 3: healthy, happy, connected - support and advice for older people living alone or order a free print copy by calling 0800 319 6789, or email advice@independentage.org (LIVEWELL, 2015m).

Get out and about

Don't wait for people to come and see you - travel to visit them.

One advantage of being older is that public transport is better value. Local bus travel is free for older people across England. The age at which you can apply for your free bus pass depends on when you were born and where you live. Contact your local authority for more information on how to apply.

Use this State Pension calculator to find out the exact date when you can apply for your free bus pass.

For longer distances, train and coach travel can be cheap, too, especially if you book in advance online and use a Senior Railcard.

The Royal Voluntary Service can put you in touch with volunteers who provide free transport for older people with mobility issues or who live in rural areas with limited public transport (LIVEWELL, 2015m).

Help others

Use the knowledge and experience you've gained over a lifetime to give something back to your community. You'll get lots back in return, such as new skills and confidence - and, hopefully, some new friends, too.

There are endless volunteering opportunities that relish the qualities and skills of older people, such as patience, experience and calmness. Examples are Home-Start, Sure Start, helping in a local charity shop or hospital, Citizens Advice, and school reading programmes.

Find out how to volunteer in your area on the Volunteering England website (LIVEWELL, 2015m).

Join the University of the Third Age

The University of the Third Age (U3A) operates in many areas, offering older people the chance to learn or do something new.

Run by volunteers, U3A has no exams. Instead, it gives you the chance to do, play or learn something you may never have done before, or something you've not considered since your school days. U3A is also a great place to meet people and make new friends.

Find your nearest U3A online (LIVEWELL, 2015m).

Minor illnesses

Cold or flu?

Flu is not a 'bad cold'. Each year, thousands of people die of complications after catching the flu. Find out how colds and flu differ.

Colds and flu share some of the same symptoms (cough, sore throat), but are caused by different viruses. Flu can be much more serious than a cold.

If you're generally fit and healthy, you can usually manage the symptoms of a cold or flu yourself without seeing a doctor. Look after yourself by resting, drinking non-alcoholic fluids to avoid dehydration and avoiding strenuous activity. Painkillers such as ibuprofen or paracetamol can relieve aches and pains (LIVEWELL, 2014e).

Symptoms

There are around 200 viruses that cause colds and just three that cause flu. There are many strains of these flu viruses, and the vaccine changes every year to protect against the most common ones.

Colds cause more nasal problems, such as blocked nose, than flu. Fever, fatigue and muscle aches are more likely and more severe with flu (LIVEWELL, 2014e).

Colds Symptoms of a cold include: -

- runny nose - beginning with clear mucus that develops into thicker, green mucus as the cold progresses,
- blocked nose,
- sore throat,
- sneezing,
- cough (LIVEWELL, 2014e).

People with a cold may also suffer with a mild fever, earache, tiredness and headache. Symptoms develop over one or two days and gradually get better after a few days. Some colds can last for up to two weeks.

According to the Common Cold Centre in Cardiff, a cold is most contagious during the early stages, when the person has a runny nose and sore throat (LIVEWELL, 2014e).

Flu Flu usually comes on much more quickly than a cold, and symptoms include -

- sudden fever of 38'C–40'C (100'F–104'F),
- muscle aches and pains,
- sweating,
- feeling exhausted and needing to lie down,
- a dry, chesty cough (LIVEWELL, 2014e).

A person with flu may also have a runny nose and be prone to sneezing, but these are not usually the defining symptoms of flu.

Flu symptoms appear one to three days after infection and most people recover within a week, although you may feel tired for longer. A severe cold can also cause muscle aches and fever, so it can be hard to tell the difference (LIVEWELL, 2014e).

Whether it's a cold or flu, get medical help if you either -

- have a chronic condition (such as asthma, diabetes or heart disease),
- have a very high fever as well as an unusually severe headache or abdominal or chest pain (LIVEWELL, 2014e).

People more at risk

Some people need to take extra care as they're more at risk of serious chest complications, such as pneumonia and bronchitis. People over 65 are more at risk of complications. People under 65, including children, are more at risk of complications if they have -

- serious heart or chest complaints, including asthma,
- serious kidney disease or liver disease,
- diabetes,
- lowered immunity due to disease or medical treatment,
- had a stroke or transient ischaemic attack (TIA) (LIVEWELL, 2014e).

Everyone in an at-risk group is eligible for a free flu vaccination, which is the best protection against the virus (LIVEWELL, 2014e).

Stop the viruses spreading

Cold and flu viruses are spread by droplets that are coughed or sneezed out by an infected person. Other people can breathe in these droplets or transfer the droplets to their eyes or nose, via their fingers (LIVEWELL, 2014e).

Protect yourself and others against colds and flu by -

- coughing or sneezing into a tissue,
- throwing a used tissue away as soon as possible,
- washing your hands as soon as possible,
- having a flu jab every year if you're in an at-risk group (LIVEWELL, 2014e).

Colds and flu viruses can also be passed on via infected droplets on objects or surfaces, such as door handles. You can help to prevent passing on or getting colds and flu by washing your hands regularly, and avoiding touching your eyes and nose (LIVEWELL, 2014e).

Coping with colds and flu

Most of us will have a cold this autumn or winter, and some of us will have the flu. Here's how to look after yourself if these viruses affect you.

Colds and flu are caused by viruses. There are more than 200 common cold viruses and three types of flu virus, with many different strains, so they're hard to avoid.

These viruses can be spread through droplets that are coughed and sneezed out by an infected person. The viruses can also be transferred via a person's fingers or surfaces, such as door handles, if there are infected droplets on them.

The virus enters the body via the nose or eyes. If you have infected droplets on your fingers and you touch your eyes or nose, the virus can enter your body (LIVEWELL, 2014f).

Cold symptoms

The main symptoms of winter cold and flu bugs are -

- coughing,
- sneezing,
- blocked nose,
- sore throat,
- headache,
- a slight temperature (LIVEWELL, 2014f).

If these are the only symptoms you have, it's unlikely that your GP will be able to do anything.

You may want to visit your local pharmacy, where you can get advice on how to manage the symptoms and buy over-the-counter medicine (LIVEWELL, 2014f).

Get rest and eat well

Dr Rupal Shah, a GP in south London, has the following advice: "*Try to rest, eat well, avoid stress and keep hydrated. If you have a fever, you may need extra fluids. You could also take paracetamol to treat fever and pain, or inhale steam with a decongestant in to help clear a blocked nose.*"

Pharmacists say cold and flu medicines are among their top sellers in the winter. Some of the remedies combine painkillers with decongestants, which can help to manage symptoms.

"*Painkillers - such as paracetamol, ibuprofen and aspirin - can really help if you have a cold*," says pharmacist Angela Chalmers. However, aspirin shouldn't be given to children under 16 years of age. She adds that, "*decongestants help to reduce the swelling inside your nose so you can breathe more easily*".

In most cases, antibiotics (which are used to treat bacterial infections) aren't necessary. "*Colds and flu, and most coughs, are caused by viruses, so antibiotics can't help. Minor bacterial infections will also be fought off by natural immunity*," explains Dr Shah (LIVEWELL, 2014f).

When to see a doctor

While most bugs will run their course without doing any real harm, Dr Shah says there are certain cases when you should see a GP. These include -

- if you have a chronic condition - such as asthma, diabetes or heart disease,
- if you have a very high temperature and feel ill - for example, if you also have an unusually severe headache or abdominal pain (LIVEWELL, 2014f).

Older and frailer people, should get help if they're unwell.

If you need to speak to someone outside of normal surgery hours, you can call your GP surgery's out-of-hours service (if they have one) or NHS 111 (LIVEWELL, 2014f).

Help stop germs spreading

CATCH IT - Germs spread easily. Always carry tissues and use them to catch your cough or sneeze. **BIN IT** - Germs can live for several hours on tissues. Dispose of your tissue as soon as possible. **KILL IT** - Hands can transfer germs to every surface you touch. Clean your hands as soon as you can (LIVEWELL, 2014f).

Colds

A cold is a mild viral infection of the nose, throat, sinuses and upper airways. It's very common and usually clears up on its own within a week or two (NHS, 2015b).

Symptoms

The symptoms of a cold usually develop within a few days of becoming infected (NHS, 2015b).

The main symptoms include -

- a sore throat,
- a blocked or runny nose,
- sneezing,
- a cough,
- a hoarse voice,
- generally feeling unwell (NHS, 2015b).

Less common symptoms of a cold include -

- a high temperature (fever) - this is usually about 37'C–39'C (98.6'F–102.2'F),
- a headache,
- earache - severe earache may be a sign of a middle ear infection,
- muscle pain,
- loss of taste and smell,
- mild irritation of your eyes,
- a feeling of pressure in your ears and face (NHS, 2015b).

The symptoms are usually at their worst during the first two to three days, before they gradually start to improve. In adults and older children, they usually last about 7 to 10 days, but can last longer. A cough in particular can last for two or three weeks (NHS, 2015b).

Is it a cold or flu? It can sometimes be difficult to tell if you have a cold or something potentially more serious such as flu, as the symptoms can be quite similar. The main differences are -

Flu symptoms

- come on quickly,

- usually include a headache, fever and aching muscles,
- make you feel too unwell to continue your usual activities (NHS, 2015b).

Cold symptoms

- come on gradually,
- mainly affect your nose and throat,
- are fairly mild, so you can still get around and are usually well enough to go to work (NHS, 2015b).

When to visit your GP Colds are generally mild and shortlived, so there's usually no need to see your GP if you think you have one. You should just rest at home and use painkillers and other remedies to relieve your symptoms until you're feeling better (NHS, 2015b).

Speak to a pharmacist if you want advice about treating a cold at home. You only really need to see your GP if -

- your symptoms persist for more than three weeks,
- your symptoms get suddenly worse,
- you have breathing difficulties,
- you develop symptoms of complications of a cold, such as chest pain or coughing up bloodstained mucus (NHS, 2015b).

It might also be a good idea to see your GP if you're concerned about an elderly person, or if you have a long-term illness such as a lung condition. You can also phone NHS 111 for advice (NHS, 2015b).

Treatment

You can manage cold symptoms yourself by following some simple advice. You'll normally start to feel better within 7 to 10 days (NHS, 2015b).

General advice Until you're feeling better, it may help to -

- drink plenty of fluids to replace those lost from sweating and having a runny nose,
- get plenty of rest,
- eat healthily - a low-fat, high-fibre diet is recommended, including plenty of fresh fruit and vegetables (NHS, 2015b).

You may lose your appetite when you have a cold. This is perfectly normal and should only last a few days. Don't force yourself to eat if you're not feeling hungry.

You may also wish to try some of the medications and remedies described below to help relieve your symptoms (NHS, 2015b).

Over-the-counter cold medications The main medications used to treat cold symptoms are -

- painkillers - such as paracetamol and ibuprofen, which can help relieve aches and a high temperature (fever),
- decongestants - which may help relieve a blocked nose,
- cold medicines - containing a combination of painkillers and decongestants (NHS, 2015b).

These medications are available from pharmacies without a prescription. They're generally safe for older children and adults to take, but might not be suitable for people with certain underlying health conditions, and people taking certain other medications.

Always read the patient information leaflet that comes with your medicine before taking it, and follow the recommended dosage instructions. If you're not sure which treatments are suitable for you, speak to a pharmacist for advice (NHS, 2015b).

More information about over-the-counter cold medicines is provided below.

Painkillers Paracetamol and ibuprofen can help reduce a fever and also act as painkillers. Aspirin may also help, but it isn't normally recommended for a cold.

Taking both ibuprofen and paracetamol at the same time is not usually necessary for a cold.

Paracetamol and ibuprofen are also included in some cold medicines. If you're taking painkillers and want to also take a cold medicine, check the patient information leaflet first or ask your pharmacist or GP for advice to avoid exceeding the recommended dose (NHS, 2015b).

Decongestants Decongestants can be taken by mouth (oral decongestants), or as drops or a spray into your nose (nasal decongestants). They can help make breathing easier by reducing the swelling inside your nose.

However, they're generally only effective for a short period and they can make your blocked nose worse if they're used for more than a week (NHS, 2015b).

Other remedies The remedies outlined below may also help relieve your symptoms.

Gargling and menthol sweets Some people find gargling with salt water and sucking on menthol sweets can help relieve a sore throat and blocked nose (NHS, 2015b).

Vitamin and mineral supplements There is some evidence to suggest that taking zinc supplements within a day of the symptoms starting will speed up recovery from a cold and reduce the severity of symptoms.

However, there is currently little evidence to suggest that taking vitamin C supplements is beneficial when a cold starts (NHS, 2015b).

Treatments not recommended The following treatments aren't usually recommended to treat colds because there isn't strong evidence to suggest they're effective, and they may cause unpleasant side-effects -

- antihistamines,
- cough treatments or syrups,
- antibiotics - these are only effective against bacteria (colds are caused by viruses),
- complementary and alternative medicine (CAM) treatments such as echinacea and Chinese herbal medicines (NHS, 2015b).

Complications

Colds usually clear up without causing any further problems. However, the infection can sometimes spread to your chest, ears or sinuses (NHS, 2015b).

Sinusitis Sinusitis is an infection of the small air-filled cavities inside the cheekbones and forehead. It develops in up to 1 in every 50 adults and older children who have a cold (NHS, 2015b).

Symptoms of sinusitis include -

- pain and tenderness around your nose, eyes and forehead (sinus headache),

- a blocked and runny nose,
- a high temperature of 38'C (100.4'F) or above (NHS, 2015b).

In most cases, the symptoms of sinusitis will resolve without the need for treatment. See your GP if your symptoms don't improve after a week or they're getting worse (NHS, 2015b).

Chest infection A chest infection such as bronchitis and pneumonia can occur after a cold, as your immune system is temporarily weakened.

Symptoms of a chest infection include a persistent cough, bringing up phlegm (mucus), and shortness of breath (NHS, 2015b).

Minor chest infections will resolve in a few weeks without specific treatment, but you should see your GP if -

- your cough is severe,
- you have a persistent high temperature,
- you become confused or disorientated,
- you have a sharp pain in your chest,
- you cough up bloodstained phlegm,
- your symptoms last longer than three weeks (NHS, 2015b).

In these cases, you could have a bacterial infection that needs to be treated with antibiotics (NHS, 2015b).

Norovirus

Norovirus, which causes diarrhoea and vomiting, is one of the most common stomach bugs in the UK. It's also called the "winter vomiting bug" because it's more common in winter, although you can catch it at any time of the year.

Norovirus can be very unpleasant but it usually clears up by itself in a few days.

You can normally look after yourself or your child at home.

Try to avoid going to your GP, as norovirus can spread to others very easily. Call your GP or NHS 111 if you're concerned or need any advice (NHS, 2015h).

Symptoms of norovirus

The symptoms of norovirus are very distinctive (NHS, 2015h).

You're likely to have norovirus if you experience -

- suddenly feeling sick,

- projectile vomiting,
- watery diarrhoea (NHS, 2015h).

Some people also have a slight fever, headaches, painful stomach cramps and aching limbs.

The symptoms appear one to two days after you become infected and typically last for up to two or three days (NHS, 2015h).

What to do if you have norovirus

If you experience sudden diarrhoea and vomiting, the best thing to do is to stay at home until you're feeling better. There's no cure for norovirus, so you have to let it run its course.

You don't usually need to get medical advice unless there's a risk of a more serious problem (NHS, 2015h).

To help ease your own symptoms -

- **Drink plenty of fluids to avoid dehydration. You need to drink more than usual to replace the fluids lost from vomiting and diarrhoea** - as well as water, adults could also try fruit juice and soup.
- **Take paracetamol for any fever or aches and pains**.
- **Get plenty of rest**.
- **If you feel like eating, eat plain foods**, such as soup, rice, pasta and bread.
- **Use special rehydration drinks** made from sachets bought from pharmacies if you have signs of dehydration, such as a dry mouth or dark urine.
- **Adults can take antidiarrhoeal and/or anti-emetic (anti-vomiting) medication** - these are not suitable for everyone though, so you should check the medicine leaflet or ask or your pharmacist or GP for advice before trying them (NHS, 2015h).

Norovirus can spread very easily, so you should wash your hands regularly while you're ill and stay off work or school until at least 48 hours after the symptoms have cleared, to reduce the risk of passing it on (NHS, 2015h).

When to get medical advice

You don't normally need to see your GP if you think you have norovirus, as there's no specific treatment for it.

Antibiotics won't help because it's caused by a virus.

Visiting your GP surgery with norovirus can put others at risk, so it's best to call your GP or NHS 111 if you're concerned or feel you need advice (NHS, 2015h).

Get medical advice if -

- you have symptoms of severe dehydration, such as persistent dizziness, only passing small amounts of urine or no urine at all, or reduced consciousness - babies and elderly people have a greater risk of becoming dehydrated,
- you have bloody diarrhoea,
- your symptoms haven't started to improve after a few days,
- you have a serious underlying condition, such as kidney disease, and have diarrhoea and vomiting (NHS, 2015h).

Your GP may suggest sending off a sample of your stool to a laboratory to confirm whether you have norovirus or another infection (NHS, 2015h).

How is norovirus spread?

Norovirus spreads very easily in public places such as hospitals, nursing homes and schools (NHS, 2015h).

You can catch it if small particles of vomit or poo from an infected person get into your mouth, such as through -

- **close contact with someone with norovirus** - they may breathe out small particles containing the virus that you could inhale,
- **touching contaminated surfaces or objects** - the virus can survive outside the body for several days,
- **eating contaminated food** - this can happen if an infected person doesn't wash their hands before handling food (NHS, 2015h).

A person with norovirus is most infectious from when their symptoms start until 48 hours after all their symptoms have passed, although they may also be infectious for a short time before and after this.

You can get norovirus more than once because the virus is always changing, so your body is unable to build up long-term resistance to it (NHS, 2015h).

Preventing norovirus

It's not always possible to avoid getting norovirus, but following the advice below can help stop the virus spreading (NHS, 2015h).

- **Stay off work or school until at least 48 hours after the symptoms have passed**. You should also avoid visiting anyone in hospital during this time.
- **Wash your hands frequently and thoroughly with soap and water**, particularly after using the toilet and before preparing food. Don't rely on alcohol hand gels, as they do not kill the virus.
- **Disinfect any surfaces or objects that could be contaminated**. It's best to use a bleach-based household cleaner.
- **Wash any items of clothing or bedding** that could have become contaminated separately on a hot wash to ensure the virus is killed.
- **Don't share towels and flannels**.
- **Flush away any infected poo or vomit in the toilet** and clean the surrounding area.
- **Avoid eating raw, unwashed produce** and only eat oysters from a reliable source, as oysters can carry norovirus (NHS, 2015h).

Polypharmacy

Polypharmacy is a term used to describe the use of numerous medications at the same time. As people age, various health conditions may arise and must be treated. Suffering a range of issues from short-term medical conditions to chronic conditions like diabetes or high blood pressure, the older patient may be medicated by a variety of drugs at one time. A review in 2010 (Farrell, Szeto, and Shamji, 2011) found that the average 81-year-old is taking an average of 15 different medications at the same time, ranging from 6 to 28 medications. It also found approximately 8.9 drug-related problems per patient in the study, ranging from 3 to 19 problems (Rochon and Gurwitz, 1997). The review found that patients were commonly taking medications that they did not need anymore.

Polypharmacy is defined as 'the use of four or more medications by a patient, generally adults aged over 65 years' (Hajjar, Cafiero, and Hanlon, 2007), (Munger, 2010), (Stawicki and Gerlach, 2009).

Polypharmacy is most common in the elderly, affecting about 40% of older adults living in their own homes (Haider et al., 2007).

Polypharmacy - being the concurrent use of multiple medications by one individual - is an increasingly common phenomenon that demands attention at clinical policy and practice level. Driven by the growth of an ageing population and the

rising prevalence of multi-morbidity [28], polypharmacy has previously been considered something to avoid. It is now recognised as having both positive and negative potential, depending on how medicines and care are managed.

This report (Duerden, Avery, and Payne, 2013) proposes a pragmatic approach, offering the terms 'appropriate' and 'problematic' polypharmacy to help define when polypharmacy can be beneficial. Drawing on literature from predominantly Western countries, the report traces the occurrence of polypharmacy in primary and secondary care, and in care homes. It explores systems for managing polypharmacy and considers it in the context of multi-morbidity and older people, offering recommendations for improving care in both cases.

What is polypharmacy?

In simple terms polypharmacy is the prescribing of multiple items to one individual. Usually this relates to medication use, but in the United Kingdom NHS prescriptions are also used for dressings, appliances and sometimes blood-testing equipment or nutritional preparations. This report concentrates on the prescribing of medication. There has been no consensus on whether polypharmacy applies only to simultaneous prescribing of several drugs at a time, or if it applies to short-term as well as long-term medication. Often the term polypharmacy implies criticism of the way several medicines have been prescribed but sometimes it is necessary for patients to be taking large numbers of medicines. This report proposes a classification based on prescribing multiple medications where the treatment may be either appropriate or problematic (Duerden, Avery, and Payne, 2013).

Appropriate polypharmacy is prescribing for an individual for complex conditions or for multiple conditions in circumstances where medicines use has been optimised and the medicines are prescribed according to best evidence. The overall intent for the combination of medicines prescribed should be to maintain good quality of life, improve longevity and minimise harm from drugs (Duerden, Avery, and Payne, 2013).

Problematic polypharmacy is where multiple medications are prescribed inappropriately, or where the intended benefit of the medication is not realised. The reasons why prescribing may be problematic may be that the treatments are not evidence-based, or the risk of harm from treatments is likely to outweigh benefit, or where one or more of the following apply -

- the drug combination is hazardous because of interactions,

[28] the co-occurrence of two or more chronic medical conditions in one person

- the overall demands of medicine-taking, or 'pill burden', are unacceptable to the patient,
- these demands make it difficult to achieve clinically useful medication adherence (reducing the 'pill burden' to the most essential medicines is likely to be more beneficial),
- medicines are being prescribed to treat the side-effects of other medicines where alternative solutions are available to reduce the number of medicines prescribed (Duerden, Avery, and Payne, 2013).

Measures of polypharmacy are often used to assist assessment of higher risk and to guide audits. For example, some studies have looked at the concurrent prescribing of five or more medicines as a threshold to identify people selected for medication review. Given the growth in prescribing, such a threshold may now be too low.

Patient involvement in decisions on drug use is fundamental in prescribing and particularly in polypharmacy. Patients may not want to take multiple medicines, or prefer one treatment over another. Advice should be given on which interventions may be most likely to minimise side-effects, reduce symptoms and improve outcomes. Regimens may need to be tailored to fit with patient preferences and 'compromise' may be required. Polypharmacy is likely to be futile if medicines are not taken as the prescriber intends.

Medicines optimisation, or robust medicines management, helps to ensure more appropriate polypharmacy so that the various trade-offs of harm, benefit and patient acceptability and choice have been considered and an explicit decision on the drug to use has been made with the patient (Duerden, Avery, and Payne, 2013).

Medicine waste

Some of the causes of medicine waste -

- patients recovering before their dispensed medicines have all been taken,
- therapies being stopped or changed because of ineffectiveness and unwanted side-effects,
- patients' conditions progressing so that new treatments are needed,
- patients' deaths,
- factors relating to repeat prescribing and dispensing processes, which may cause excessive volumes of medicines to be supplied, independently of any patient action,

- care system failures to support medicines taken by vulnerable individuals living in the community, who cannot independently adhere fully to their treatment regimens,
- medicines prescribed during a hospital stay continued unnecessarily when the patient returns home,
- patients stockpiling 'just in case' medicines and re-ordering repeat medication that they do not need (Duerden, Avery, and Payne, 2013), (Trueman et al., 2010).

Key findings

- For many people, appropriate polypharmacy will extend life expectancy and improve quality of life. Their medicines use will be optimised and prescribed according to best evidence.
- In problematic polypharmacy there can be an increased risk of drug interactions and adverse drug reactions, together with impaired adherence to medication and quality of life for patients.
- Many clinical trials and practice guidelines do not consider polypharmacy in the context of multi-morbidity. It is important that pragmatic clinical trials are conducted that include patients with multi-morbidity and polypharmacy.
- Multi-morbidity and polypharmacy increase clinical workload, so doctors, nurses and pharmacists need to work coherently as a team with a balanced clinical skill-mix.
- People often do not take medicines as they are intended. Evidence shows many dispensed medicines remain unused or are wasted.
- During medication reviews, prescribers should consider if treatment should be stopped and 'end-of-life' care be offered for certain chronic conditions or cancer-related illness.
- Patients with multi-morbidity could have all their long-term conditions reviewed in one visit by a clinical team responsible for co-ordinating their care.
- Patients may struggle with complex drug regimens; their perspective on medicine-taking must be taken into account when prescribing (Duerden, Avery, and Payne, 2013).

Quality of life

Quality of Life is an internationally validated framework developed by Dr. Robert Schalock. This is represented by eight domains that provide an indication of an individual's quality of life in three broad areas -

- Independence,
- Social participation,
- Well-being (COMMUNITYLIVINGBC, 2010).

The eight domains are -

- **emotional well-being** - contentment, self-concept, lack of stress,
- **interpersonal relations** - interactions, relationships, supports,
- **material well-being** - financial status, employment, housing,
- **personal development** - education, personal competence, performance,
- **physical well-being** - health and health care, activities of daily living, leisure,
- **self-determination** - autonomy / personal control, personal goals, choices,
- **social inclusion** - community integration and participation, roles, supports,
- **rights** - legal, human (respect, dignity, equality) (COMMUNITYLIVINGBC, 2010).

Sitting down

Why sitting too much is bad for your health

We all know we need to be more active, but there is increasing evidence that we need to spend less time sitting down as well.

Research has suggested that remaining seated for too long is bad for your health, regardless of how much exercise you do.

Studies have linked excessive sitting with being overweight and obese, type 2 diabetes, some types of cancer, and premature death.

Prolonged sitting is thought to slow the metabolism, which affects the body's ability to regulate blood sugar, blood pressure and break down body fat.

Many adults in the UK spend more than seven hours a day sitting or lying, and this typically increases with age to 10 hours or more.

This includes watching TV, using a computer, reading, doing homework, travelling by car, bus or train - behaviours referred to as sedentary - but does not include sleeping.

Experts believe there is something specific about the act of sitting or lying for too long that is bad for our health (LIVEWELL, 2014ab).

One of the largest pieces of research to date (WILMOT et al., 2012) on the subject - involving almost 800,000 people - found that, compared with those who sat the least, people who sat the longest had a -

- 112% increase in risk of diabetes,
- 147% increase in cardiovascular events,
- 90% increase in death caused by cardiovascular events,
- 49% increase in death from any cause (LIVEWELL, 2014ab).

Official health guidelines

The strength of the evidence is such that the government issued new recommendations in 2011 on minimising sitting for different age groups (LIVEWELL, 2014ab).

Adults (19–64 years)

- Adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (2-½ hours) of moderate intensity activity in bouts of 10 minutes or more - one way to approach this is to do 30 minutes on at least 5 days a week.
- Alternatively, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or a combination of moderate and vigorous intensity activity.
- Adults should also undertake physical activity to improve muscle strength on at least two days a week.
- All adults should minimise the amount of time spent being sedentary (sitting) for extended periods (DAVIES et al., 2011).

Older adults (65+ years)

- Older adults who participate in any amount of physical activity gain some health benefits, including maintenance of good physical and cognitive

function. Some physical activity is better than none, and more physical activity provides greater health benefits.

- Older adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (2-½ hours) of moderate intensity activity in bouts of 10 minutes or more - one way to approach this is to do 30 minutes on at least 5 days a week.
- For those who are already regularly active at moderate intensity, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or a combination of moderate and vigorous activity.
- Older adults should also undertake physical activity to improve muscle strength on at least two days a week.
- Older adults at risk of falls should incorporate physical activity to improve balance and co-ordination on at least two days a week.
- All older adults should minimise the amount of time spent being sedentary (sitting) for extended periods (Davies et al., 2011).

The advice applies to everyone, even people who exercise regularly, because too much sitting is now recognised as an independent risk factor for ill health. Professor Stuart Biddle, who led the national guidelines on reducing sitting, now at Victoria University, Australia, says people who take regular exercise may still be broadly sedentary.

"*If someone goes to the gym or walks for 30 to 45 minutes a day, but sits down the rest of the time, then they are still described as having a 'sedentary lifestyle'*".

"*All-day movement is now seen as being just as important for the maintenance of good health as traditional exercise*" (Davies et al., 2011).

How much sitting is too much?

The advice is clear - to reduce our risk of ill health from inactivity, we are advised to exercise regularly - at least 150 minutes a week - as well as reduce time spent sitting or lying.

However, there is currently not enough evidence to set a time limit on how much time people should sit each day.

"*At the moment, we don't know if a one size fits all approach is appropriate*," says Professor David Dunstan of the Baker IDI Heart and Diabetes Institute, Melbourne, Australia.

"*For example, it is unclear whether the advice for someone who is overweight or obese may need to be different for someone who is leaner.*"

Nevertheless, some countries, such as Australia, the US and Finland, have made recommendations for how long children should sit, typically one to two hours a day (Davies et al., 2011).

London bus drivers and astronauts

The link between illness and sitting first emerged in the 1950s, when researchers found London bus drivers were twice as likely to have heart attacks as their bus conductor colleagues.

There has been an explosion of research on the ills of sitting in the past few years, prompted by our increasingly sedentary lifestyles.

It is thought excessive sitting slows the metabolism - which affects our ability to regulate blood sugar and blood pressure, and metabolise fat - and may cause weaker muscles and bones.

"*Essentially, the body is 'shutting down' while sitting and there is little muscle activity*," says Professor Biddle.

Current thinking is still shaped by research on astronauts in the early 70s, which found life in zero gravity was linked with accelerated bone and muscle loss and ageing.

"*Sitting for an extended period of time is thought to simulate, albeit to a lesser degree, the effects of weightlessness on astronauts*," says Professor Biddle (Davies et al., 2011).

Limitations with current research

Most of the evidence is based on observational studies, which have only shown an association between sitting and ill health but not a direct cause.

Other limitations with current research are that many studies rely on self-reported sitting time and don't always account for other contributing factors, such as smoking, alcohol and diet.

"*With the current body of evidence, we don't have a definitive answer to what's happening*," says Professor Dunstan. "*We're now expanding on what's seen in observational research in the lab.*"

The research on NASA astronauts suggests that on their return from space, even light walking was effective in overcoming the negative effects of weightlessness.

"*Breaking up sitting time engages your muscles and bones, and gives all our bodily functions a boost - a bit like revving a car's engine*," says Professor Dunstan (Davies et al., 2011).

Age-specific advice

The recommendations apply to all age groups and should be considered in tandem with age-specific advice for increasing physical activity.

Adults

Adults aged 19 to 64 are advised to try to sit down less throughout the day, including at work, when travelling and at home.

Tips to reduce sitting time -

- stand on the train or bus,
- take the stairs and walk up escalators,
- set a reminder to get up every 30 minutes,
- alternate working while seated with standing,
- place a laptop on a box or similar to work standing,
- stand or walk around while on the phone,
- take a walk break every time you take a coffee or tea break,
- walk to a co-worker's desk instead of emailing or calling,
- swap some TV time for more active tasks or hobbies (livewell, 2014ab).

Older adults

Some older adults (aged 65 and over) are known to spend 10 hours or more each day sitting or lying down, making them the most sedentary population group.

"*It could be partly due to reduced functionality or ill health, but there are also social norms expecting those in later years to 'slow down' and rest*," says Professor Biddle. "*That's not helpful.*"

Older adults should aim to minimise the time they spend in extended periods of sitting each day.

"*Sitting needs breaking up*," says Professor Biddle. "*Long periods of TV should be avoided, and you should try to do activities that involve light movement and being 'on your feet' as much as possible*".

"Do some tasks standing, like having coffee and chats, or even writing a letter - Ernest Hemingway wrote his novels standing."

Tips to reduce sitting time -

- avoid long periods sat in front of a TV or computer,
- stand up and move during TV advert breaks,
- stand or walk while on the phone,
- use the stairs as much as possible,
- take up active hobbies such as gardening and DIY,
- join in community-based activities, such as dance classes and walking groups,
- take up active play with the grandchildren,
- do most types of housework (LIVEWELL, 2014ab).

Physical activity guidelines for older adults

How much physical activity do older adults aged 65 and over need to do to keep healthy?

To stay healthy or to improve health, older adults need to do two types of physical activity each week - aerobic and strength exercises (LIVEWELL, 2015p).

Older adults aged 65 or older, who are generally fit and have no health conditions that limit their mobility, should try to be active daily and should do -

- at least 150 minutes of moderate aerobic activity such as cycling or walking every week, and
- strength exercises on two or more days a week that work all the major muscles (legs, hips, back, abdomen, chest, shoulders and arms) (LIVEWELL, 2015p).

OR

- 75 minutes of vigorous aerobic activity such as running or a game of singles tennis every week, and
- strength exercises on two or more days a week that work all the major muscles (legs, hips, back, abdomen, chest, shoulders and arms) (LIVEWELL, 2015p).

OR

- a mix of moderate and vigorous aerobic activity every week. For example, two 30-minute runs, plus 30 minutes of fast walking, equates to 150 minutes of moderate aerobic activity, and

- strength exercises on two or more days a week that work all the major muscles (legs, hips, back, abdomen, chest, shoulders and arms) (LIVEWELL, 2015p).

A rule of thumb is that one minute of vigorous activity provides the same health benefits as two minutes of moderate activity.

You should also try to break up long periods of sitting with light activity, as sedentary behaviour is now considered an independent risk factor for ill health, no matter how much exercise you do.

Older adults at risk of falls, such as people with weak legs, poor balance and some medical conditions, should do exercises to improve balance and co-ordination on at least two days a week. Examples include yoga, tai chi and dancing (LIVEWELL, 2015p).

What counts as moderate aerobic activity?

Examples of activities that require moderate effort for most people include -

- walking,
- water aerobics,
- ballroom and line dancing,
- riding a bike on level ground or with few hills,
- playing doubles tennis,
- pushing a lawn mower,
- canoeing,
- volleyball (LIVEWELL, 2015p).

Moderate activity will raise your heart rate and make you breathe faster and feel warmer. One way to tell if you're exercising at a moderate level is if you can still talk, but you can't sing the words to a song.

Daily chores such as shopping, cooking or housework don't count towards your 150 minutes, because the effort isn't enough to raise your heart rate, but they are important nonetheless, as they break up periods of sitting (LIVEWELL, 2015p).

What counts as vigorous aerobic activity?

There is good evidence that vigorous activity can bring health benefits over and above that of moderate activity.

Examples of activities that require vigorous effort for most people include -

- jogging or running,

- aerobics,
- swimming fast,
- riding a bike fast or on hills,
- singles tennis,
- football,
- hiking uphill,
- energetic dancing,
- martial arts (LIVEWELL, 2015p).

Vigorous activity makes you breathe hard and fast. If you're working at this level, you won't be able to say more than a few words without pausing for breath.

In general, 75 minutes of vigorous activity can give similar health benefits to 150 minutes of moderate activity (LIVEWELL, 2015p).

What activities strengthen muscles?

Muscle strength is necessary for -

- all daily movement,
- building and maintaining strong bones,
- regulating blood sugar and blood pressure,
- maintaining a healthy weight (LIVEWELL, 2015p).

Muscle-strengthening exercises are counted in repetitions and sets. A repetition is one complete movement of an activity, like a bicep curl or a sit-up. A set is a group of repetitions (LIVEWELL, 2015p).

For each strength exercise, try to do -

- at least one set,
- eight to 12 repetitions in each set (LIVEWELL, 2015p).

To gain health benefits from strength exercises, you should do them to the point where you find it hard to complete another repetition.

There are many ways you can strengthen your muscles, whether at home or in the gym. Examples of muscle-strengthening activities include -

- carrying or moving heavy loads, such as groceries,
- activities that involve stepping and jumping, such as dancing,
- heavy gardening, such as digging or shovelling,
- exercises that use your body weight for resistance, such as push-ups or sit-ups,
- yoga,
- lifting weights (LIVEWELL, 2015p).

You can do activities that strengthen your muscles on the same day or on different days as your aerobic activity - whatever's best for you.

Muscle-strengthening exercises are not an aerobic activity, so you'll need to do them in addition to your 150 minutes of aerobic activity.

Some vigorous activities count as both an aerobic activity and a muscle-strengthening activity (LIVEWELL, 2015p).

Examples include -

- circuit training,
- aerobics,
- running,
- football,
- rugby,
- netball,
- hockey (LIVEWELL, 2015p).

What are the benefits of being active daily?

- Helps maintain cognitive function,
- Reduces cardiovascular risk,
- Helps maintain ability to carry out daily living activities,
- Improves mood and can improve self-esteem,
- Reduces the risk of falls.

Benefits of exercise

Step right up! It's the miracle cure we've all been waiting for!

It can reduce your risk of major illnesses, such as heart disease, stroke, type 2 diabetes and cancer by up to 50% and lower your risk of early death by up to 30%.

It's free, easy to take, has an immediate effect and you don't need a GP to get some. Its name?

Exercise.

Exercise is the miracle cure we've always had, but for too long we've neglected to take our recommended dose. Our health is now suffering as a consequence.

This is no snake oil. Whatever your age, there's strong scientific evidence that being physically active can help you lead a healthier and even happier life.

People who do regular activity have a lower risk of many chronic diseases, such as heart disease, type 2 diabetes, stroke, and some cancers.

Research shows that physical activity can also boost self-esteem, mood, sleep quality and energy, as well as reducing your risk of stress, depression, dementia and Alzheimer's disease.

"*If exercise were a pill, it would be one of the most cost-effective drugs ever invented*," says Dr Nick Cavill, a health promotion consultant (LIVEWELL, 2015W).

Health benefits

Given the overwhelming evidence, it seems obvious that we should all be physically active. It's essential if you want to live a healthy and fulfilling life into old age (LIVEWELL, 2015W).

It's medically proven that people who do regular physical activity have -

- up to a 35% lower risk of coronary heart disease and stroke,
- up to a 50% lower risk of type 2 diabetes,
- up to a 50% lower risk of colon cancer,
- up to a 20% lower risk of breast cancer,
- a 30% lower risk of early death,
- up to an 83% lower risk of osteoarthritis,
- up to a 68% lower risk of hip fracture,
- a 30% lower risk of falls (among older adults),
- up to a 30% lower risk of depression,
- up to a 30% lower risk of dementia (LIVEWELL, 2015W).

What counts?

To stay healthy, adults should try to be active daily and aim to achieve at least 150 minutes of physical activity over a week through a variety of activities.

For most people, the easiest way to get moving is to make activity part of everyday life, like walking or cycling instead of using the car to get around. However, the more you do, the better, and taking part in activities such as sports and exercise will make you even healthier.

For any type of activity to benefit your health, you need to be moving quick enough to raise your heart rate, breathe faster and feel warmer. This level of effort is called moderate intensity activity. One way to tell if you're working at a moderate intensity is if you can still talk but you can't sing the words to a song.

If your activity requires you to work even harder, it is called vigorous intensity activity. There is substantial evidence that vigorous activity can bring health benefits over and above that of moderate activity. You can tell when it's vigorous activity because you're breathing hard and fast, and your heart rate has gone up quite a bit. If you're working at this level, you won't be able to say more than a few words without pausing for a breath (LIVEWELL, 2015W).

A modern problem

People are less active nowadays, partly because technology has made our lives easier. We drive cars or take public transport. Machines wash our clothes. We entertain ourselves in front of a TV or computer screen. Fewer people are doing manual work, and most of us have jobs that involve little physical effort. Work, house chores, shopping and other necessary activities are far less demanding than for previous generations.

We move around less and burn off less energy than people used to. Research suggests that many adults spend more than seven hours a day sitting down, at work, on transport or in their leisure time. People aged over 65 spend 10 hours or more each day sitting or lying down, making them the most sedentary age group (LIVEWELL, 2015W).

Sedentary lifestyles

Inactivity is described by the Department of Health as a "silent killer". Evidence is emerging that sedentary behaviour, such as sitting or lying down for long periods, is bad for your health.

Not only should you try to raise your activity levels, but you should also reduce the amount of time you and your family spend sitting down.

Common examples of sedentary behaviour include watching TV, using a computer, using the car for short journeys and sitting down to read, talk or listen to music - and such behaviour is thought to increase your risk of many chronic diseases, such as heart disease, stroke and type 2 diabetes, as well as weight gain and obesity.

"*Previous generations were active more naturally through work and manual labour, but today we have to find ways of integrating activity into our daily lives*," says Dr Cavill.

Whether it's limiting the time babies spend strapped in their buggies, or encouraging adults to stand up and move frequently, people of all ages need to reduce their sedentary behaviour.

"*This means that each of us needs to think about increasing the types of activities that suit our lifestyle and can easily be included in our day*," says Dr Cavill.

Crucially, you can hit your weekly activity target but still be at risk of ill health if you spend the rest of the time sitting or lying down. For tips on building physical activity and exercise into your day, see Fitness for older adults (65 years and over).

For a summary on the health benefits of being more active, check out this Department of Health infographic (LIVEWELL, 2015w).

Fitness for older adults (65 years and over)

- Be active around the house - cooking, housework and walking while you're on the phone can help keep you mobile, although these activities won't count towards your weekly activity target.
- Improve your strength, balance and flexibility with our step-by-step exercise guides, which include sitting exercises.
- Get into shape with Strength and Flex, a five-week exercise plan to increase strength and flexibility for beginners.
- Conservation groups are a way to get involved in improving your local environment and being active at the same time.
- Try something new. If you're not sure what activities you'd like, find out which sport or activity you're best suited to using the What's your sport? tool.
- Walking is the easiest way to increase your activity levels. Find a friend to walk with, or join a walking group for some extra motivation. Read about Walking.
- Senior sports or fitness classes keep you motivated and can be fun, relieve stress and help you meet friends.
- Heavy gardening - including pushing, bending, squatting, carrying, digging and shovelling - can provide a good workout.
- Swimming, aqua aerobics and working out in water are ideal for older adults, because water reduces stress and strain on the body's joints. Find out more in Swimming.
- Yoga is suitable for all ability levels. It combines a series of poses with breathing, and is good for building strength, flexibility and balance.

- Tai-chi is an ancient Chinese art that builds strength, flexibility and balance through slow and controlled movements.
- Pilates focuses on stretching and strengthening the whole body to improve balance, muscle strength, flexibility and posture.
- Running - if you're just starting out, try the Couch to 5K running plan (LIVEWELL, 2015i).

Sleep

What is sleep?

Sleep is the mysterious shift in consciousness that our bodies require every day. It's vital for our health and wellbeing, and not only do we function less well when we don't get enough quality sleep, but it can lead to long-term health problems. That's why we need to do all that we can to ensure that we enjoy quality sleep and deal with any sleep problems (SLEEPCOUNCIL, 2016e).

The Sleep Cycle

During sleep our heart rate drops, our body temperature falls and we experience complex changes in brain activity. An EEG (electroencephalogram) gives us an insight into the brains electrical activity when we sleep -

- When we first fall asleep we enter non-rapid eye movement (NREM) sleep. NREM is divided into three stages: - NREM1 - NREM2 and - NREM3, each stage becoming progressively 'deeper',
- Stages 1 and 2 are light stages of sleep from which we can be easily roused,
- Stage 3 is a deeper stage of sleep from which we're more difficult to rouse, and some may feel disorientated if woken from this stage of sleep,
- Generally, after going through the NREM stages, we enter stage 4 which is known as rapid eye movement (REM) sleep, which the EEG shows as being similar to wakefulness or drowsiness. It is during the REM stage of sleep that we dream,
- Each cycle lasts around 1½ hours and we need to experience all four stages in order to wake up rested,
- A good night's sleep consists of five or six cycles, whereas disturbed sleep consists of far fewer (SLEEPCOUNCIL, 2016e).

Sleep is largely controlled by sleep pressure, and the circadian rhythm, or our body clock, which is a 24-hour cycle that regulates all our biological and phys-

iological processes. It anticipates environmental changes around us so that our bodies can adapt to them.

In ideal situations, the circadian rhythm will naturally rise in the early morning, promoting wakefulness and alertness, and will reach a peak in the evening. After a waking period of around 15 hours the pressure to sleep becomes greater and greater, in other words, we get tired. With the onset of darkness, the circadian rhythm drops to the lowest level and helps to maintain sleep.

To ensure you experience good sleep it's essential to follow good lifestyle habits and to eliminate the factors that are causing you disturbed sleep. For example making sure that your bedroom is the right environment, looking at the lighting in your home, and avoiding foods and drinks that can hinder sleep (SLEEPCOUNCIL, 2016e).

Sleep tips for the over 50's

Many older people experience a change in their sleeping patterns. They differ from the sleep of a younger person in the following ways -

- The older adult experiences numerous brief arousals in the night,
- There is a loss of deepest levels of non-REM sleep,
- There is more daytime napping,
- There is less of a drop in body temperature during sleep for the elderly,
- They prefer earlier bedtimes and earlier wake-up (SLEEPCOUNCIL, 2016d).

There are all sorts of ways in which we can help ourselves to a better night's sleep- all of them really based on good old-fashioned common sense. Mostly it's just a case of adjusting your daily routine as sleeping patterns change - and trying to limit the cat naps (SLEEPCOUNCIL, 2016d)!

- **Exercise** - 20–30 minutes at least three days a week is ideal. A brisk walk will do - but not too close to bedtime,
- **Limit naps** - Taking long afternoon naps can interfere with night-time sleep patterns. If you need a nap, don't take longer than 30 minutes,
- **Get out in the fresh air** - Studies show people who get adequate natural daylight tend to sleep better at night,
- **Create a good sleep environment** - Sleep in a cool, dark room on a comfortable, supportive mattress,
- **Check medications** - Some medications may cause daytime drowsiness while others may cause sleeplessness. Ask your doctor,
- **Don't worry about falling asleep** - Stay relaxed. The more you worry, the less you'll sleep,

- **Avoid caffeine in the evening** - Stimulants such as coffee, tea, chocolates and coke make it harder to fall asleep and stay asleep. Try a warm milky drink instead,
- **Watch how much you drink** - Limit drinking liquids a few hours before bedtime to save being 'up and down' all night. And remember that while alcohol may initially help you to relax and sleep, it may keep you awake later in the night,
- **Don't go to bed stuffed or starved** - A stomach that is either too full or too empty may cause physical discomfort, making it difficult to sleep through the night,
- **Keep regular hours** - Go to bed at the same time each night and wake up at the same time each morning. Keeping to a routine helps your biological clock (SLEEPCOUNCIL, 2016d).

Seven steps to getting a good nights sleep

Your bedroom

If you're having difficulty sleeping one of the first things to look at is your bedroom. You need the right environment to get a good night's sleep and that means a bedroom that's pleasant, inviting and welcoming (SLEEPCOUNCIL, 2016c).

- Keep your room completely dark, if necessary use blackout curtains or an eye mask,
- Make sure your room isn't too hot or too cold, keep it slightly cool around 16'C–18'C (60'F–65'F),
- Keep clutter out of your room - put the laundry basket in the spare room, bathroom or the landing,
- Avoid having a television or computer in the bedroom,
- Turn off your mobile phone and anything with an LED display (including clocks),
- Don't treat your bedroom as an extension of your living room or a study. Use it for sleeping and sex only,
- Adorn your bedroom with beautiful things such as photographs of loved ones, artwork that you like, plants and flowers. It will help you feel more connected to the room and look forward to going to bed,
- Try to avoid bright colours such as reds which are less restful and quite stimulating, and less conducive to a good nights' sleep. Use muted and pastel colours, which are a lot more calming,

- Some smells can affect your mood, making you more relaxed and calm. Sprinkle a pot pourri with essential oils of lavender or geranium, though never use during pregnancy or in children's rooms,
- Take a long hard look at your room and see what it says about you and understand that you have a duty to care for yourself, your sleep area and your general health and wellbeing - you're worth it (SLEEPCOUNCIL, 2016c)!

Your bed The foundation of good sleep is a comfortable bed. The right mattress can make the difference between a restorative night's sleep and poor quality sleep resulting in tiredness and fatigue. Lack of support from a mattress reinforces poor sleeping posture and can prevent you from getting a good night's sleep.

If you sleep better in a hotel or other bed away from home; or are waking up with aches and pains which wear off as the day progresses, it may be time to change your bed.

With the vast variety of beds on the market, choosing the right one can be difficult. It's a good idea to do your homework so you understand more about all the different components you can find in a mattress (SLEEPCOUNCIL, 2016c).

When you're shopping for a new mattress or bed, consider these factors -

- Always put value and quality over price. Of course, there are some perfectly acceptable, lower priced beds available but the better the construction, the better the support and comfort,
- The right support and comfort is critical - a mattress that's too hard or too soft will be uncomfortable or become so as time goes by. It needs to be firm enough to support your spine in correct alignment - but must also conform to your body's contours,
- Try before you buy: You should lie on each one you're seriously considering for at least 10–15 minutes and try different positions (you move 40–60 times a night) to decide if it's a good fit. If two people will be sleeping on the mattress, both should test it at the same time to make sure they have enough space and are both comfortable on the same style of mattress (SLEEPCOUNCIL, 2016c).

Try not to wait until your bed has 'worn out' completely. Research has shown that sleeping on an uncomfortable bed could rob you of up to an hour's sleep a night. Deterioration is gradual and mostly invisible and your own body's needs also change over time. As a rough guide, you should be thinking about replacing your bed after about seven years (SLEEPCOUNCIL, 2016c).

Your lifestyle

Our twenty first century lifestyles are fast-paced and full of stimulation. Often from the moment when we wake up and check our smart phones, life is non-stop. We put on the radio or television to be given the news as it happens and when it happens, we check our emails constantly throughout the day; we sit at our computers and/or watch television late into the evening. It barely stops and it can be difficult to switch off and wind down so it's small wonder that many of us have trouble sleeping. In order to help you wind down -

- Reduce the intensity of light in your home in the evenings by using dimmer switches or lamps with low wattage bulbs,
- Have a bedtime routine and maintain a regular sleep pattern,
- Use a hot water bottle if you get cold feet,
- Empty your bladder before going to bed,
- Avoid alcohol,
- Avoid use of technology in the hours before bedtime including computers, mobile phones and televisions,
- Avoid napping during the day (SLEEPCOUNCIL, 2016c).

Stress and worry

Scientists have found a direct link between anxiety and rhythm of sleep. When a person has anxious thoughts, their heart rate goes up and in turn the mind starts to 'race'. This causes the brain to become alert and stimulated and start producing beta waves. This happens to someone who worries about something when they're trying to get to sleep - instead of being calm and subdued; their brains are too aroused to sleep. And to make matters worse, once their brain is stimulated in this way, other worries are activated, making sleep even harder to achieve. As a pattern sets in, sleep becomes a thing of anxiety.

To overcome this various techniques can be used to stop these thoughts and calm the heart rate, cognitive behavioural therapy being one of them. This is a psychological treatment that helps people 'unlearn' the thought processes that block a good night's sleep.

One way to manage and slow your heart rate is to place your hand on your heart and quiet yourself so that you can hear it beating. Then breathe in deeply and slowly for three or four -seconds, then breathe out for three or four seconds. Repeat this until you feel your heart rate slowing down. This will then slow the busy brain activity.

A technique to stop the worrying thoughts that cause your heart to race in the first place is to speak positive thoughts instead. Speaking overrides thinking and will stop the negative thoughts in their tracks. To explain how to do this, start thinking the alphabet in your head. When you reach 'J' start counting out loud.

What happened to the alphabet? You stopped thinking it in your head because your speaking overrode your thoughts. Do this when you start worrying about something when you're trying to sleep. Instead of thinking 'the mortgage is due and I don't have the money to pay it', say aloud 'I don't know where it will come from but I'll need to get creative to find the money for the mortgage and I will find it' (SLEEPCOUNCIL, 2016c).

Diet

What promotes good sleep? There are three substances that are key to understanding how nutrition can affect the brain chemistry that promotes good sleep -

- Tryptophan,
- Serotonin, and
- Melatonin.

What is tryptophan? All protein foods are composed of amino acids and tryptophan is one of them. It is the rarest of the amino acids, and is found in foods like turkey, steak, chicken and pumpkin seeds, and to a lesser extent in peanuts, sunflower seeds, beans and milk. Tryptophan is important because when it reaches the brain, it converts to an important chemical called serotonin (SLEEPCOUNCIL, 2016c).

What is serotonin? You may have heard of serotonin because of its connection to drugs such as Prozac, which are known as selective serotonin reuptake inhibitors (SSRIs). Serotonin is actually a chemical that carries messages between brain cells (neurones) and other cells. Decreased serotonin levels can lead to anxiety, depression, and increased cravings for carbohydrate foods. At night-time, serotonin undergoes two metabolic changes to become melatonin, the chemical that induces sleep (SLEEPCOUNCIL, 2016c).

What is melatonin? Melatonin is a hormone that helps to regulate the body's circadian rhythm and promotes restful sleep. It is produced from serotonin in the evening to help us sleep.

The best way of ensuring optimal melatonin production is to sleep in as dark an environment as possible. Even low amounts of ambient light will suppress the production of melatonin which will affect not only sleep but have other health consequences as well (SLEEPCOUNCIL, 2016c).

- Always combine a protein food with a low to medium glycaemic index carbohydrate food to optimise tryptophan levels,
- Avoid stimulants such as caffeine and cigarettes,
- Avoid sedatives such as sleeping pills and alcohol to help you sleep. The effects are usually short-term, they can have counter-effects, and sustained use can lead to dependency,
- Avoid buying melatonin supplements from the internet (they are only available on prescription in the UK). Taking them may disrupt your own natural melatonin production and potentially suppress your ability to produce this important hormone, ultimately making sleep problems worse,
- Do not stop taking sleep medications suddenly. The best approach is to speak to your doctor and develop a strategy to slowly wean yourself off them,
- Changes in diet can help you sleep but it takes a little longer than the quick fix pill. Fill in a sleep diary and note what you've done on days when you've slept well or badly (SLEEPCOUNCIL, 2016c).

Exercise

Exercise can help you enjoy better quality sleep and lower body temperature which also induces better sleep (SLEEPCOUNCIL, 2016c).

- Don't overdo it. Wearing yourself out physically is not particularly likely to induce sleepiness. In fact it can be counter-productive and lead to wakefulness and alertness when trying to sleep,
- Though it's widely believed that working out too close to bedtime can disturb sleep, there isn't evidence that backs this argument, so it's better to exercise in the evening than not at all,
- The important thing is to exercise because it makes you feel fitter and better, and if you are experiencing sleeping difficulties, the more you exercise, the more likely you are to improve your sleeping patterns (SLEEPCOUNCIL, 2016c).

Relaxation and other therapies

Relaxation and breathing Stressful lifestyles, working late, and watching intense television shows or the news, are some of the factors that can contribute to the mind racing and being unable to wind down. It's important to know the importance of being relaxed before bed, and to have the knowledge of effective relaxation techniques to apply in order to experience deep, restful sleep (SLEEPCOUNCIL, 2016c).

Relax your body This can be done in bed and works by relaxing separate groups of muscles. It is also effective to visualise each set of muscles being relaxed as you go through the exercise -

1. Tense a muscle by contracting and flexing for 7–10 seconds. Don't strain the muscle.
2. Visualise the muscle being tensed and feel the build-up of tension.
3. Release each muscle abruptly, then relax, allowing the body to go limp before going on to the next muscle.
4. Keep other muscles relaxed whilst working on a particular muscle (SLEEPCOUNCIL, 2016c).

Breathe The effects of deep breathing are largely psychological but it can bring about a physiological response in the body. It can normalise the heart and respiration rate and calm you (SLEEPCOUNCIL, 2016c).

An exercise -

As well as relaxing you before bed, you can use this breathing exercise whenever anything upsetting happens, and before you react. It can be done anywhere because you don't have to lie on your back -

1. Sit up with your back straight and place the tip of your tongue just behind your upper front teeth, and keep it there throughout the entire exercise.
2. Practice exhaling with your tongue in this position. It will be easier if you purse your lips.
3. Now close your mouth and inhale through your nose for 4 seconds (counting one one thousand, two one thousand etc).
4. Hold your breath for 7 seconds then exhale through your mouth, taking 8 seconds to exhale completely.
5. Repeat 3–4 times and try to be accurate with the counting.
6. Do this every evening before bed (SLEEPCOUNCIL, 2016c).

***Cognitive Behavioural Therapy (CBT)** CBT is commonly prescribed for depression but clinical trials have shown it is the most effective long-term so-

lution for insomniacs. CBT helps you identify the negative attitudes and beliefs that hinder your sleep, and replaces them with positive thoughts, effectively 'unlearning' the negative beliefs.

A typical exercise is to set aside 30 minutes in which you do your day's worrying. During the worry period you keep a diary of the worrying thoughts because the act of writing then down is believed to reduce them. You're now banned from worrying at any other time of the day other than these 30 minutes. And before going to bed you write down the worries you might have in bed then set them aside. When in bed you close your eyes and imagine these worries floating away in a balloon, leaving your mind free and unencumbered by these worries (SLEEPCOUNCIL, 2016c).

Stimulus control - 20 minute rule You go to bed when you're fatigued, and if you're not asleep after 20 minutes, you get up and do something else such as listen to relaxing music or the breathing and muscle relaxing exercises.

When you feel sleepy again, then you return to bed. The idea of this is to build a strong association between bed and sleep, and eventually you'll be able to fall asleep soon after getting into bed and not dread bedtime (SLEEPCOUNCIL, 2016c).

Sleep restriction This method involves only spending the amount of time in bed that equates to the average number of hours that you sleep. For example, if you only get five hours of sleep per night, even though you spend seven hours in bed, you limit yourself to five hours in bed at night.

This method may make you more tired at first, but it can also help you fall asleep faster and wake up fewer times. However it's not suitable if you're only getting a couple of hours sleep, and should be supervised by a qualified CBT Sleep Practitioner (SLEEPCOUNCIL, 2016c).

Hormonal balance

Many people think they are not sleeping well because of stress or other reasons, but it may be because of your hormones. Changes in hormone levels as we age can cause sleep disturbances, and sleep disturbances can alter hormone levels, turning into a vicious cycle.

Sleeplessness can affect around 10 different hormones, and shifts in these hormones can cause changes in appetite, mental wellbeing, cardiac health and even fertility.

Melatonin has already been mentioned earlier regarding its importance in getting a good night's sleep, but there are other hormones that can also affect how we sleep (SLEEPCOUNCIL, 2016c).

- Hormonal fluctuations in the years before menopause can cause disturbed sleep, low progesterone levels can cause sleeplessness, and an overactive thyroid can cause sleep problems so if you're menopausal or perimenopausal get your hormone levels checked by your GP (and don't settle for a prescription for sleeping pills).
- A stressful lifestyle can keep cortisol levels high and cause sleeplessness.
- Adolescents and young adults need to follow good sleep guidelines with regard to bedroom and lifestyle to help prevent disturbed sleep (SLEEPCOUNCIL, 2016c).

How to keep cool on hot summer nights

Hot weather can be a nuisance especially when it comes to bedtime. An ideal bedroom temperature should be around 16'C–18'C (60'F–65'F) but if temperatures remain high it can be difficult to fall asleep in a hot stuffy bedroom, leaving many suffering from a disturbed night's sleep.

Your body temperature needs to drop slightly before you go to sleep which is why you just can't sleep when you're too hot. Below are some simple, very effective, steps that you can take to ensure you stay cool and comfortable in bed (SLEEPCOUNCIL, 2016a).

- Open windows - and doors - to create a draught.
- Keep curtains or blinds drawn during the day to keep the sun out,
- If you've got an attic, try opening the hatch. Hot air rises and this will give it somewhere to go,
- Get rid of the duvet and blankets - just use a cotton sheet. Or a duvet with a low tog rating,
- Wear light cotton nightwear. This is actually better than wearing nothing at all as natural fabric will absorb any perspiration,
- If you've got long hair, tie it back. Hair round your neck can make you feel warmer,
- Have a cool shower or bath before bedtime to lower your core body temperature,
- Drink plenty of cold water during the evening and keep a glass by the bed,
- Avoid too much caffeine, alcohol or a big meal. They can all make you feel hot and steamy in the middle of the night through dehydration and over-active digestion,

- Put a hot water bottle filled with ice cold water in bed,
- Cool a pillow case in the fridge before bedtime or try one of the new cooling pillows that are available to buy,
- Cool socks in the fridge and put on. Cooling your feet lowers the overall temperature of your skin and body,
- Use an electric fan - the remedy for 20% of people. If it's really hot, put a tray of ice and a little water in front of the fan which will cool the air even more,
- Invest in an air conditioning unit,
- Next time you buy a new bed, look out for one that incorporates new temperature regulating technology,
- And, if you share a bed, make sure it's big enough for two people, so you can sleep without disturbing each other: 5ft wide should be your minimum (SLEEPCOUNCIL, 2016a).

How to keep warm on a cold winter's night

- Wear night clothes such as pyjamas or a large T-shirt to keep you warm. Natural fibres such as wool, cotton or silk will keep you warmer than synthetic materials.
- Have a warm bath just before you go to bed. This will gently warm and relax you to help you feel sleepy.
- Have a warming, milky drink.
- Try to take some exercise which will get the circulation going to help keep the body warm - but don't do vigorous exercise too close to bed time as you may feel too invigorated to sleep.
- Keep the bedroom warm, but not too hot, and free from draughts.
- Look for a mattress which has a thicker side for use during the winter. A soft sleeping surface is a better insulator than a flat one. Use a fleecy underblanket to retain the heat.
- Choose a duvet with a high tog rating or use several layers of bedding rather than one single layer. Layers will trap warm air and are easily removed if you get too hot.
- A hot water bottle is an ideal way to keep warm once in bed. Make sure it has a cover on it to avoid scalding and also so that it won't feel cold in the middle of the night. Electric blankets are ideal. Underblankets will warm the bed up before you retire for the night, while overblankets maintain a constant temperature throughout the night (SLEEPCOUNCIL, 2016b).

Getting a good nights sleep

Getting a good night's sleep is one of the most basic steps in maintaining a healthy lifestyle.

A growing body of research, from all over the world, confirms that a comfortable uninterrupted seven or eight hours sleep each night can relieve stress, slow down the ageing process, boost your mood, your physical and mental performance and cure a wide range of aches and pains.

Lack of sleep also diminishes levels of concentration and makes you liable to swings in temper and depression. Sleep affects our learning and problem-solving capabilities. The more REM sleep we have, the easier it is to retain things that were learned the day before. Problems that appear insoluble can become clear in the morning. Long term sleep deprivation is linked to heart disease, stroke, Alzheimer's, diabetes and obesity.

We understand that it's not always that easy for people to start sleeping better - some would clearly love to, but don't know how to. There are some simple changes you can make to your lifestyle to help achieve a better night's sleep.

- **Regular hours** - Keeping regular hours and going to bed and getting up at roughly the same time every day. This will help to programme the body to sleep better.
- **Routine** - A bedtime routine works as well for adults as it does children. It's important to wind down properly before bed - invest in some 'me time' and switch off gadgets. Think about changing the way you wind down at bedtime - experiment with new ways to relax like warm baths with calming scents, quiet soothing music, reading, gentle stretching and yoga.
- **Restful environment** - Your bedroom should be kept for rest and sleep and it should be neither too hot, nor too cold; and as quiet and dark as possible. Make sure the room is gadget free and your bed is comfortable. It's difficult to get deep, restful sleep on one that's too soft, too hard, too small or too old (Artis, 2016).

Don't forget to also look at overhauling your diet, caffeine consumption and exercise regime. Small changes can have a huge impact on your sleep quality and quantity. You can also keep a track of your lifestyle and sleep habits by completing a sleep diary.

If you suffer with insomnia or any other sleep disorder though, it's essential you seek appropriate medical help (Artis, 2016).

Ten reasons to get a good night's sleep

Think you can get away with just a few hours' slumber? Think again. Here are ten very good reasons why you need to tackle your sleep problem (Murphy, 2015).

You'll get more done in the daytime

Getting less than seven hours' sleep can have a hugely negative impact on productivity during the day, according to a new study from Cambridge University and Rand Europe (Hafner et al., 2015). Just an extra hour can make all the difference. Researchers looked at the lifestyle habits of 21,000 people in the UK and found that those who had six hours or less sleep were noticeably less productive than those who had at least seven (Murphy, 2015).

It'll stop you making bad food choices

It's probably no great surprise to learn that the less you sleep, the more you're likely to eat - putting you at risk of conditions such as obesity, heart disease and type 2 diabetes. But it's not just because those extra waking hours provide more opportunities to raid the biscuit tin. Tiredness leads to hormonal changes that raise the appetite and boost stress levels, according to recent research from the Journal of Health Psychology (Goodall, 2014b). And when we're feeling stressed, of course, we're more likely to comfort-eat (Murphy, 2015).

You could cut your risk of diabetes

Losing just 30 minutes of sleep a night throughout the week could put you at increased risk of diabetes, say researchers from the University of Bristol and Weill Cornell Medical College in Qatar (News, 2015). The reason? It's all down to hormone disruption again. When the body clock is thrown out of sync due to lost sleep, our natural hormonal rhythms are disrupted. This can trigger problems such as insulin resistance, which may lead to type 2 diabetes (Murphy, 2015).

It 'cleans' your brain

A good night's sleep can wash away the toxins that build up during a hard day's thinking, according to a study from the University of Rochester (Xie et al., 2013) in the US. Scientists discovered that brain cells temporarily shrink during sleep

in order to open up gaps to allow fluid to wash the mind clean. They also suggest that failure to clear away some toxic proteins could play a part in the development of brain disorders, such as Alzheimer's (Murphy, 2015).

You're less likely to have a heart attack

Sleeping for seven hours or more each night can reduce risk of heart disease by up to 24%, says a major study from the Netherlands (Hoevenaar-Blom et al., 2014). But that's not all: it seems getting enough slumber is just as important as other key lifestyle factors. When sufficient sleep duration is added to the four main accepted healthy habits - regular exercise, a balanced diet, not smoking and safe alcohol consumption - it results in a 65% lower risk of heart disease and 83% lower risk of a fatal heart attack (Murphy, 2015).

You could have healthier bones

Chronic lack of sleep may lead to bone and bone marrow abnormalities, say researchers at the Medical College of Wisconsin (Everson, Toth, and Folley, 2012) in the US. In a study on rats, sleep deprivation was found to slow new bone formation and decrease bone density, while fat levels in the bone marrow dipped and platelet levels rose, leading to a dip in flexibility (Murphy, 2015).

You'll make better decisions

Believe it or not, you're more likely to cheat on your partner if you don't have enough sleep. That's according to Christopher M Barnes from the University of Washington, who outlined his findings in the Harvard Business Review (Barnes, 2013). The pre-frontal cortex - the part of the brain that governs self-control - is greatly influenced by lack of sleep. The area is powered by glucose, which is replenished while you rest. And that means you're more likely to make a poor decision if you haven't had enough slumber (Murphy, 2015).

You'll feel more attractive

Women who sleep badly are more likely to rate themselves as unattractive, according to research from the University Hospitals Case Medical Center in the US (Townsend, 2013). And there may be good reason for this. Scientists also discovered that lack of restorative sleep can double signs of skin ageing, such as fine lines, uneven colour and lack of elasticity (Murphy, 2015).

You'll cut your stroke risk

Regularly sleeping less than six hours each night is associated with a four-fold increase in stroke risk, according to a study from the University of Alabama (Bakken, 2012). And the effect still applies to adults who are a healthy weight. But researchers believe lack of sleep influences other known risk factors, such as blood pressure and hormone balance (Murphy, 2015).

You'll have fewer arguments

You probably don't need us to tell you that tiredness can make you grumpy - particularly with your nearest and dearest. A third of us take our tiredness out on our partners, according to a recent survey for Kalms. So ensure you both sleep well - and you can look forward to a confrontation-free day ahead (Murphy, 2015).

How to get to sleep

If you have difficulty falling asleep, a regular bedtime ritual will help you wind down and prepare for bed.

This ritual depends on what works for you, but the most important thing is working out a routine and sticking to it.

First of all, keep regular sleeping hours, says Jessica Alexander of The Sleep Council - a non-profit organisation that provides good sleep advice.

"*A bedtime ritual teaches the brain to become familiar with sleep times and wake times*," she says. "*It programmes the brain and internal body clock to get used to a set routine*."

Few people manage to stick to strict bedtime routines due to life's competing demands, be it work or family duties.

This isn't much of a problem for most people, but for insomniacs, irregular sleeping hours are disastrous.

Most adults need between six and nine hours of sleep every night. By working out what time you need to wake up, you can set a regular bedtime schedule.

Winding down is a critical stage in preparing for bed. There are many ways of relaxing -

- A warm bath (not hot) will help your body reach a temperature that's ideal for rest.

- Writing "to do" lists for the next day can organise your thoughts and clear your mind of any distractions.
- Relaxation exercises, such as light yoga stretches, help to relax the muscles. Don't exercise vigorously, as it will have the opposite effect.
- Relaxation CDs work by using a carefully narrated script, gentle hypnotic music and sound effects to relax the listener.
- Reading a book or listening to the radio relaxes the mind by distracting it (LIVEWELL, 2014p).

"*Everyone will have their own way of relaxing*," says Alexander. "*If you don't know how to relax, you can get help and advice from your GP*" (LIVEWELL, 2014p).

No TVs before bedtime

Your bedroom should be a relaxing environment. Experts claim there's a strong association in people's minds between sleep and the bedroom. However, certain things weaken that association, such as TVs and other electronic gadgets, light, noise, and a bad mattress or bed.

"*It's important to create an environment that helps you to sleep*," says Alexander. "*Keep your bedroom just for sleep - and possibly for sex.*"

Unlike most vigorous physical activity, sex makes us sleepy. This has evolved in humans over thousands of years.

The bedroom needs to be dark, quiet, tidy, smell fresh and be kept at a temperature of between 18'C and 24'C. "*Fit some thick curtains if you don't have any*," says Alexander. "*If there's ambient noise, consider investing in double glazing or, for a cheaper option, use earplugs*".

A comfortable bed is essential for a good night's kip. Research by The Sleep Council suggests that a good-quality mattress and bed frame will give you an extra hour's sleep.

Dr Chris Izikowski of the Edinburgh Sleep Centre, who led the research, says that people benefit from changing their bed if it's uncomfortable. "*It's likely that long-term insomniacs and those with inadequate sleep habits would benefit the most*," he says (LIVEWELL, 2014p).

Keeping a sleep diary

It may be a good idea to keep a sleep diary. It might uncover lifestyle habits or experiences in your daily activities that contribute to your insomnia.

A typical sleep diary should include the answers to the following questions -

- What were your sleeping times?
- How long did it take you to get to sleep?
- How many times did you wake up during the night?
- How long did each awakening last?
- How long did you sleep in total?
- Did you take any sleeping tablets?
- How well do you feel today?
- How enjoyable was your sleep last night?
- How much caffeine did you have before and after 5pm?
- How much alcohol did you have before and after 5pm?
- Did you do any exercise shortly before going to bed?
- Did you take any naps during the day or evening?
- Has anything made you anxious or stressed?

Firstly, your GP or sleep expert will ask you to keep a sleep diary as part of diagnosing your sleeping problems. "*The sleep diary might reveal underlying conditions that explain your insomnia, such as stress or medication*," says Alexander (LIVEWELL, 2014p).

Tips to beat insomnia

Simple lifestyle changes can make a world of difference to your quality of sleep (LIVEWELL, 2014r).

Keep regular hours

Going to bed and getting up at roughly the same time every day will programme your body to sleep better. Choose a time when you're most likely to feel sleepy (LIVEWELL, 2014r).

Create a restful sleeping environment

Your bedroom should be kept for rest and sleep. Keep it as quiet and dark as possible. It should be neither too hot nor too cold. Temperature, lighting and noise should be controlled so that the bedroom environment helps you to fall (and stay) asleep (LIVEWELL, 2014r). Try not to work or have your computer or TV in your bedroom (CARERSUK, 2014a).

Make sure that your bed is comfortable

It's difficult to get restful sleep on a mattress that's too soft or too hard, or a bed that's too small or old. If you have a pet that sleeps in the room with you, consider moving it somewhere else if it often makes noise in the night (LIVEWELL, 2014r). Take a look at your mattress. It should be firm enough to support you comfortably, but not so firm that you feel perched on top of it. You should try to replace your bed every 10 years so that it maintains maximum support and comfort (CARERSUK, 2014a).

Exercise regularly

Moderate exercise on a regular basis, such as swimming or walking, can help relieve some of the tension built up over the day. Make sure that you don't do vigorous exercise too close to bedtime, however, as it may keep you awake (LIVEWELL, 2014r).

Less caffeine

Cut down on stimulants such as caffeine in tea or coffee, especially in the evening. They interfere with the process of falling asleep, and they prevent deep sleep. The effects of caffeine can last a long time (up to 24 hours), so the chances of it affecting sleep are significant. Instead, have a warm, milky drink or herbal tea (LIVEWELL, 2014r).

Don't over-indulge

Too much food or alcohol, especially late at night, can interrupt your sleep patterns. Alcohol may help you to fall asleep initially, but it will disrupt your sleep later on in the night (LIVEWELL, 2014r).

Try not to eat or drink a lot late at night - have your evening meal earlier if you can (CARERSUK, 2014a).

Don't smoke

It's bad for sleep. Smokers take longer to fall asleep, they wake up more frequently, and they often have more disrupted sleep (LIVEWELL, 2014r).

Try to relax before going to bed

Have a warm bath, listen to quiet music or do some gentle yoga to relax the mind and body. Your doctor may be able to recommend a helpful relaxation CD (LIVEWELL, 2014r). Complementary therapies such as massage or aromatherapy can be a good way to relax. Spend some time relaxing before you go to bed - a warm bath may help. There are many different relaxation techniques. You could try tapes and books available in your local library or you could join a class (CARERSUK, 2014a).

Write away your worries

Deal with worries or a heavy workload by making lists of things to be tackled the next day. If you tend to lie in bed thinking about tomorrow's tasks, set aside time before bedtime to review the day and make plans for the next day. The goal is to avoid doing these things when you're in bed, trying to sleep (LIVEWELL, 2014r). Keep a notepad by your bed so that if you are worried about something, you can write it down and be ready to deal with it the next day (CARERSUK, 2014a).

Don't worry in bed

If you can't sleep, don't lie there worrying about it. Get up and do something you find relaxing until you feel sleepy again, then return to bed (LIVEWELL, 2014r). If you still cannot sleep, try not to lie there worrying. Get up and do something you find relaxing like reading, watching TV or listening to quiet music. After a while you may feel tired enough to go to bed again (CARERSUK, 2014a).

Smoking

If you're one of the ten million smokers in the UK right now, chances are you're quite familiar with being skint.

While life isn't exactly caviar and champagne for the rest of us, lighting up undeniably packs a heavy punch on your wallet. A whopping 30% of males and 28% of females between 20 and 24 admit to being addicted, which is way too many (COLLINS, 2016)!

The cost of smoking

There's nothing to kick-start motivation more than thinking about how much money you could save.

Whether it's your dream to own every single piece of danger mouse memorabilia ever made, or you'd just like to buy a round at the pub, going smoke-free is the answer (Collins, 2016).

Cigarettes a day	Cost per month	Cost per year	What this could buy you
5	£45	£548	49 bottles of gin
10	£91	£1,095	a used Citroen C5
20	£183	£2,190	5 iPads a year
40	£366	£4,380	a Palm Beach holiday

Cold turkey or gradual halt?

Whether to quit all at once, or slowly wean yourself off even leaves the professionals undecided.

As a general rule though, it really is best to just throw all your ciggies as far as you can throw them and leave them there.

Gradually weaning yourself off might sound like an easier option than going all out, but in reality, it is just as hard and takes a lot longer.

Most of your withdrawal symptoms will fade in about two to three weeks of giving up anyway and you'll have much more money to spend instantly (Collins, 2016).

Four cheap ways to kick the habit

We are all aware that smoking is insanely costly and many smokers are quick to moan that giving up can be almost as costly.

Stop smoking aids can be expensive, so it's important to choose wisely, or stock up on some serious will power.

Whatever works for you though, remember you won't need to use it forever.

It's just to get you off the cigarettes before you go completely nicotine free (Collins, 2016).

Smokefree NHS

Perhaps one of the best and cheapest resources to help you stop smoking is by using this totally free NHS service.

There's a website packed full of advice and tools to help you quit, a freephone number for further support and advice and you can also order a free help to quit kit.

There's even a mobile app to help keep you from lighting up which tracks how long you've been smoke free and how much you've saved (Collins, 2016).

Gum, patches and other replacements

If you are finding it hard to control your cravings, there are a whole host of nicotine replacements such as gum, patches, lozenges and sprays.

They work by giving you a hit of nicotine, just like a cigarette, but without all the nasties such as tar and carbon monoxide.

They are also much less addictive. People who opt for the microtab, for example, can be completely off them in less than six months.

Other options also include lozenges or inhalers for people who miss having something to physically "smoke" (Collins, 2016).

E-Cigarettes

Technically, e-cigarettes aren't covered by a medicine license, so shouldn't be marketed as a stop smoking aid.

Many e-cigarettes are even designed to look like the real thing; you use them in exactly the same way, delivering a nicotine hit to your lungs through harmless water vapour as opposed to tarry smoke.

You can also, for the most part, still use them inside as they aren't covered by the smoking ban and some even come in really zany colours (Collins, 2016).

Medication

As well as nicotine replacement products, there are also two specialist medicines which you use, Zyban and Champix.

You can only get these on prescription, so you will have to have a chat with your GP or pharmacist first, but many people actually find this helpful.

With both of these medicines you start taking tablets one to two weeks before you quit, and they reduce the withdrawal symptoms, making it much easier to quit (Collins, 2016).

Additional quitting tips

No matter how many tablets or patches you use, giving up smoking is never going to be easy.

In spite of this, we can confirm without doubt it will be one of the best things you ever do. To help you out, we've included a few extra lifestyle tips to give you a fighting chance (Collins, 2016).

Tell everyone you're stopping

While it might begin to get on your nerves that everyone is on your case if you go for a sneaky fag, it will help you keep your will-power up.

Aside from pestering you if you look like breaking, friends and family will often be able to offer support and guidance.

And no one wants to be that guy that lets everyone down (Collins, 2016)!

Make a list of reasons why you're stopping

Before you stop, sit down and think of exactly why you want to stop smoking.

That way, when you are feeling the strain, you can go back and look at your reasons and hopefully stay strong.

Try and make the list of reasons personal to you, as you'll be more like to resonate with them in times of crisis (Collins, 2016).

Make it a group effort

If you live in a house or socialise with a lot of smokers, it's well worth trying to convince them to stop at the same time too.

Not only will it make it easier for you not being around smoke, it's a great support network of people who are struggling just as much as you.

You'll all be quids in at the end of it too, so you can all celebrate together! (Collins, 2016)

Throw away all of your ashtrays, lighters and papers

It's always going to be more tempting to smoke if you still have all the gear.

Chuck it all out onto a big symbolic bonfire and even if you do fancy a quick puff, you won't be able to (Collins, 2016).

Alternative tobacco usage

There are many reasons why people think that smoking roll-ups is better for you than smoking ordinary cigarettes, but this is a myth.

Similarly, tobacco that you don't smoke, including paan, betel quid and chewing tobacco, is not a 'safe' way to use tobacco. It causes cancer and can be just as addictive as smoking ordinary cigarettes (NHS, 2016c).

Roll-ups

How many of the reasons for smoking roll-ups are actually true and how many are myths? Take a look for yourself and we think you'll be surprised.

"The roll-ups I smoke are more natural and pure, and contain a lot less of the 'bad' stuff you find in ordinary cigarettes." Roll-ups expose smokers to 4,000 toxic chemicals, many of which are carcinogenic and poisonous (NHS, 2016c).

"But I only smoke roll-ups because they're more 'organic' than ordinary cigarettes and come from a different source." Nope. The tobacco used for roll-ups is grown in the same place and made in the same factories as manufactured brands (NHS, 2016c).

"Surely smoking roll-ups is far less addictive for me than manufactured cigarettes?" Manufactured cigarettes undergo tests to show their 'smoke yields'. These figures indicate the amount of tar, nicotine and carbon monoxide levels for each brand.

Nicotine and tar yields are actually higher in roll-ups than in most ordinary cigarettes - and many people who smoke roll-ups don't use a filter, so they end up inhaling more tar and nicotine (NHS, 2016c).

"But I smoke roll-ups because they're healthier than manufactured cigarettes." Absolutely not. Roll-ups are just as bad for you as ordinary cigarettes and can result in the same health risks, including cancer, stroke, heart and lung disease, impotence, infertility and even amputation. In fact, studies have suggested that people who smoke roll-ups also have an increased risk of cancer of the mouth, oesophagus, pharynx and larynx compared to smokers of manufactured cigarettes (NHS, 2016c).

"Yeah, but smoking roll-ups will make it easier to give up." Actually, roll-ups contain higher levels of addictive nicotine than manufactured cigarettes and without a filter, smokers inhale more nicotine and therefore become highly addicted and dependent on their habit (NHS, 2016c).

"Ok, well rolling my own allows me to control the amount of tobacco I smoke." People who use NHS support are up to four times more likely to quit smoking than those who try to stop alone. All areas have a free local NHS Stop Smoking Service that can provide medication and support to help you quit. Many services also offer support to help you stop using smokeless tobacco, such as paan (NHS, 2016c).

Chewing tobacco

Chewing tobacco (betel quid, also known as "paan" or "gutkha") is a mixture of ingredients that includes the betel or areca nut, herbs and spices. The mix often contains tobacco, and these are all wrapped inside a betel leaf.

Studies have shown that betel itself can raise the risk of cancer. Chewing betel quid without tobacco is still harmful and it poses the same health risks as other types of smoking. Research has also shown that using smokeless tobacco raises the risk of mouth cancer and oesophageal cancer (NHS, 2016c).

Bidi (also 'beedi' and 'biri') and cigars

Smoking increases the risk of cancer, heart disease and respiratory (breathing) disease. This is true whether you smoke bidi (thin cigarettes of tobacco wrapped in brown tendu leaf), kreteks (thin cigarettes rolled in banana leaf containing additional flavourings such as nutmeg or clove), or any other type of cigar, herbal cigarette, rolled tobacco, or branded cigarette (NHS, 2016c).

Pipes and shisha

Shisha (also known as a ”water pipe” or ”hookah”) increases the risk of cancer in the same way that smoking a cigarette or chewing tobacco does.

A World Health Organization study has suggested that during one session on a hookah (around 20 to 80 minutes), a person can inhale the same amount of smoke as a cigarette smoker consuming 100 or more cigarettes. Hookah smoke also contains nicotine, cancer-causing chemicals and toxic gases such as carbon monoxide (NHS, 2016c).

E-cigarettes

What are e-cigarettes?

An e-cigarette is a device that allows you to inhale nicotine without most of the harmful effects of smoking.

E-cigarettes work by heating and creating a vapour from a solution that typically contains nicotine, propylene glycol and/or glycerine, and flavourings. As there is no burning involved, there is no smoke. Unlike cigarettes, e-cigarettes do not produce tar and carbon monoxide. The vapour has been found to contain some potentially harmful chemicals also found in cigarette smoke, but at much lower levels (NHS, 2016d).

What are the different types of e-cigarette?

E-cigarettes generally consist of a battery, a vapourising chamber and e-cigarette liquid. The liquid can be contained in a sealed cartridge or can be added to a tank system. Some e-cigarettes use an atomiser cartridge or ’cartomiser’ that combines the vapourising system and e-cigarette liquid in a single unit.

The ’first generation’ e-cigarettes are typically designed to look like a cigarette and generally use a cartomiser. ’Second generation’ devices do not resemble cigarettes and contain a tank that the user fills with their choice of e-cigarette liquid, with various strengths and flavours available. More recently ’third generation’ devices have emerged which have variable voltage and can be used with a range of atomisers, cartomisers and tank systems (NHS, 2016d).

Are e-cigarettes safe to use?

E-cigarettes are not risk free, but based on current evidence they carry a fraction of the risk of cigarettes. Public Health England's independent review of the latest evidence found that using an e-cigarette (known as 'vaping') is around 95% safer than smoking.

As well as nicotine, e-cigarette liquid and vapour can contain potentially harmful chemicals, although these are either at much lower levels than seen in cigarette smoke or at levels not associated with health risk.

E-cigarettes are still fairly new and we won't have a full picture on their safety until they have been in use for many years. Public Health England will continue to monitor the evidence as it develops (NHS, 2016d).

Is there any risk to others from e-cigarette vapour?

There is no evidence of harm to bystanders from exposure to e-cigarette vapour and available evidence indicates that any risk of harm is extremely low, especially when compared with tobacco smoke (NHS, 2016d).

Will e-cigarettes help me quit smoking?

Evidence indicates that e-cigarettes can help people quit smoking, with similar or better results than nicotine replacement therapies such as patches or gum. It is important to use your e-cigarette enough to properly manage your cravings - people who use e-cigarettes too little or too rarely have less success at quitting smoking. The most effective way to quit is with face-to-face expert support and this is available free from local NHS stop smoking services. People who combine e-cigarettes with this extra help have a very good chance of success - in 2014–15, two out of three people who did so managed to quit smoking (NHS, 2016d).

Are different types of e-cigarette more effective than others?

The type of e-cigarette used may make a difference to your quit attempt. The findings of a study by researchers at King's College London and University College London indicate that daily use of tank models may give smokers a better chance of quitting (NHS, 2016d).

Are e-cigarettes available on prescription?

E-cigarettes are not currently available from the NHS on prescription. Once medicinally licensed e-cigarette products come onto the market, GPs and stop smoking services will be able to prescribe them alongside other stop smoking medicines (NHS, 2016d).

Does 'Public Health England' recommend e-cigarettes for smokers?

If you are a smoker, the best thing you can do is stop smoking now and e-cigarettes can help people to quit. We don't recommend people carry on smoking alongside using e-cigarettes except as part of a plan to stop smoking (NHS, 2016d).

Who is using e-cigarettes?

According to the 2015 ASH/YouGov Smokefree Britain Survey, 2.6 million adults in Great Britain currently use e-cigarettes. Of these, around 1.1 million have given up smoking while 1.4 million continue to use tobacco alongside their e-cigarette use. Among under-18s, while experimentation with e-cigarettes is fairly common, regular use is rare and almost entirely confined to those who have already smoked (NHS, 2016d).

How are they regulated?

At present, e-cigarettes are only covered by general product safety legislation. This will change in May 2016 with the introduction of new regulations under the EU Tobacco Products Directive. E-cigarette products will either be licensed as medicines or, if unlicensed, will be subject to new quality and safety standards, new packaging and labelling requirements, and a prohibition on print and broadcast advertising.

In the meantime, a number of manufacturers have applied to the Medicines and Healthcare Products Regulatory Agency (MHRA) for licensing of their products. Medicines regulation will enable high quality, safe and effective products to be made available by the NHS on prescription.

With effect from 1 October 2015, the sale of e-cigarette products to under-18s in England and Wales is prohibited. It is also illegal for an adult to purchase e-cigarette products for someone under the age of 18 (NHS, 2016d).

Stop smoking medicines

What are stop smoking medicines?

Cigarettes contain nicotine. By smoking regularly and over a long period of time, your body becomes dependent on it. Giving up smoking can cause nicotine withdrawal symptoms, which include cravings, headaches, feeling irritable and not being able to sleep. Stop smoking medicines can help you manage these withdrawal symptoms (NHS, 2016e).

There are three types of stop smoking medicines -

- Champix tablets (varenicline),
- Zyban tablets (bupropion),
- Nicotine replacement therapies (NRT), including patches, gum, lozenges, microtabs, inhalators and nasal sprays (NHS, 2016e).

All are available from the NHS with a prescription, and NRT can also be bought from pharmacies and other shops (such as supermarkets) without a prescription (NHS, 2016e).

How does NRT work?

NRT gives you some of the nicotine that you would have received from cigarettes, but without all the harmful stuff like tar, cyanide and carbon monoxide. NRT has been used by millions of smokers to help them stop. A full course of treatment usually lasts for 8–12 weeks, but because NRT is so much safer than smoking, it can be used for longer periods if it helps you to not smoke (NHS, 2016e).

Which NRT is right for me?

All licensed nicotine-containing products are effective treatments to help you stop smoking, but you may wish to seek advice from your pharmacy team, doctor or local NHS Stop Smoking Service to help you decide which is right for you. No single NRT product is better than any other and there are a number of options.

Discuss the most appropriate product for you with your healthcare professional. Because NRT gives you a lower dose of nicotine than you get from cigarettes, many people use the patch to give a background dose of nicotine and one of the other products to top this up.

Also remember that a full course of NRT can last for 8–12 weeks (depending on the type you are using) so it is important you stick with it! However, if one type

of NRT doesn't work for you, or if you experience any problems or have any questions, talk to your healthcare professional for advice. For all these products, please read the leaflet which will advise you on how to use the medicine and the maximum amount you can take every day (NHS, 2016e).

Is NRT safe? Am I just replacing one addiction with another?

Some people think that using NRT is just swapping one addiction for another. But this isn't true.

Smoking is highly addictive, largely because it delivers nicotine very quickly to the brain and this makes stopping smoking difficult. The nicotine levels in licensed nicotine-containing products are much lower than in tobacco, and the way they deliver nicotine makes them less addictive than smoking.

Most health problems are caused by other components in tobacco smoke, not by the nicotine. It is safer to use licensed nicotine-containing products than to smoke. There is reason to believe that lifetime use of licensed nicotine-containing products will be considerably less harmful than smoking (NHS, 2016d).

Are there any health implications?

It is safer to use licensed nicotine-containing products than to smoke. NRT products have been demonstrated in trials to be safe to use for at least five years.

NRT is suitable for most adults, but if you have a heart or circulatory condition, or are on regular medication, you should check with your doctor. Similarly, if you are pregnant you should ask your doctor or midwife before using NRT (NHS, 2016e).

When should I stop using NRT?

Most courses of NRT recommend use for about 12 weeks. This is because it takes about that long for the receptors in the brain to adjust to working without the high doses of nicotine that cigarettes supply. However, there is no hard and fast rule that suits everyone. A common mistake people can make is to stop using their product too soon. Because NRT can work so well at reducing nicotine withdrawal, it is easy to mistake a lack of discomfort for a belief that the addiction is over. By stopping use of NRT, the cravings can return and the desire to smoke can return. The best option is to speak to your healthcare professional when you start using the product and keep them updated as you progress (NHS, 2016e).

The medicines

Champix (Varenicline)

- Only available to people aged 18 or over.
- Prescription only medication (NHS, 2016e).

Champix works by reducing your craving for a cigarette. It also reduces the effects you feel if you do have a cigarette. You set a date to stop smoking, and start taking tablets one or two weeks before this date. Treatment normally lasts for 12 weeks. Champix is only available on prescription and is not available if you are pregnant or if you have some pre-existing conditions - discuss with your doctor or healthcare professional (NHS, 2016e).

Zyban (Bupropion Hydrochloride)

- Only available to people aged 18 or over.
- Prescription only medication (NHS, 2016e).

Zyban is a tablet which helps you to stop smoking. You start taking Zyban one to two weeks before you quit and treatment usually lasts for a couple of months to help you through the withdrawal cravings. It's only available on prescription and is not available if you are pregnant, or if you have some pre-existing conditions - discuss this treatment with your doctor or healthcare professional (NHS, 2016e).

Nicotine gum Gum is available in two strengths: 2mg and 4mg. The 4mg gum is most appropriate for smokers who smoke more than 20 cigarettes a day, or who are strongly addicted to nicotine.

When you use nicotine gum, the nicotine is absorbed through the lining of your mouth. When you first quit you should be chewing about one piece of gum every hour. To release the nicotine from the gum, chew until the taste becomes strong or hot. After this you can rest the gum inside your cheek. Once the taste or heat fades you will need to chew again to release more nicotine. Discard the gum once the taste from chewing has faded.

Gradually you can begin to cut down on the amount of gum you use. Try chewing for shorter periods, using smaller pieces, using the lower-dose gum or alternating with a non-nicotine gum (NHS, 2016e).

Is gum right for me? Gum can be helpful because it provides short bursts of nicotine. However, some people dislike the taste and habitual users of ordinary

chewing gum may find it difficult to get used to having to 'park' the gum in their mouth (NHS, 2016e).

Nicotine patches Nicotine patches work well for most regular smokers and can be worn round the clock (24-hour patches) or just during the time you are awake (16-hour patches). They work by releasing nicotine directly into the bloodstream through the skin (NHS, 2016e).

How to use patches There are two ways to use patches: just during the time you are awake (16-hour patches) or both day and night (24-hour patches). The 24-hour patch may cause some sleep disturbance but is helpful for people who have strong cravings during the early morning.

Patches also come in different strengths. Whichever strength you start on, you should aim to gradually reduce the strength over time before stopping the use of patches completely (NHS, 2016e).

Are patches right for me? Patches are useful for those who are concerned about discretion (they can be worn easily beneath clothing) or dislike the taste of the oral products. They release a steady amount of nicotine. They may cause skin irritation for some people (NHS, 2016e).

Lozenges Lozenges are placed in the mouth and dissolve slowly to release nicotine. They take about 20–30 minutes to dissolve (NHS, 2016e).

How to use lozenges Nicotine lozenges work in a similar way to nicotine gum. To release the nicotine from the lozenge, suck until the taste becomes strong or hot. After this you can rest the lozenge inside your cheek - once the taste fades you will need to suck again to release more nicotine. Suck until the lozenge has completely dissolved - each one should last 20 to 30 minutes.

You should use lozenges for about 12 weeks. For the first six weeks you should have one lozenge every one to two hours. You should then reduce your intake to one lozenge every two to four hours, finally reducing to once every four to eight hours in the last two weeks of treatment (NHS, 2016e).

Why use lozenges? Lozenges are helpful because they provide short bursts of nicotine. Lozenges should not be used by people with mouth ulcers (NHS, 2016e).

Inhalators An inhalator looks like a plastic cigarette. The inhalator releases nicotine vapour which gets absorbed through your mouth and throat. If you miss the 'hand to mouth' aspect of smoking, these may suit you (NHS, 2016e).

How to use inhalators A nicotine inhalator works by releasing nicotine vapour when you suck on it. Inhalators work very quickly so you should use yours whenever you feel strong cravings for a cigarette. Each inhalator contains a disposable cartridge which has enough nicotine for three to four 20-minute puffing sessions. This equates to around 400 puffs.

You should aim to use the inhalator for a total of 12 weeks, though there is no set rule to follow. Use from 6 to 12 cartridges a day for the first eight weeks depending on how many cigarettes you smoke. For the following two weeks reduce this by half and reducing the use of the inhalator gradually in the last two weeks, finally stopping completely in the last two weeks (NHS, 2016e).

Why use an inhalator? One advantage of inhalators is that they work much more quickly than gum or lozenges. They can therefore be used directly when you experience cravings for a cigarette. They also feel very similar (because of the motion involved in using them) to a cigarette, so become a good replacement - especially for those who miss the 'hand to mouth' aspect of smoking (NHS, 2016e).

Nicotine nasal spray The spray delivers a swift and effective dose of nicotine through the lining of your nose (NHS, 2016e).

How to use nasal spray You use the nasal spray by releasing one spray into each nostril twice an hour. It should be used no more than five times an hour and no more than 40 doses a day. Each dose gives an amount of nicotine equivalent to one cigarette. This is the fastest way that nicotine can enter the bloodstream, reaching the brain within 10 minutes.

You should use the nasal spray for a total of 12 weeks. Use between one and two doses per hour for the first eight weeks depending on how many cigarettes you smoke. For the following two weeks reduce this by half, finally stopping the use of the nasal spray completely in the last two weeks (NHS, 2016e).

Why use the nasal spray? The advantage of nasal sprays is that they work much more quickly than gum or lozenges. They can therefore be used directly

when you experience cravings for a cigarette - and mimic the rush you get from smoking more closely than any of the other form of NRT.

The nicotine nasal spray is the strongest form of nicotine replacement therapy. This can be a very useful and effective form of medication for highly dependent heavy smokers who have difficulty giving up using other methods.

However, this method is not suitable for everyone and may cause side-effects such as nose and throat irritation, coughing, and watering eyes (NHS, 2016e).

Microtabs These are small tablets containing nicotine that dissolve quickly under your tongue (NHS, 2016e).

How to use microtabs Microtabs are designed to be dissolved under the tongue. Make sure you don't chew or swallow them - this may cause unwanted side-effects.

When you quit you should use one or two tablets every hour for up to three months after you quit. You should then be able to gradually cut back your consumption. Once you are taking one or two tablets a day you should be able to stop completely (NHS, 2016e).

Why use microtabs? Microtabs can be used by those who are trying to reduce the number of cigarettes they smoke, as well as those who have quit completely. Some people find that microtabs are more discrete than other oral products, as no chewing or sucking is required. You should stop smoking within six months of starting on microtabs (NHS, 2016e).

Alternative therapists

Hypnotherapy

Hypnotherapy is a popular treatment for smokers trying to quit. Some medical professionals (such as GPs and psychotherapists) offer a hypnotherapy service, but these services are usually more for treatment of pain and other conditions. There is no NHS licence for the use of hypnotherapy as an aid to stopping smoking. Most hypnotherapists are not doctors or counsellors and there is no official regulatory authority that monitors the hypnotherapy industry (NHS, 2016b).

What is hypnotherapy? Hypnotherapy is a type of psychotherapy that influences the subconscious to bring about positive changes. There is no conclusive research to suggest that hypnotherapy is effective as an aid to stopping smoking, so it is not available as part of an NHS treatment package (NHS, 2016b).

What happens when you visit a hypnotherapist? During a hypnosis session, the person being hypnotised stays in complete control. If they wish to, they can bring themselves out of their hypnotic state and they do not have to agree to the hypnotherapist's advice. If you do not wish to be placed under hypnosis, the hypnotherapist will not be able to hypnotise you (NHS, 2016b).

Does hypnotherapy help smokers to quit? We don't know yet whether hypnotherapy helps smokers to quit or not - there is little research into the use of hypnotherapy by smokers. This is not to say that hypnotherapy does not work, just that it has not been proven to work in a large-scale, controlled clinical study. With this in mind, we cannot be certain of its benefits (NHS, 2016b).

Is hypnotherapy safe? Certain groups of people should not use hypnotherapy, for example those who suffer from psychosis or have a personality disorder. In other cases, it may be best to consult your GP before considering hypnotherapy, for example if you have epilepsy. If you suffer from other mental health issues or have a serious illness such as cancer, it is advisable to seek out a hypnotherapist who is trained in working with people who have your particular condition (NHS, 2016b).

Acupuncture

Acupuncture is sometimes used to help reduce nicotine withdrawal symptoms in people who want to stop smoking. Some medical professionals (GPs and physiotherapists) offer an acupuncture service on the NHS, but these services are often usually more for the treatment of pain and access is limited. There is no official regulatory authority that monitors the acupuncture industry, but many non-medical acupuncture practitioners are required to register with their local authority (NHS, 2016b).

What is acupuncture? Acupuncture is a treatment derived from ancient Chinese medicine in which fine needles are inserted at certain sites in the body for

therapeutic or preventative purposes. It is often seen as a form of complementary or alternative medicine, although it is used in many NHS general practices and pain clinics across the UK. There is no conclusive research to suggest that acupuncture is effective as an aid to stopping smoking, so it is not part of an NHS treatment package (NHS, 2016b).

What happens when you visit an acupuncturist? Typically, an initial acupuncture session will involve an assessment of general health, a medical history and a physical examination. After taking an appropriate medical history, the acupuncture practitioner will begin the insertion of the acupuncture needles. These needles are inserted into specific places on the body, which practitioners call acupuncture points. Most acupuncture sessions last between 20 and 40 minutes. Courses of treatment often involve up to 10 separate sessions, but this can vary (NHS, 2016b).

Does acupuncture help smokers to quit? We don't know yet whether acupuncture helps smokers to quit or not - there is little research into the use of acupuncture by smokers. This is not to say that acupuncture does not work, just that it has not been proven to work in a large-scale, controlled clinical study. With this in mind, we cannot be certain of its benefits (NHS, 2016b).

Is acupuncture safe? Acupuncture is safe when it is conducted by a qualified practitioner. However, certain groups of people should not use acupuncture, for example those who suffer from bleeding disorders such as haemophilia or people taking medication to prevent blood clotting anticoagulants. In other cases it may be best to consult your GP before considering acupuncture, for example if you have a metal allergy or an infection in the area where needles may be inserted. Before treatment, your acupuncture practitioner should ask you about any underlying conditions you have or medication you are taking, as some of these may affect the treatment you can have (NHS, 2016b).

What are the health risks of smoking?

Smoking is one of the biggest causes of death and illness in the UK.

Every year around 100,000 people in the UK die from smoking, with many more living with debilitating smoking-related illnesses.

Smoking increases your risk of developing more than 50 serious health conditions. Some may be fatal and others can cause irreversible long-term damage to your health (NHS, 2015k).

You can become ill -

- if you smoke yourself,
- through other people's smoke (this is known as 'passive smoking') (NHS, 2015k).

Smoking health risks

Smoking causes about 90% of lung cancers. It also causes cancer in many other parts of the body, including the -

- mouth,
- lips,
- throat,
- voice box (larynx),
- oesophagus (the tube between your mouth and stomach),
- bladder,
- kidney,
- liver,
- stomach,
- pancreas (NHS, 2015k).

Smoking damages your heart and your blood circulation, increasing your risk of developing conditions such as -

- coronary heart disease,
- heart attack,
- stroke,
- peripheral vascular disease (damaged blood vessels),
- cerebrovascular disease (damaged arteries that supply blood to your brain) (NHS, 2015k).

Smoking also damages your lungs, leading to conditions such as -

- chronic obstructive pulmonary disease (COPD), which incorporates bronchitis and emphysema,
- pneumonia (NHS, 2015k).

Smoking can also worsen or prolong the symptoms of respiratory conditions such as asthma, or respiratory tract infections such as the common cold.

In men, smoking can cause impotence because it limits the blood supply to the penis. It can also reduce the fertility of both men and women (NHS, 2015k).

Health risks of passive smoking

Secondhand smoke comes from the tip of a lit cigarette and the smoke that the smoker breathes out.

Breathing in secondhand smoke - also known as passive smoking - increases your risk of getting the same health conditions as smokers. For example, breathing in secondhand smoke increases a non-smoker's risk of developing lung cancer by about a quarter.

Babies and children are particularly vulnerable to the effects of secondhand smoke. A child who is exposed to passive smoke is at increased risk of developing chest infections, meningitis, a persistent cough and, if they have asthma, their symptoms will get worse. They're also at increased risk of cot death and an ear infection called 'glue ear' (NHS, 2015k).

Health risks of smoking during pregnancy

If you smoke when you're pregnant, you put your unborn baby's health at risk, as well as your own. Smoking during pregnancy increases the risk of complications such as -

- miscarriage,
- premature (early) birth,
- a low birth weight baby,
- stillbirth (NHS, 2015k).

Your body systems

Circulation When you smoke, the toxins from cigarette smoke enter your blood. The toxins in your blood then -

- Make your blood thicker, and increase chances of clot formation,
- Increase your blood pressure and heart rate, making your heart work harder than normal,
- Narrow your arteries, reducing the amount of oxygen rich blood circulating to your organs (NHS, 2016f).

Together, these changes to your body when you smoke increase the chance of your arteries narrowing and clots forming, which can cause a heart attack or stroke (NHS, 2016f).

Heart Smoking damages your heart and your blood circulation, increasing the risk of conditions such as coronary heart disease, heart attack, stroke, peripheral vascular disease (damaged blood vessels) and cerebrovascular disease (damaged arteries that supply blood to your brain).

Carbon monoxide from the smoke and nicotine both put a strain on the heart by making it work faster. They also increase your risk of blood clots. Other chemicals in cigarette smoke damage the lining of your coronary arteries, leading to furring of the arteries.

In fact, smoking doubles your risk of having a heart attack, and if you smoke you have twice the risk of dying from coronary heart disease than lifetime non-smokers.

The good news is that after only one year of not smoking, your risk is reduced by half. After stopping for 15 years, your risk is similar to that of someone who has never smoked (NHS, 2016f).

Stomach Smokers have an increased chance of getting stomach cancer or ulcers. Smoking can weaken the muscle that controls the lower end of your gullet (oesophagus) and allow acid from the stomach to travel in the wrong direction back up your gullet, a process known as reflux.

Smoking is a significant risk factor for developing kidney cancer, and the more you smoke the greater the risk. For example, research has shown that if you regularly smoke 10 cigarettes a day, you are one and a half times more likely to develop kidney cancer compared with a non-smoker. This is increased to twice as likely if you smoke 20 or more cigarettes a day (NHS, 2016f).

Skin Smoking reduces the amount of oxygen that gets to your skin. This means that if you smoke, your skin ages more quickly and looks grey and dull. The toxins in your body also cause cellulite.

Smoking prematurely ages your skin by between 10 and 20 years, and makes it three times more likely you'll get facial wrinkling, particularly around the eyes and mouth. Smoking even gives you a sallow, yellow-grey complexion and hollow cheeks, which can cause you to look gaunt.

The good news is that once you stop smoking, you will prevent further deterioration to your skin caused by smoking (NHS, 2016f).

Bones Smoking can cause your bones to become weak and brittle. Women need to be especially careful as they are more likely to suffer from brittle bones (osteoporosis) than non-smokers (NHS, 2016f).

Brain If you smoke, you are more likely to have a stroke than someone who doesn't smoke.

In fact, smoking increases your risk of having a stroke by at least 50%, which can cause brain damage and death. And, by smoking, you double your risk of dying from a stroke.

One way that smoking can increase your risk of a stroke is by increasing your chances of developing a brain aneurysm. This is a bulge in a blood vessel caused by a weakness in the blood vessel wall. This can rupture or burst which will lead to an extremely serious condition known as a subarachnoid haemorrhage, which is a type of stroke, and can cause extensive brain damage and death.

The good news is that within two years of stopping smoking, your risk of stroke is reduced to half that of a non-smoker and within five years it will be the same as a non-smoker (NHS, 2016f).

Lungs Your lungs can be very badly affected by smoking. Coughs, colds, wheezing and asthma are just the start. Smoking can cause fatal diseases such as pneumonia, emphysema and lung cancer. Smoking causes 84% of deaths from lung cancer and 83% of deaths from chronic obstructive pulmonary disease (COPD).

COPD, a progressive and debilitating disease, is the name for a collection of lung diseases including chronic bronchitis and emphysema. People with COPD have difficulties breathing, primarily due to the narrowing of their airways and destruction of lung tissue. Typical symptoms of COPD include: increasing breathlessness when active, a persistent cough with phlegm and frequent chest infections.

Whilst the early signs of COPD can often be dismissed as a 'smoker's cough', if people continue smoking and the condition worsens, it can greatly impact on their quality of life. You can slow down the progression of the disease and stopping smoking is the most effective way to do this (NHS, 2016f).

Mouth and throat Smoking causes unattractive problems such as bad breath and stained teeth, and can also cause gum disease and damage your sense of taste.

The most serious damage smoking causes in your mouth and throat is an increased risk of cancer in your lips, tongue, throat, voice box and gullet (oesophagus). More than 93% of oropharangeal cancers (cancer in part of the throat) are caused by smoking.

The good news is that when you stop using tobacco, even after many years of use, you can greatly reduce your risk of developing head and neck cancer. Once you've been smokefree for 20 years, your risk of head and neck cancer is reduced to that of a non-smoker (NHS, 2016f).

Reproduction and fertility Smoking can cause male impotence, as it damages the blood vessels that supply blood to the penis. It can also damage sperm, reduce sperm count and cause testicular cancer. Up to 120,000 men from the UK in their 20s and 30s are impotent as a direct result of smoking, and men who smoke have a lower sperm count than those who are non-smokers.

For women, smoking can reduce fertility. One study found that smokers were over three times more likely than non-smokers to have taken more than one year to conceive. The study estimated that the fertility of smoking women was 72% that of non-smokers.

Smoking also increases your risk of cervical cancer. People who smoke are less able to get rid of the HPV infection from the body, which can develop into cancer.

Smoking while you are pregnant can lead to miscarriage, premature birth, stillbirth and illness, and it increases the risk of cot death by at least 25% (NHS, 2016f).

Getting help

Your GP can give you information and advice on quitting smoking. You can also call -

- the NHS Smokefree helpline on 0300 123 1044 (NHS, 2015k).

The benefits of giving up

You should notice the benefits quite quickly -

After 20 minutes Pulse rate returns to normal (NHS, 2016i).

After 8 hours Nicotine and carbon monoxide levels in blood reduce by more than half and oxygen levels return to normal (NHS, 2016i).

After 48 hours Carbon monoxide will be eliminated from the body. Lungs start to clear out mucus and other smoking debris (NHS, 2016i).

After 48 hours There is no nicotine in the body. Ability to taste and smell is improved (NHS, 2016i).

After 72 hours Breathing becomes easier. Bronchial tubes begin to relax and energy levels increase (NHS, 2016i).

After 2-12 weeks Your circulation improves (NHS, 2016i).

After 3-9 months Coughs, wheezing and breathing problems improve as lung function increases by up to 10% (NHS, 2016i).

After 1 year Risk of heart disease is about half compared with a person who is still smoking (NHS, 2016i).

After 10 years Risk of lung cancer falls to half that of a smoker (NHS, 2016i).

After 15 years Risk of heart attack falls to the same as someone who has never smoked (NHS, 2016i).

Looking after your eyes

Most people know that smoking causes lung cancer, but not many realise that it can also cause blindness. Smokers are two to three times more likely than non-smokers to develop age-related macular degeneration (AMD) and smokers with a genetic predisposition to AMD are eight times more likely to get the condition.

Smoking is the biggest 'modifiable' risk factor for AMD - by stopping smoking you will reduce your chance of getting the condition and your chances of it progressing. There is also evidence that smokers being treated for wet AMD do not

respond as well to treatment as non-smokers. Passive smoking can also increase the risk of developing the condition.

Cigarette smoke contains 4,700 chemicals, which are extremely toxic. Repeatedly exposing delicate retinal cells to these oxidants is effectively fast-forwarding the ageing process. At the same time as increasing oxidant levels in the body, smoking decreases the levels of antioxidants and therefore reduces the body's ability to protect itself.

Smoking also causes blood vessels to narrow. This affects the blood vessels to the eye and also increases overall blood pressure, which is another risk factor for macular degeneration.

Some research suggests that smokers have lower levels of the macular pigments lutein and zeaxanthin, which are thought to protect the macula from the damaging effects of sunlight (MACULARSOCIETY, 2016b).

Substance abuse

Substance Abuse is the maladaptive pattern of use of a drug, alcohol, or other chemical agent that may lead to social, occupational, psychological, or physical problems.

Drug misuse can be harmful to your health in both the short term and the long term, and could possibly lead to addiction (LIVEWELL, 2015u).

Alcohol

Also known as

Booze, Bevvy

What is alcohol?

What we mean by alcohol here is alcoholic drinks, such as beer, wine and spirits. The scientific name for the alcohol in these drinks is ethanol or ethyl alcohol. Other chemical forms of alcohol, such as methanol and butanol, are much more toxic than ethanol and should not be consumed by humans.

Alcohol is a depressant, which means it slows down your body's responses in all kinds of ways. Just enough can make you feel sociable; too much and you'll have a hangover the next day, and may not even remember what you got up to;

and way too much alcohol in a single session could put you in a coma or even kill you.

Although it's legal for people aged 18 and over to buy and drink alcohol, that doesn't mean it's safe (TALKTOFRANK, 2016a).

The effects of alcohol can include -

- Reduced feelings of anxiety and inhibitions, which can help you feel more sociable.
- An exaggeration of whatever mood you're in when you start drinking.
- A wide range of physical health problems, either as a result of binge drinking or from more regular drinking. The problems caused by alcohol include high blood pressure, stroke, liver disease, cancers and falls and other accidents (TALKTOFRANK, 2016a).

Official guidelines The UK Chief Medical Officers advise that an alcohol-free childhood is the healthiest and best option. However, if young people drink alcohol -

- It should not be until at least the age of 15 years.
- If young people aged 15 to 17 years consume alcohol, it should always be with the guidance of a parent or carer or in a supervised environment.
- Parents and young people should be aware that drinking, even at 15 or older, can be hazardous to health and that not drinking is the healthiest option for young people.
- If 15 to 17 year olds do consume alcohol, they should do so infrequently and certainly on no more than one day a week.
- Young people aged 15 to 17 years should never exceed recommended adult daily limits and, on days when they drink, consumption should usually be below these levels (TALKTOFRANK, 2016a).

For adults, the UK Chief Medical Officers advise that there is also no completely safe level of drinking, but that by sticking within their recommended guidelines, people can lower the risks of harming their health.

Adults are safest not to drink regularly more than 14 units per week, to keep health risks from drinking alcohol to a low level. And if they do drink as much as 14 units per week, it is best to spread this evenly over 3 days or more. If they want to cut down the amount they're drinking, a good way to help achieve this is to have several drink-free days each week.

Alcohol comes in a whole range of drinks with different alcoholic strengths, colours and tastes. Also, unusual forms of alcohol - powder, vapour and spray - have been developed by some companies.

Alcohol often has labels with useful information, such as how many units are in the drink. All labels are required by law to display the strength of the drink (alcohol by volume, or ABV) (TALKTOFRANK, 2016a).

Usage

Spirits usually contain a higher level of alcohol than wine or lager and are normally drunk in smaller measures.

'Alcopops' and ready-to-drink 'mixers' may not seem to be strong drinks but they may contain more alcohol than typical bottles or cans of beer or cider.

Prices vary depending on what you drink and the quality, for instance a premium whisky or older bottle of wine is more expensive than a pint of beer (TALKTOFRANK, 2016a).

Official guidelines -

There is no completely safe level of drinking, but by sticking within these guidelines, you can lower your risk of harming your health.

- Men and women are advised not to regularly drink more than 14 units a week.
- Don't 'save up' your units to use in one or two days. If you do drink as much as 14 units in a week you should spread this out over three or more days (TALKTOFRANK, 2016a).

If you want to cut down how much you're drinking, a good way to help achieve this is to have several drink-free days each week (TALKTOFRANK, 2016a).

Units of alcohol A unit is a way of expressing the actual amount of pure alcohol that is in a drink. This allows you to compare how strong one type of alcoholic drink is to another type. For example -

- half a pint of lower-strength beer, lager or cider (ABV 3.6%), or a 25ml measure of spirits (ABV 40%) is 1 unit,
- one pint of stronger beer (ABV 5%) can be almost 3 units, and
- one large glass (250mls) of mid-strength wine (ABV 12-13%) can be over three units (TALKTOFRANK, 2016a).

Check the label on drinks as they often show the number of alcohol units. If they don't, you can calculate the units by multiplying its ABV (ABV is 'alcohol by volume' and shows you the strength of an alcoholic drink), by the volume of the drink (in mls) and then dividing by 1,000 (TALKTOFRANK, 2016a).

What are the effects of alcohol?

Alcohol is a depressant and generally slows down brain activity -

- A small amount can reduce feelings of anxiety and reduce inhibitions, which can help you feel more sociable.
- It can exaggerate whatever mood you're in when you start drinking.
- The short-term effects of alcohol can last for a day or two, depending on how much you drank, including any hangover.
- Long-term effects include damage to the brain, body and its organs. This can take years to develop and can lead to a wide range of serious health problems, like cancers, that you may not realise are due to alcohol (TALKTOFRANK, 2016a).

Remember that the more you have of a drink, and the stronger the drink, the more units you are drinking (TALKTOFRANK, 2016a).

What are the risks of alcohol?

Drinking alcohol involves risks, particularly if you drink excessively on a single occasion or drink regularly over time. Alcohol contributes to all kinds of problems in Britain, from violent crime to domestic violence to car-related deaths to missing work and unemployment. Here's what it could do to you in the short and long-term -

- One drink too many can leave you feeling out of control - slurring your words, losing your balance, having accidents and vomiting.
- Heavy drinking can make you mouthy, argumentative and aggressive. Sometimes people turn into a nasty drunk or it affects them in other ways they don't like.
- Alcohol can make you take risks that you normally wouldn't take when you're sober, such as unprotected sex.
- Drinking too much alcohol can leave you at risk of being taken advantage off or of being hurt by others.
- Drinking regularly, especially above the recommended guidelines, can cause or contribute to illnesses such as high blood pressure, liver damage, stomach cancer, breast cancer and stroke.
- Far too much alcohol on a single occasion can lead to alcohol poisoning which could put you in a coma or even kill you.
- The overall health risks are broadly similar for men and women - on average, short term risks are greater for men and long term risks are greater for women.

- There are short-term risks like injuries and accidents which can happen when you are drinking heavily. These can include head injuries, fractures and scars, and can sometimes be fatal. There are other short-term risks such as alcohol poisoning.
- Long-term risks come from regularly drinking alcohol over a long time (over 10 to 20 years or more). Then the risks of getting different diseases increase and can lead to illnesses, such as cancer, stroke, heart disease, liver disease, and damage to your brain and nervous system (TALKTOFRANK, 2016a).

Impurities The scientific name for the alcohol in drinks is ethanol or ethyl alcohol. Other types of alcohol, such as methanol and butanol, are much more toxic than ethanol and should not be consumed by humans, as they can cause serve liver damage, blindness and even death.

Although these toxic forms of alcohol are sometimes found in counterfeit alcoholic drinks, the vast majority of alcohol bought from legitimate sources won't contain any impurities.

Counterfeit alcoholic drinks tend to be sold in places you wouldn't normally buy alcohol, such as car boot sales, and sold at low prices. Sometimes, a clue to knowing that an alcoholic drink is counterfeit is its labelling and packing - there may be spelling mistakes, holographic labels aren't holographic, etc (TALKTOFRANK, 2016a).

Can you get addicted to alcohol?

Some people's drinking gradually gets out of control and if they regularly drink above the recommended guidelines, they're at particularly high risk of harming their health. For some people, it also leads to them becoming dependent on alcohol.

Psychological and physical dependence on alcohol can creep up on you. Your tolerance to alcohol gradually increases the more you drink, so you may find that over time that you need more alcohol to get the same effect, you may seem to be getting better at holding your drink when that's really a sign of a developing problem.

For people who are more dependent on alcohol, the withdrawal symptoms after they stop drinking can be severe. In some cases the withdrawal symptoms can be fatal, so a person may require medical treatment because of this risk of death. Typically, the symptoms include sweating, shaking, nausea and retching

and high levels of anxiety. Some people can develop hallucinations or fits, or occasionally life-threatening delirious states (TALKTOFRANK, 2016a).

The law

There's often misunderstandings about alcohol and what's legal and what's not, so here's a quick guide to the law (TALKTOFRANK, 2016a).

- It's illegal to give an alcoholic drink to a child under 5 except in certain circumstances (such as under medical supervision),
- Children aged under 16 must be accompanied by an adult in a pub or bar,
- It's against the law for anyone under 18 to buy alcohol in a pub, off-licence or supermarket or online,
- It's illegal for an adult to buy alcohol for someone aged under 18, except where that person buys beer, wine or cider for someone aged 16 or 17 to be drunk with a table meal while accompanied by a person over 18,
- Anyone over 18 can buy and drink alcohol legally in licensed premises in Britain. But, a lot of shops operate a scheme called Challenge 21 where if you look under 21 (or 25 in some places) and don't have proof of your age they will refuse to sell you alcohol (TALKTOFRANK, 2016a).

The police have the power to stop a person and confiscate alcohol in a public place if they reasonably suspect the person to be aged under 18. Young people under 18 who persistently drink or are found possessing alcohol in public places may be prosecuted (TALKTOFRANK, 2016a).

Cannabis

Also known as

Weed, Skunk, Sinsemilla, Sensi, Resin, Puff, Pot, Marijuana, Herb, Hashish, Hash, Grass, Ganja, Draw, Dope, Bud, Bhang (TALKTOFRANK, 2016b).

What is cannabis?

Cannabis is a calming drug that also alters perceptions. It's seen as "natural" because it's made from the cannabis plant, but that doesn't mean it's safe. It can be smoked, often with tobacco, in a "joint" or "spliff", or in a pipe or "bong". It can also be drunk as a "tea" or eaten when mixed with food, such as biscuits or cakes (LIVEWELL, 2015u).

It's the most widely-used illegal drug in Britain, although the numbers of people using it are falling.

- Cannabis is naturally occurring - it is made from the cannabis plant,
- The main active chemical in it is tetrahydrocannabinol (or THC for short),
- THC is the ingredient in cannabis that can make you feel very chilled out, happy and relaxed,
- THC can also make you hallucinate, meaning that it can alter your senses, so that you might see, hear or feel things in a different way to normal (TALKTOFRANK, 2016b).

There are many myths about cannabis - that it's safe because it's natural, that using cannabis will completely ruin your life, your health and your future or that using cannabis will lead you into using other, more dangerous drugs. What is true is that cannabis can have some very real, harmful effects on your mind and body, as well as creating longer-term problems -

- Cannabis affects how your brain works. It can make you feel very anxious and even paranoid, it can make it difficult for you to concentrate and learn, make your memory worse and make you feel less motivated.
- Tobacco and cannabis share some of the same chemical 'nasties' and just like smoking tobacco, smoking cannabis has been linked to lung diseases like tuberculosis and lung cancer.
- Using it has also been linked, in some people, to serious, long-term mental health problems.
- A conviction for possessing cannabis could lead to a caution, a fine or even jail (TALKTOFRANK, 2016b).

What are the different types of cannabis?

Although it's all from the same plant, cannabis comes in many different forms (TALKTOFRANK, 2016b).

Hash Hash is a black or brown soft lump made from the resin of the cannabis plant. It's much less common in the UK than it used to be (TALKTOFRANK, 2016b).

Grass/weed Grass, also known as weed, is made from the dried leaves and flowering parts of the female cannabis plant and looks like tightly packed dried herbs. This traditional grass was normally imported and much weaker than the 'skunk' types of cannabis usually sold now (TALKTOFRANK, 2016b).

Skunk Skunk is a group of different types of strong herbal cannabis. Sinsemilla, homegrown cannabis, netherweed are all different types of cannabis that are part of this 'skunk' group. Cannabis can seriously affect your mind and body and this group could pose even more risks because of their strength (TALKTOFRANK, 2016b).

Cannabis oil Cannabis oil is a sticky, dark honey-coloured substance and is much less common (TALKTOFRANK, 2016b).

How is cannabis taken?

There are a few ways of taking cannabis -

- Most people mix it with tobacco, roll it up into something known as a 'spliff' or a 'joint', and then smoke it.
- Some people smoke it using a type of pipe called a bong.
- Others drink or eat it mixed in cookies, cakes or even cups of tea. Taken this way, the effects of cannabis can be more difficult to predict or to control. It takes cannabis longer to get in to your body by this route; and so if unpleasant side-effects do start to develop, it's too late to do very much about it except wait for the effects to reach their peak and then wear off.
- As e-cigarettes have become more available, some people have used the technology to smoke cannabis - either by using specialised cannabis 'vapers' or by turning their cannabis into a liquid (called an e-liquid) which can be used with a normal e-cigarette. Some people claim that 'vaping' cannabis is safer as there is no tobacco involved, but there is no definitive evidence on the long-term health impacts of e-cigarette use to support this claim. There is also no evidence on the safety of home-made cannabis e-liquids (TALKTOFRANK, 2016b).

How does cannabis make you feel?

Cannabis can make you feel relaxed and happy, but sometimes makes people feel lethargic, very anxious and paranoid, and even psychotic (LIVEWELL, 2015u).

How does cannabis affect your health?

Cannabis has a number of different effects. It is classed as a sedating and hallucinogenic drug. Its effects can turn out to be pleasant or unpleasant -

- Taking cannabis can make people feel chilled out, relaxed and happy, and they may get the giggles or become very talkative.
- It can make you more aware of your senses, and the hallucinogenic effects can even give you a feeling of time slowing down.
- It can make you feel very hungry - this is sometimes called 'getting the munchies'.
- Some people have one or two drags on a joint and feel light-headed, faint and sick. This is sometimes called a 'whitey'.
- Cannabis may cause feelings of anxiety, suspicion, panic and paranoia (TALKTOFRANK, 2016b).

Cannabis has been linked to mental health problems such as schizophrenia and, when smoked, to lung diseases including asthma.

It affects how your brain works, so regular use can make concentration and learning very difficult. Frequent use can have a negative effect on your fertility.

It is also dangerous to drive after taking cannabis. Mixing it with tobacco is likely to increase the risk of heart disease and lung cancer (LIVEWELL, 2015u).

Cannabis can mess with your mind Cannabis can mess with your mind and with your mood. It can disturb your sleep and can make you depressed. Some will become anxious, panicky, and even aggressive. You might see or hear things which are not there (known as hallucinations) which may be frightening. For some people, cannabis causes hours or even days of anxiety, paranoia, delusions and hallucinations that usually only settles down after the cannabis is stopped (TALKTOFRANK, 2016b).

- Cannabis can freak you out - it can cause feelings of anxiety, suspicion, panic and paranoia.
- For people with illnesses such as schizophrenia, cannabis can cause a serious relapse.
- Regular cannabis use is known to be associated with an increase in the risk of later developing psychotic illnesses including schizophrenia; and if you have a family background of mental illness, you may also have an increased risk.
- Cannabis can affect the way the brain works. Regular, heavy use makes it difficult to learn and concentrate and research has linked cannabis use to poor exam results. This is a potentially serious risk if you're young, when the brain is still developing. People who take a lot of cannabis can also find they lack motivation.

- A recent review of cannabis research published in the British Medical Journal found those driving under the influence of cannabis had nearly double the risk of a crash (TALKTOFRANK, 2016b).

Long-term marijuana use has been linked to mental illness in some users, such as -

- temporary hallucinations - sensations and images that seem real though they are not,
- temporary paranoia - extreme and unreasonable distrust of others,
- worsening symptoms in patients with schizophrenia (MEIER, CASPI, AMBLER, et al., 2012).

Marijuana use has also been linked to other mental health problems, such as depression, anxiety, and suicidal thoughts among teens. However, study findings have been mixed (MEIER, CASPI, AMBLER, et al., 2012).

Cannabis can mess with your body.

- Tobacco and cannabis share some of the same chemical 'nasties', so, like smoking tobacco, smoking cannabis can make asthma worse, can cause wheezing in people without asthma and can even lead to lung cancer.
- When people mix cannabis with tobacco they're also taking on all the risks associated with smoking tobacco, which can range from coughs and chest infections to cancer or heart disease.
- It can increase the heart rate and affect blood pressure, which can be especially harmful for those with heart disease.
- It is reported that frequent use of cannabis may affect fertility. It can cut a man's sperm count and can suppress ovulation in women.
- If you're pregnant, smoking cannabis may increase the risk of your baby being born smaller than expected (TALKTOFRANK, 2016b).
- **Breathing problems** - Marijuana smoke irritates the lungs, and frequent marijuana smokers can have the same breathing problems that tobacco smokers have. These problems include daily cough and phlegm, more frequent lung illness, and a higher risk of lung infections. Researchers still do not know whether marijuana smokers have a higher risk for lung cancer.
- **Increased heart rate** - Marijuana raises heart rate for up to 3 hours after smoking. This effect may increase the chance of heart attack. Older people and those with heart problems may be at higher risk.
- **Problems with child development during and after pregnancy** - Marijuana use during pregnancy is linked to increased risk of both brain and behavioural problems in babies. If a pregnant woman uses marijuana, the drug may affect certain developing parts of the foetus's brain. Resulting

challenges for the child may include problems with attention, memory, and problem-solving. Additionally, some research suggests that moderate amounts of THC are excreted into the breast milk of nursing mothers. The effects on a baby's developing brain are still unknown (Meier, Caspi, Ambler, et al., 2012).

What is the effect of mixing cannabis and alcohol? Mixing cannabis with alcohol can have particularly serious consequences - the accident rate is 16 times higher than for cannabis or alcohol alone (talktofrank, 2016b).

How does marijuana affect the brain?

Marijuana has both short- and long-term effects on the brain.

Short-term effects When a person smokes marijuana, THC quickly passes from the lungs into the bloodstream. The blood carries the chemical to the brain and other organs throughout the body. The body absorbs THC more slowly when the person eats or drinks it. In that case, the user generally feels the effects after 30 minutes to 1 hour.

THC acts on specific brain cell receptors that ordinarily react to natural THC-like chemicals in the brain. These natural chemicals play a role in normal brain development and function (drugabuse, 2016a).

Marijuana overactivates parts of the brain that contain the highest number of these receptors. This causes the "high" that users feel. Other effects include -

- altered senses (for example, seeing brighter colours),
- altered sense of time,
- changes in mood,
- impaired body movement,
- difficulty with thinking and problem-solving,
- impaired memory (drugabuse, 2016a).

Long-term effects Marijuana also affects brain development. When marijuana users begin using as teenagers, the drug may reduce thinking, memory, and learning functions and affect how the brain builds connections between the areas necessary for these functions.

Marijuana's effects on these abilities may last a long time or even be permanent.

For example, a study showed that people who started smoking marijuana heavily in their teens and had an ongoing cannabis use disorder lost an average of eight IQ points between ages 13 and 38. The lost mental abilities did not fully return in those who quit marijuana as adults. Those who started smoking marijuana as adults did not show notable IQ declines (Meier, Caspi, Ambler, et al., 2012), (drugabuse, 2016a).

Although detectable amounts of THC may remain in the body for days or even weeks after use, the noticeable effects of smoked marijuana generally last from 1 to 3 hours and those of marijuana consumed in food or drink may last for many hours (drugabuse, 2016b).

Adverse Consequences of Marijuana Use

Acute (present during intoxication)

- Impaired short-term memory,
- Impaired attention, judgment, and other cognitive functions,
- Impaired coordination and balance,
- Increased heart rate,
- Anxiety, paranoia,
- Psychosis (uncommon) (drugabuse, 2016b).

Persistent (lasting longer than intoxication, but may not be permanent)

- Impaired learning and coordination,
- Sleep problems,
- Long-term (cumulative effects of repeated use) (drugabuse, 2016b).

Potential for marijuana addiction

- Impairments in learning and memory with potential loss of IQ,
- Increased risk of chronic cough, bronchitis,
- Increased risk of other drug and alcohol use disorders,
- Increased risk of schizophrenia in people with genetic vulnerability (drugabuse, 2016b).

What is cannabis cut with?

Cannabis may be 'cut' with other substances to increase the weight and the dealer's profits (talktofrank, 2016b).

- Impurities in cannabis may include a variety of substances, with laboratory-confirmed reports of glass and pesticides being found in herbal forms of cannabis; and with hash/resin frequently being mixed with a range of substances to increase weight and the dealer's profits. In April 2010, a study, looking into contaminants in drugs reported that there were cases of cannabis being adulterated with henna, lead and aluminium.
- Any impurities you smoke could be inhaled in to the lungs alongside the wide range of chemicals naturally found in cannabis.
- Tobacco and cannabis share some of the same chemical 'nasties', so, like smoking tobacco, smoking cannabis can make asthma worse and can cause wheezing in people without asthma. Smoking it may damage your lungs and if you use it regularly for a long time it may lead to lung cancer.
- When people mix cannabis with tobacco they're also taking on all the risks associated with smoking tobacco, which can range from coughs and chest infections to cancer or heart disease (TALKTOFRANK, 2016b).

Can you get addicted to cannabis?

Yes, it is possible to become psychologically dependent on cannabis. And some people do experience withdrawal symptoms when they stop taking it (LIVEWELL, 2015u).

The simple answer is 'yes, people do become dependent on cannabis'. This means you can get 'cravings' for cannabis, and may have difficulty staying off it even if you recognise using it has started to cause you problems.

And regular users can also get some unpleasant withdrawal symptoms on stopping, including irritability, mood changes, feeling sick, loss of appetite, difficulty sleeping; and even sweating, shaking and diarrhoea in some people.

You're also at real risk of getting addicted to nicotine, or staying addicted to it, if you roll your spliffs with tobacco (TALKTOFRANK, 2016b).

Contrary to common belief, marijuana can be addictive. Research suggests that 30% of users may develop some degree of problem use, which can lead to dependence and in severe cases takes the form of addiction (HASIN, SAHA, KERRIDGE, et al., 2015). People who begin using marijuana before age 18 are 4 to 7 times more likely than adults to develop problem use (WINTERS and LEE, 2008). Dependence becomes addiction when the person can't stop using marijuana even though it interferes with his or her daily life (DRUGABUSE, 2016a).

How Does Marijuana Affect a User's Life?

Compared to nonusers, heavy marijuana users more often report the following -

- lower life satisfaction,
- poorer mental health,
- poorer physical health,
- more relationship problems (Meier, Caspi, Ambler, et al., 2012).

Users also report less academic and career success. For example, marijuana use is linked to a higher likelihood of dropping out of school (McCaffrey et al., 2010). It is also linked to more job absences, accidents, and injuries (Zwerling, Ryan, and Orav, 1990), (Meier, Caspi, Ambler, et al., 2012).

The law

Cannabis and the law

- Cannabis is a Class B drug - it's illegal to have for yourself, give away or sell.
- Possession is illegal whatever you're using it for, including pain relief. The penalty is up to five years in jail.
- Supplying someone else can get you fourteen years and an unlimited fine.
- Supplying your mates, even if you give it away, is also considered 'supplying' under the law (talktofrank, 2016b).

What if you're caught with cannabis? If the Police catch you with cannabis, they'll always take some action. This could be a warning, a reprimand, a formal caution, a fixed penalty or an arrest and possible conviction.

A conviction for a drug-related offence could have a pretty serious impact. It can stop you visiting certain countries - for example the United States - and limit the types of jobs you can apply for (talktofrank, 2016b).

Did you know?

- Like drinking and driving, driving when high is illegal - and you can still be unfit to drive the day after smoking cannabis. You can get a heavy fine, be disqualified from driving or even go to prison.
- Allowing other people to supply drugs in your house or any other premises is illegal. If the police catch people supplying illegal drugs in a club they can potentially prosecute the landlord, club owner or any person concerned in the management of the premises (talktofrank, 2016b).

Research

Marijuana use raises sud risk The health impacts of marijuana are currently the subject of significant public debate. Past data have suggested a link to numerous mental health outcomes including SUDs [29], mood disorders, and anxiety, although whether marijuana use actually causes these conditions, or just shares common contributing factors, has been difficult to specify. A new study used data on nearly 35,000 participants in two waves (2001-2002 and 2004-2005) of the longitudinal National Epidemiological Survey on Alcohol and Related Conditions, to prospectively examine associations between marijuana use and various mental health outcomes. Like earlier studies, unadjusted analyses of the data found marijuana use to be associated with a wide range of psychiatric disorders; but after adjusting for common underlying factors that predict marijuana use (such as age and other sociodemographic characteristics), the only associations with marijuana use that remained significant across all analyses were SUDs - including alcohol use, nicotine dependence, cannabis use disorder, and other drug use disorders (Blanco et al., 2016).

Cocaine

Also known as

White, Wash, Toot, Stones, Snow, Rocks, Percy, Pebbles, Freebase, Crack, Coke, Ching, Charlie, Chang, C.

What is cocaine?

Powder cocaine (coke), freebase and crack are all types of cocaine, and all are powerful stimulants. Freebase and crack can be smoked, and powder cocaine can be snorted in lines. Both cocaine powder and crack can also be prepared for injecting (livewell, 2015u).

It can give a powerful high that can leave you feeling really down Powder cocaine (also called coke), freebase and crack are all forms of cocaine. They're all powerful stimulants, with short-lived effects - which means that they temporarily speed up the way your mind and body work, but the effects are short-lived. Both 'freebase' cocaine (powder cocaine that's been prepared for smoking)

[29] substance use disorders

and 'crack' cocaine (a 'rock' like form of cocaine) can be smoked. This means that they reach the brain very quickly, while snorted powder cocaine gets to the brain more slowly.

All types of cocaine are addictive, but by reaching the brain very quickly, freebase or crack tend to have a much stronger effect and be more addictive than snorted powder cocaine. Injecting any form of cocaine will also reach the brain more quickly but this has serious additional risks, including damaging veins and spreading blood-borne viruses, such as HIV and Hep C (TALKTOFRANK, 2016c).

Here are the main effects and risks of taking cocaine -

- It can make you feel on top of the world, very confident, alert and awake, but some people can get over-confident, arrogant and aggressive and end up taking very careless risks.
- It raises the body's temperature, makes the heart beat faster and reduces your appetite.
- When the effects start to wear off, people experience a long 'comedown', when they feel depressed and run down. This crash can happen for days afterwards (TALKTOFRANK, 2016c).

What does cocaine look like? 'Coke' is a white powder. 'Crack' is a form of cocaine made into small lumps or rocks that makes a cracking noise when burnt. 'Freebase' cocaine is specially prepared 'coke' and is a crystal-like powder; it is less common than 'coke' and 'crack'.

On average, a gram of coke powder generally costs £42. A crack rock costs between £10 and £20. Crack is sometimes sold cheaper by the slice or as a 'clubbing rock' for about £10 (TALKTOFRANK, 2016c).

How do people take cocaine? Coke is divided into lines and snorted up the nose. It is not easily smoked, unless specially prepared into 'freebase' or 'crack' cocaine. A rock of crack is about the size of a raisin. Like 'freebase', it's usually smoked in a pipe, glass tube, plastic bottle or in foil.

Both powder and crack forms of cocaine can be prepared to make a solution of cocaine for injecting. Sharing needles and syringes or other injecting equipment, when injecting, runs the risk of the injector catching or spreading HIV and hepatitis C infection.

There is also the risk that veins may be damaged and of an abscess or blood clot developing (TALKTOFRANK, 2016c).

How does cocaine make you feel?

Cocaine gives the user energy, a feeling of happiness and being wide awake, and an overconfidence that can lead to taking risks. The effects are short-lived, so more drug is taken, which is often followed by a nasty "comedown" that makes you feel depressed and unwell, sometimes for several days (LIVEWELL, 2015u).

Taking cocaine makes users feel on top of the world, wide-awake, confident and on top of their game - but some people are over-confident on it and so may take very careless risks. Its effect is much like speed (amphetamines), but is usually stronger and doesn't last as long (TALKTOFRANK, 2016c).

It can also have other effects -

- Raising the body's temperature,
- Making the heart beat faster,
- Reducing feelings of hunger.
- After a big night on cocaine, it's not unusual for people to feel like they've got the flu (TALKTOFRANK, 2016c).

The effects of crack smoking are virtually immediate, peaking for about two minutes and lasting for only about 10 minutes.

When snorting coke it takes longer to peak but the effects still don't last that long, only around 20–30 minutes.

When the effects of any cocaine use start to wear off there can be a very strong temptation to take more, particularly with the long 'come down', the crash period sometimes lasting for days afterwards (TALKTOFRANK, 2016c).

How does cocaine affect your health?

If you take cocaine, it's possible to die of an overdose from overstimulating the heart and nervous system, which can lead to a heart attack. It can be more risky if mixed with alcohol.

Taking cocaine is particularly risky if you have high blood pressure or already have a heart condition. If you're pregnant, cocaine can harm your baby and even cause miscarriage. If you've had previous mental health problems, it can increase the chance of these returning.

If you snort cocaine, it can damage the cartilage of your nose over time. If you inject it, you are at higher risk of dying as the result of an overdose, and your veins and body tissues can be seriously damaged. You put yourself at risk of catching HIV or hepatitis if you share needles (LIVEWELL, 2015u).

What are the risks?

There are many serious risks with taking cocaine. Here's what it could do to you (TALKTOFRANK, 2016c).

- Cocaine users have died from overdoses. High doses can raise the body's temperature, cause convulsions, a heart attack and heart failure. Risk of overdosing increases if cocaine is mixed with other drugs or alcohol.
- Over time, snorting cocaine will seriously damage the cartilage in your nose that separates the nostrils; and it is not unknown for heavy users to lose their cartilage and end up with just one really big nostril and a misshapen nose.
- Cocaine is highly risky for anybody with high blood pressure or a heart condition. Even perfectly healthy, young people can have a fit or heart attack after taking too much.
- Using cocaine a lot makes people feel depressed and run down. It can lead to serious problems with anxiety, paranoia and panic attacks.
- Cocaine can bring previous mental health problems to the surface. If a relative has had mental health problems, there might be an increased risk for you.
- Taking cocaine when you're pregnant can damage your baby. It may cause miscarriage, premature labour and low birth weight.
- Regularly smoking crack can cause breathing problems and pains in the chest.
- Frequent users find they begin to crave more - so it can become an expensive habit to keep.
- Injecting drugs can damage veins and cause ulcers and gangrene. Sharing needles or other injecting equipment can spread HIV and hepatitis infections.
- It's easier to overdose if you're injecting cocaine.
- 'Speedballing', injecting a mixture of cocaine and heroin, can have fatal results.
- Heavy crack users may take heroin to try to dull their cravings, so they may get hooked on heroin as well,
- A form of heroin, called white heroin, is easily mistaken for cocaine and people have died or been hospitalised after snorting white heroin, which they thought was cocaine. Heroin is active in smaller doses than cocaine, so if you mistake it for cocaine, you are more likely to overdose, experience respiratory failure (this is what it's called when your breathing stops) and possibly die (TALKTOFRANK, 2016c).

Cocaine and alcohol Using cocaine with alcohol (or other drugs) can substantially increase risk of side-effects. Alcohol and cocaine together can be particularly dangerous, as they mix together in the body to produce a toxic chemical, called cocaethylene (TALKTOFRANK, 2016c).

What is cocaine cut with? Recent police seizures of 'street' powder cocaine had an average purity of just 32%. A wrap of cocaine powder can be cut with many things, such as sugar or starch, but benzocaine is most common. Benzocaine is a local anaesthetic which can produce a 'numbing' effect similar to cocaine, but without the cocaine 'high'.

The purity of 'crack' depends on the purity of the cocaine used originally to produce the 'crack'. However, recent police seizures had an average purity of 30% (TALKTOFRANK, 2016c).

Can you get addicted to cocaine?

Yes, cocaine is highly addictive and can cause a very strong psychological dependence (LIVEWELL, 2015u).

Cocaine is very addictive and it can be difficult to resist the craving for more. This powerful craving can develop because cocaine can change the way your brain works.

Although the powerful psychological dependence that can easily develop is more of a problem than the physical withdrawal symptoms, people who stop using can experience low moods and feel very rough, and this can also tempt them to take more cocaine (TALKTOFRANK, 2016c).

The law

Cocaine and the law

- 'Coke', 'freebase' and 'crack' are all Class A drugs - that means they're illegal to have, give away or sell.
- Possession can get you up to seven years in jail.
- Supplying someone else, including your friends, can get you life and an unlimited fine (TALKTOFRANK, 2016c).

What if you're caught?

- If the Police catch you with cocaine, they'll always take some action. This could include a formal caution, arrest and prosecution.
- A conviction for a drug-related offence could have a serious impact. It can stop you visiting certain countries - for example the United States - and limit the types of jobs you can apply for (TALKTOFRANK, 2016c).

Did you know?

- Like drinking and driving, driving when high is illegal - and you can still be unfit to drive the day after using cocaine. You can get a heavy fine, be disqualified from driving or even go to prison.
- Allowing other people to supply drugs in your house or any other premises is illegal. If the police catch people supplying illegal drugs in a club they can potentially prosecute the landlord, club owner or any person concerned in the management of the premises (TALKTOFRANK, 2016c).

Ecstasy

Also known as

Xtc, Superman, Rolexs, Pink superman, Pills, Mitsubishi's, Mdma, Mandy, E, Dolphins, Crystal, Cowies, Brownies.

What is ecstasy?

Ecstasy is a "psychedelic" stimulant drug usually sold as tablets, but it's sometimes dabbed on to gums or snorted in its powder form. It's also known as MDMA or "crystal" (LIVEWELL, 2015u).

Ecstasy (also known by its chemical name, MDMA) is often seen as the original designer drug because of its high profile links to dance music culture in the late 80's and early 90's. Clubbers took ecstasy to feel energised, happy, to stay awake and to dance for hours. The effects take about half an hour to kick in and tend to last between 3 to 6 hours, followed by a gradual comedown (TALKTOFRANK, 2016d).

The main effects and risks of ecstasy include -

- An energy buzz that makes people feel alert, alive, in tune with their surroundings, and with sounds and colours often experienced as more intense.
- Users often develop temporary feelings of love and affection for the people they're with and for the strangers around them.

- Short-term risks of ecstasy can include feeling anxious or getting panic attacks, and developing confused episodes, paranoia or even psychosis.
- Some people have been known to take another 'E' when they haven't yet felt the expected 'high' of their first 'E'. The danger then is that both Es kick in at once and you've got a double dose of effects to deal with (TALKTOFRANK, 2016d).

A big problem with ecstasy is that it's rarely pure. Sometimes, there is no MDMA at all. Sometimes, it contains other drugs, like PMA, which can be fatal.

Regardless of what it looks like and what it is called, you can't be sure what's in a pill or a powder and you can't predict how you'll react (TALKTOFRANK, 2016d).

What does ecstasy look like? Pure ecstasy is a powder made of white crystals, known to chemists as MDMA. Ecstasy is usually sold on the street as tablets, although it's getting more common to see it sold as powder and called by its chemical name, MDMA, or 'crystal'.

Ecstasy pills come in all sorts of colours and some of them have designs or logos stamped into them. This can result in some ecstasy pills getting 'nicknames', for example some pills were called Mitsubishi's because they were stamped with a Mitsubishi logo.

Some dealers pass off new man-made drugs like PMA and 4-MTA and 'legal highs' as E's.

Their effects can be very different or they may take longer to kick in with a risk of the user 'double-dosing' to get the buzz they're looking for (risking double the side-effects) (TALKTOFRANK, 2016d).

How do people take ecstasy? Ecstasy pills are usually swallowed - although some people do crush them up and smoke or snort them.

A recent study has suggested that some ecstasy pills may be marketed as being stronger than others, and that increased strength may be reflected in a higher price.

MDMA powder can be 'dabbed' onto the gums or snorted.

People have been known to take another E when they haven't initially felt the expected 'high' from the first one, this is called 'double dosing'. The danger then is that both Es kick in and you've a double dose of effects (and risks!) to deal with (TALKTOFRANK, 2016d).

How does ecstasy make you feel?

Ecstasy can make you feel alert, affectionate and chatty, and can make music and colours seem more intense. Taking ecstasy can also cause anxiety, confusion, paranoia and even psychosis (LIVEWELL, 2015u).

How does ecstasy affect your health?

Long-term use has been linked with memory problems, depression and anxiety. Ecstasy use affects the body's temperature control and can lead to dangerous overheating and dehydration.

But a balance is important as drinking too much fluid can also be very dangerous for the brain, particularly because ecstasy tends to stop your body producing enough urine, so your body retains the fluid (LIVEWELL, 2015u).

Ecstasy makes users feel energised, alert and alive - and on its own, it's not a drug that makes people violent (TALKTOFRANK, 2016d).

It can also have other effects -

- Ecstasy makes people feel 'in tune' with their surroundings, and can make music and colours more intense.
- Users often have temporary feelings of love and affection for the people they're with and for the strangers around them.
- Short-term effects of use can include anxiety, panic attacks, confused episodes, paranoia and even psychosis.
- Lots of people feel really chatty on E., (although these chats don't always make sense to people who aren't on an E!).
- Physical side-effects can include dilated pupils, a tingling feeling, tightening of the jaw muscles, raised body temperature and the heart beating faster (TALKTOFRANK, 2016d).

Effects of MDMA

Reported Undesirable Effects (up to 1 week post-MMDA, or longer)

- Anxiety,
- Restlessness,
- Irritability,
- Sadness,
- Impulsiveness,
- Aggression,

- Sleep Disturbances,
- Lack of appetite,
- Thirst,
- Reduced interest in and pleasure from sex,
- Significant reductions in mental abilities (DRUGABUSE, 2006).

Symptoms of MDMA Overdose

- High blood pressure,
- Faintness,
- Panic attacks,
- Loss of consciousness,
- Seizures (DRUGABUSE, 2006).

What are the health risks of ecstasy?

Taking ecstasy involves some risks. Here's what it could do to you -

- There's no way of telling what's in ecstasy until you've swallowed it. There may be negative side-effects from other drugs and ingredients added to the E.
- The comedown from ecstasy can make people feel lethargic and depressed.
- Evidence suggests long-term users can suffer memory problems and may develop depression and anxiety.
- Using Ecstasy has been linked to liver, kidney and heart problems. Some users report getting colds and sore throats more often, which may be partly caused by staying awake for 24 hours, which can itself affect your immune system.
- Anyone with a heart condition, blood pressure problems, epilepsy or asthma can have a very dangerous reaction to the drug.
- There have been many deaths involving Ecstasy. Between 1996 and 2014 in England & Wales there were 670 deaths in which ecstasy/MDMA was recorded on the death certificate.
- Ecstasy affects the body's temperature control. Dancing for long periods in a hot atmosphere, like a club, increases the chances of overheating and dehydration. Users should take regular breaks from the dance floor to cool down and watch out for any mates who are on it - they mightn't realise they're in danger of overheating or getting dehydrated.
- However, drinking too much can also be dangerous. Ecstasy can cause the body to release a hormone which stops it making urine. Drink too quickly and it affects your body's salt balance, which can be as deadly as

not drinking enough water. Users should sip no more than a pint of water or non-alcoholic drink every hour (TALKTOFRANK, 2016d).

Potential Adverse Health Effects

- Nausea,
- Chills,
- Sweating,
- Involuntary jaw clenching and teeth grinding,
- Muscle cramping,
- Blurred vision,
- Marked rise in body temperature (hyperthermia),
- Dehydration,
- High blood pressure,
- Heart failure,
- Kidney failure,
- Arrythmia (DRUGABUSE, 2006).

What is ecstasy cut with?

A big problem with Ecstasy pills is that they're rarely pure. They can be cut with amphetamines (like speed), caffeine and other substances with some similar effects - because it's cheaper to produce and can increase the dealer's profits.

When Ecstasy has been cut with an alternative stimulant that is slower to kick in than MDMA, some users have then topped-up with another dose prematurely; and then they find they suffer side-effects because they've then overdosed (TALKTOFRANK, 2016d).

Can you get addicted to Ecstasy?

Ecstasy can be addictive, as users can develop a psychological dependence on this drug. It is also possible to build up a tolerance to the drug and need to take more and more to get the same effect (LIVEWELL, 2015u).

It's possible to build up tolerance to ecstasy, which means people need to take more of the drug to get the same buzz.

You may also develop a psychological dependence (a strong desire to keep on using despite the long-term risks, such as damaging relationships or losing your job) (TALKTOFRANK, 2016d).

The law

- Ecstasy is a Class A drug and is illegal to have, give away or sell.
- Possession can get you up to seven years in jail.
- Supplying someone else, including your friends, can get you life and an unlimited fine (TALKTOFRANK, 2016d).

What if you're caught?

- If the Police catch you with ecstasy, they'll always take some action. This could include a formal caution, arrest and prosecution.
- A conviction for a drug-related offence could have a serious impact. It can stop you visiting certain countries - for example the United States - and limit the types of jobs you can apply for (TALKTOFRANK, 2016d).

Did you know?

- Like drinking and driving, driving when under the influence of drugs is illegal - in fact you can still be unfit to drive the day after using ecstasy, especially if you've been up all night dancing. You can get a heavy fine, be disqualified from driving or even go to prison.
- Allowing other people to supply drugs in your house or any other premises is illegal. If the police catch people supplying illegal drugs in a club they can potentially prosecute the landlord, club owner or any person concerned in the management of the premises (TALKTOFRANK, 2016d).

New psychoactive substances (NPS) (also called 'legal highs')

Also known as

Plant food, Nps, Mdat, Eric 3, Dimethocaine, Bath salts, Legal highs.

What are NPS?

NPS, such as mephedrone (meow meow) and spice, used to be available to buy legally in "head shops" (shops that sell drug paraphernalia) or online.

Since the Psychoactive Substances Act came into effect on May 26 2016 it has been illegal to supply any NPS in the UK for human consumption. This includes selling them or giving them away for free.

Alcohol, medicines, nicotine, caffeine and poppers (alkyl nitrites) are exempt from the act (LIVEWELL, 2015u).

New psychoactive substances - often incorrectly called legal highs - contain one or more chemical substances which produce similar effects to illegal drugs (like cocaine, cannabis and ecstasy).

Although some of these so-called 'legal highs' have been legal in the past, many are currently illegal. And it's important to realise that when the Psychoactive Substances Act comes into effect in spring 2016, none of these drugs will be legal to produce, supply, or import (even for personal use) for human consumption.

New psychoactive substances might sound like an awkward term, but it's more accurate than legal highs. You'll still hear people talking about legal highs, and since it's a widely understood term, you might still find it used on this site. But they're all illegal when the new law comes into effect.

There's not enough known about many of these drugs to know about their potency, their effects on people, or what happens when they're used with other substances or alcohol. The packaging might describe a list of ingredients but you can't be sure that this is what's inside. So you can't really be sure what you've bought or been given, or what effect it's likely to have on you or your friends. Many NPS are sold under brand names like 'Clockwork Orange', 'Bliss', 'Mary Jane' and some have been linked to poisoning, emergency hospital admissions and, in some cases deaths (TALKTOFRANK, 2016e).

The main effects of almost all psychoactive drugs, can be described using four main categories -

- stimulants,
- 'downers' or sedatives,
- psychedelics or hallucinogens,
- synthetic cannabinoids (TALKTOFRANK, 2016e).

Appearance New psychoactive substances are sold in different forms such as powders, pills, smoking mixtures, liquids, capsules, or on perforated tabs.

The packaging is usually designed to get your attention using a catchy brand name and bright colours. It might describe a list of ingredients but you can't be sure that this is what's inside.

The powders can range from white to brown to yellow in colour and from flour-like to little crystals in consistency. The pills and capsules vary widely in size, shape and colour.

The smoking mixtures tend to come in colourful packaging, often with labels describing the contents as incense or herbal smoking mixture, and the contents look like dried herbs, vegetable matter or plant cuttings. It's common for synthetic cannabinoids to be added to dried herbs, vegetable matter or plant cuttings to make a smoking mixture (TALKTOFRANK, 2016e).

Usage New psychoactive substances that come as powders, pills or capsules tend to be snorted or swallowed, while smoking mixtures are either smoked in a joint or spliff or by using a pipe.

There have been reports of some people injecting NPS. Injecting any drug is particularly dangerous because a drug is more likely to reach harmful or fatal levels by this route. Also, veins can be damaged by the injecting process and an abscess or blood clot may develop, which can then cause serious health problems like blood infection or heart problems.

Injecting can also lead to serious scarring and can be disabling or even fatal. Sharing injecting equipment such as needles or syringes, runs the additional risks of catching or spreading viruses such as HIV or hepatitis C (TALKTOFRANK, 2016e).

How do NPS make you feel?

The main effects of almost all psychoactive drugs, including NPS, fall into three categories -

- stimulants,
- "downers" or sedatives,
- psychedelics or hallucinogens (LIVEWELL, 2015u).

Synthetic cannabinoids, which can have both sedative and psychedelic effects, are sometimes separated out into their own category. They have been a big part of the NPS market and have been particularly problematic and harmful.

Even NPS that look similar or have similar names can vary in strength and can have different effects on different people (LIVEWELL, 2015u).

What are the effects of new psychoactive substances? The main effects of almost all psychoactive drugs, including so-called legal highs, can be described using the four main categories below. While drugs in each of these categories will be similar in the effects they produce, they will have widely different strengths and effects on different people (TALKTOFRANK, 2016e).

- **Stimulants** (like mephedrone, naphyrone) act like amphetamines, cocaine, or ecstasy, in that they can make you feel energised, physically active, fast-thinking, very chatty and euphoric.
- **Downers or sedatives** (like GBH/GBL, methoxetamine) act similarly to benzodiazepines (drugs like diazepam or valium), or GHB/GBL, in that they can make you feel euphoric, relaxed or sleepy.
- **Hallucinogens or psychedelics** (like NBOMe drugs) act like LSD, magic mushrooms, ketamine and methoxetamine. They create altered perceptions and can make you hallucinate (seeing and/or hearing things that aren't there). They can induce feelings of euphoria, warmth, 'enlightenment' and being detached from the world around.
- **Synthetic cannabinoids** (like Spice or Black Mamba): act similarly to cannabis. The effects of these are similar cannabis intoxication: relaxation, altered consciousness, disinhibition, a state of being energised and euphoria (TALKTOFRANK, 2016e).

How do NPS affect your health?

For lots of NPS, there has been little or no research into the short- or long-term health risks from human consumption and some risks aren't yet known.

Forensic testing of NPS has shown that they often contain different substances to what the packaging says, or mixtures of different substances.

This means you can never be sure what you are taking or what the effects might be (LIVEWELL, 2015u).

Risks include -

- NPS can reduce your inhibitions, so you may do potentially harmful things you wouldn't normally do,
- They can cause paranoia, coma, seizures and, in rare cases, death,
- You can never be sure of what is in an NPS, so you can't be sure what you've bought or been given, or what effect it's likely to have on you or your friends (LIVEWELL, 2015u).

What are the risks of new psychoactive substances?

You can't really be sure of what's in a 'legal high' that you've bought, or been given, or what effect it's likely to have on you or your friends. For many NPS, there has been little or no research into the risks from human consumption. Will have widely different strengths and effects on different people.

Many of these risks are increased if the drug is combined with alcohol or with another psychoactive drug. There have been cases of death too.

Drugs including 'legal highs' can be addictive too (TALKTOFRANK, 2016e).

- **Stimulant NPS** can make you feel overconfident and disinhibited, induce feelings of anxiety, panic, confusion, paranoia, and even cause psychosis, which can lead you to put your own safety at risk. This type of drugs can put a strain on your heart and nervous system. They may give your immune system a battering so you might get more colds, flu and sore throats. You may feel quite low for a while after you've stopped using them.
- **Downers or sedative NPS** can reduce inhibitions and concentration, slow down your reactions and make you feel lethargic, forgetful or physically unsteady, placing you at risk of accidents. This type of drug can also cause unconsciousness, coma and death, particularly when mixed with alcohol and/or with other downer drugs. Some people feel very anxious soon after they stop taking downers, and if a severe withdrawal syndrome develops in heavy drug users, it can be particularly dangerous and may need medical treatment.
- **Psychedelic or hallucinogenic NPS** which act like LSD, magic mushrooms, ketamine and methoxetamine can cause confusion, panics and strong hallucinatory reactions ('bad trips'), and their effects can make you behave erratically and put your own safety at serious risk - including from self-harm. This can interfere with your judgement, which could put you at risk of acting carelessly or dangerously, and of hurting yourself, particularly in an unsafe environment.
- **Synthetic cannabinoids** could lead to severe or even life-threatening intoxication when taken in sufficiently larger doses. They can also affect your central nervous system, and lead to seizures, fast heart rates, high blood pressre, sweating, increased body temperature, being agitated and being combative (ready to fight) (TALKTOFRANK, 2016e).

Impurities When you buy new psychoactive substances, you can never be sure that what you are buying is what it is claimed to be. Even if the packaging describes a list of ingredients, you can't be sure that it contains the same substances.

Forensic testing of NPS has shown that they often contain different substances to what the packaging says, or mixtures of different substances. This means that you could end up taking a drug which has stronger or different effects and risks than you expected (TALKTOFRANK, 2016e).

Can you get addicted to new psychoactive substances? New psychoactive substances that have the same effects as drugs like cannabis, cocaine and amphetamines can potentially get you hooked.

Most stimulant and sedative drugs used recreationally have turned out to be addictive to some degree. So the regular NPS use, particularly drugs with sedative or stimulant effects, could potentially lead to a compulsion to use or even a risk of withdrawal symptoms when you stop using them.

Some people feel very anxious soon after they stop taking downer type drugs. If a severe downer withdrawal syndrome develops in a heavy drug user, it can be particularly dangerous and the person affected may need medical treatment (TALKTOFRANK, 2016e).

The Law

Although some of these so-called 'legal highs' were legal in the past, since the Psychoactive Substances Act came into effect on 26 May 2016, none of these drugs are legal to produce, supply or import (even for personal use, e.g. over the internet) for human consumption.

This includes selling them or giving them away for free (even to friends) when they are going to be taken to get high.

The 'legal highs' that were made illegal as class A, B or C drugs under the Misuse of Drugs Act, are still covered by that legislation. All other psychoactive substances not currently covered by the Misuse of Drugs Act will fall under the Psychoactive Substances Act (TALKTOFRANK, 2016e).

Did you know?

Like drinking and driving, it's illegal to drive if your driving has been impaired by taking drugs. With some drugs, you can even remain unfit to drive the next day. As well as this drug-impaired-driving offence, it's now illegal in England and Wales to drive over set levels for any of 17 named drugs (legal and illegal) in your body, whether or not you are impaired. Very low limits have been set for some common illegal drugs such as cannabis, cocaine and MDMA. You can get a heavy fine, be disqualified from driving or even go to prison (TALKTOFRANK, 2016e).

Speed

Also known as

Whizz, Sulph, Paste, Billy, Base, Amphetamine sulphate, Amphetamine.

What is speed?

Speed is the street name for drugs based on amphetamine, and is a stimulant drug. It's usually an off-white or pink powder that's either dabbed on to gums, snorted or swallowed in paper (LIVEWELL, 2015u).

Speed is the street name for the Class B drug amphetamine sulphate. Sometimes speed is used to refer to other types of amphetamines.

Speed is a stimulant and people take 'speed' to keep them awake, energised and alert (TALKTOFRANK, 2016f).

Other key effects and risks of taking speed are -

- Feeling 'up', excited and chatty.
- People take it because it gives them the energy to do things for hours without getting tired, things like dancing, talking, and going out.
- It can make people overactive, agitated or even acutely psychotic (this is a mental state when you see or hear things which aren't there and have delusions).
- The high is generally followed by a long slow comedown, making you feel really irritable and depressed.
- Speed puts a strain on your heart and can cause heart problems - some people have died from taking too much speed (TALKTOFRANK, 2016f).

What does speed look like? Speed is usually an off-white or pinkish powder and can sometimes look like small crystals. The 'base' form of speed is usually purer and is a pinkish-grey colour and feels like putty (TALKTOFRANK, 2016f).

How do people take speed? Speed is either dabbed onto the gums, or is snorted in lines (like cocaine powder). Sometimes it's rolled up in a cigarette paper and swallowed, this is called 'bombing'. It can also be injected or mixed into drinks.

The effects of speed kick in within half an hour of swallowing. If you snort or inject speed it will kick in quicker - the effects can last for up to six hours.

Injecting speed, and sharing injecting equipment, runs the risk of the injector catching or spreading a virus such as HIV or hepatitis C. There is also the risk that veins may be damaged and that an abscess or a blood clot will develop (TALKTOFRANK, 2016f).

How does speed make you feel?

Speed can make you feel alert, confident and full of energy, and can reduce appetite. But it can make you agitated and aggressive, and can cause confusion, paranoia and even psychosis. You can also become very depressed and lethargic for hours or days after a period of heavy use (LIVEWELL, 2015u).

Speed makes users feel very up, alert and energised, but can also make them agitated and aggressive. It can also have other effects -

- Speed makes people feel wide awake, excited and chatty.
- Clubbers take it because it gives them the energy to dance for hours without getting tired.
- Amphetamines were once the main ingredient in diet pills because they stop people feeling hungry.
- Speed use can lead to agitation, panics or even a psychotic episode (this is a mental state when you see or hear things which aren't there and have delusions) (TALKTOFRANK, 2016f).

How does speed affect your health?

Taking speed can be dangerous for the heart, as it can cause high blood pressure and heart attacks. It can be more risky if mixed with alcohol, or if it's used by people who have blood pressure or heart problems.

Injecting speed is particularly dangerous, as death can occur from overdose. Speed is usually very impure and injecting it can cause damage to veins and tissues, which can also lead to serious infections in the body and bloodstream. Any sharing of injecting equipment adds the risk of catching hepatitis C and HIV (LIVEWELL, 2015u).

What are the risks?

Taking speed does involve risks. Here's what it could do to you -

- Depending on how much you've taken, it can be difficult to relax or sleep.

- The 'comedown', which can last a number of days, can make users feel really lethargic and down, and you can develop difficulty concentrating and with learning.
- Speed puts a strain on your heart, so it's definitely not advisable for people with high blood pressure or a heart condition - users have died from taking too much.
- Mixing speed with anti-depressants or alcohol has been known to kill.
- Taking a lot of speed, alongside its effects on diet and sleep, can give your immune system a battering - so you could get more colds, flu and sore throats,
- Speed can lead to anxiety, depression, irritability, aggression and paranoia; as well as mental illness, even to acute psychotic episodes (this is a mental state when you see or hear things which aren't there and have delusions).
- Injecting speed is particularly dangerous. It's much easier to overdose when injecting. Speed is usually very impure, so it's not just the amphetamine that goes in to your bloodstream.
- Injecting can also cause damage to veins and arteries, and may cause ulcers and even gangrene (that's when bits of the body start to die).
- Viral hepatitis and HIV/AIDS infections can be spread by users sharing needles, syringes or other injecting equipment (TALKTOFRANK, 2016f).

How pure is speed? It's not unusual for drugs to have things added to them to increase the weight and the dealer's profits. Speed can be cut with other cheaper amphetamines, caffeine, ephedrine, sugars (like glucose), starch powder, laxatives, talcum powder, paracetamol and other drugs with some similar effects.

Some impurities can be added by mistake, as impurities can be formed during the manufacturing process for speed.

Speed is usually a very impure street drug - most of the powder in a wrap only contains 5–15% amphetamine sulphate. Base speed is usually somewhat purer (TALKTOFRANK, 2016f).

Can you get addicted to speed?

Regular use of amphetamines can become highly addictive (LIVEWELL, 2015u).

Speed is an addictive drug - the more you take, the more you tend to want to take. If you take a lot on a regular basis you build a tolerance to the drug so that you need higher doses just to get the same buzz or just to feel 'normal'; this increases the risks associated with speed.

With regular use, you may increasingly take speed to avoid unpleasant withdrawals (TALKTOFRANK, 2016f).

The law

Is speed illegal? Speed is a Class B drug and it's illegal to have, give away or sell. Speed that has been prepared for injection becomes a Class A drug and can get you tougher sentencing if you're caught with it or selling it.

Possession can get you up to five years in jail and an unlimited fine.

Supplying someone else, including your friends, can get you up to 14 years and an unlimited fine (TALKTOFRANK, 2016f).

What if you're caught? If the police catch you with speed, they'll always take some action. This could include a formal caution, arrest and prosecution.

A conviction for a drug-related offence could have a serious impact. It can stop you visiting certain countries - for example the United States - and limit the types of jobs you can apply for (TALKTOFRANK, 2016f).

Did you know? Like drinking and driving, driving while under the influence of drugs is illegal - with some drugs you can still be unfit to drive the day after using. You can get a heavy fine, be disqualified from driving or even go to prison.

Allowing other people to supply drugs in your house or any other premises is illegal. If the police catch people supplying illegal drugs in a club they can potentially prosecute the landlord, club owner or any person concerned in the management of the premises (TALKTOFRANK, 2016f).

Tobacco

Also known as

Smokes, Shisha, Rollies, Hubble bubble, Hookah, Fags, Ciggies, Baccy.

What is tobacco?

Tobacco is found in cigarettes which you smoke. It comes from the leaves of the tobacco plant and contains many different chemicals.

One of the chemicals is nicotine, which gives smokers their 'hit' but is also highly addictive. This means it can be hard to quit smoking even if you want to.

Regular smokers believe that smoking tobacco helps them to relax, to handle stress and to feel less hungry.

But smoking can make your clothes and breath smell and can affect your skin and hair.

It can also cause serious damage to your health - it's a risk factor for emphysema, heart attacks, strokes and lung cancer. It's estimated that smoking tobacco contributes to 100,000 premature deaths in the UK every year.

The green leaves of the tobacco plant are picked, dried and then rubbed to produce a brown, flaky mixture.

It can then be bought loose as rolling tobacco which you use to create hand-rolled cigarettes or in ready-made cigarettes.

It doesn't matter how you smoke tobacco, all forms have risks.

There are many different brands of cigarettes and most come in packs of ten, 14 or 20.

The financial cost of being a smoker depends on the scale of their habit, but as a rough guide, smoking 20 a day for one year will cost over £2,700.

Tobacco is most often smoked as a cigarette or in a pipe, but tobacco is available in a chewable form and in a form, called snuff, that can be sniffed.

Shisha is the smoking of fruit flavoured tobacco using a water pipe. The tobacco is burnt and the smoke is sucked through the water pipe, which cools the smoke down allowing it to be breathed in by the smoker. However, smoking Shisha for one hour can deliver the same health risks as smoking 100 cigarettes

Shisha is a part of Middle Eastern and Indian culture, but it seems to be becoming increasingly popular in the UK among non-Middle Eastern and Indian groups (TALKTOFRANK, 2016g).

Effects

Regular smokers believe that smoking tobacco helps them to relax, to handle stress and to feel less hungry.

However, tobacco smoke (tar) contains over 4,000 chemicals and many have effects on various parts of the human body, including the brain, lungs, heart and mouth.

Most of the cancers associated with smoking are due to the tar in the smoke.

Smoking any drug gets it to the brain very quickly. When a tobacco smoker inhales it's estimated that the nicotine in the tobacco smoke reaches the brain in around 8 seconds.

This speed of action contributes to a user becoming hooked to the nicotine in tobacco (TALKTOFRANK, 2016g).

What are the risks of tobacco?

First time smokers often feel sick and dizzy.

Smoking tobacco has lots of immediate effects such as making your clothes and hair smell, to costing you lots of money. Smoking stops oxygen getting to the skin making you more prone to spots and a dull complexion. Over time it can lead to premature aging, meaning more wrinkles and a so-called 'cats bum' mouth. Smoking can also make hair less shiny and yellow nails and teeth (TALKTOFRANK, 2016g).

Of the over 4,000 chemicals that tobacco contains many have harsh effects on the human body. Smoking can increase your blood pressure and the heart rate, which can damage the heart and circulation and contribute to heart attacks, strokes and cause cancer. Also -

- Smokers are more likely to get coughs and chest infections.
- Long-term use could leave you with cancer, emphysema or heart disease.
- Smoking when pregnant can harm the foetus and can even cause a miscarriage.
- It's not uncommon for babies born to mothers who have smoked during pregnancy to have a lower than normal birth weight, which, some have linked to autism and sudden infant death syndrome.
- Smoking has been linked to the amputation of 2,000 limbs a year.
- It's estimated smoking contributes to 100,000 premature deaths in the UK every year.
- Other people breathing in your smoke could end up with breathing difficulties, asthma or even cancer.
- Smoking Shisha can be more dangerous than smoking a cigarettes, with users at increased risk of picking up diseases such as herpes or tuberculosis from sharing pipes (TALKTOFRANK, 2016g).

Impurities 'Black market' cigarettes and rolling tobacco are either counterfeit or brought into the UK from other countries. There is no way of knowing what

is in a counterfeit cigarette or rolling tobacco and what effect it could have on you.

Even if tobacco has not been bought on the black market the smoke contains over 4,000 chemicals and many of them are known to do nasty things to the human body including causing cancer (TALKTOFRANK, 2016g).

Some of the ingredients contained in cigarettes are listed below -

- Ammonia - A common ingredient found in household cleaners and also contained in urine,
- Arsenic - A deadly poison used to kill rats,
- Butane - Gas that is used in lighter fluid,
- Carbon monoxide - A poisonous gas that is contained in car fumes,
- Cadmium - Used in batteries,
- Methanol - Rocket fuel,
- Acetone - Used in paint thinner and nail varnish remover,
- Formaldehyde - Used for embalming dead bodies,
- Acrolein - Formerly used as a chemical weapon,
- Tar - A material used to make roads,
- Hydrogen cyanide - The poison that was used in gas chambers (TALKTOFRANK, 2016g).

Can you get addicted to Tobacco?

Yes. Tobacco contains nicotine, a highly addictive drug. Smokers can get hooked very quickly and it can take years and a huge effort to kick the habit. Many people who smoke wish they had not started in the first place.

Not many people are able to remain occasional smokers because nicotine is a very addictive substance (TALKTOFRANK, 2016g).

The law

It's illegal for shopkeepers to sell tobacco or tobacco products to anyone under 18.

Cigarettes must be sold in their original packaging and it is illegal to sell single cigarettes to anyone, adult or child (TALKTOFRANK, 2016g).

Suggested activities

Cycling

Cycling is a truly invigorating and liberating experience, enjoyed by people of all ages and from all walks of life.

Whether you're cycling to work, to school, to the shops or just for fun, the humble bicycle is an easy way to get more active.

Regular cycling can reduce the risk of chronic illnesses such as heart disease, type 2 diabetes and stroke. It can also boost your mood and keep your weight under control.

This section is designed to make cycling a safe and enjoyable experience for beginners, and provide you with tips on staying motivated (LIVEWELL, 2014h).

Before you start

For most people, cycling is a safe and effective form of exercise. If you have any health concerns or an existing medical problem, see your GP before you start.

For short journeys, any good working bike will do. You might have an old 10-speed racer, a shopping bike or a bargain mountain bike that you could use.

If you're buying a second-hand bike or you have an old bike that's been gathering dust, consider having it serviced at a specialist bike shop to ensure it's roadworthy.

If you're buying a new bike, there are many models to choose from. Hybrids, road bikes and mountain bikes are the most popular.

A specialist bike shop will advise you on the correct frame size and help you select a bike to suit your budget and the type of cycling you want to do.

Find out if your workplace operates a cycle to work scheme. This is a more affordable way of buying a new bike and safety equipment.

There are many bikes available for people with disabilities. The two main providers of specialist bikes are Wheels for All and CTC (LIVEWELL, 2014h).

Kit checklist

Cycling helmet Wearing a cycling helmet can help prevent a head injury if you fall off your bike (LIVEWELL, 2016c).

It's important to wear a helmet that meets the following criteria -

- It's marked as meeting the British Standard (BS EN 1078:1997).
- It's a snug fit and positioned squarely on your head. It should sit just above your eyebrows, not tilted back or tipped forwards.
- It's securely fastened by straps, which aren't twisted, with only enough room for two fingers between your chin and the strap (LIVEWELL, 2016c).

Make sure you replace your helmet every five years. Don't buy a secondhand helmet - it may be damaged and may not protect you properly (LIVEWELL, 2016c).

Lights and reflectors If you use your bike at night, it is compulsory to have -

- a white front light,
- a red rear light,
- a red rear reflector,
- amber/yellow pedal reflectors front and back on each pedal (LIVEWELL, 2016c).

Reflectors fitted to the front and the spokes will also help you be seen.

You can get lights that are steady or flashing, or a mixture of steady at the front and flashing at the back. A steady light at the front is important when you're cycling through areas without good street lighting.

Check that any steady light has the BS 6102-3 mark on it. Flashing lights don't have to meet the British Standard, but they do need to -

- flash at a rate of one to four equal flashes per second,
- be at least four candelas in brightness (LIVEWELL, 2016c).

Your pedal reflectors and rear reflector must be marked with BS 6102-2. You can also use a light or reflector that meets a standard accepted by another European Commission (EC) country (equal to the British Standard) (LIVEWELL, 2016c).

Additional lights and reflectors You can use other lights as well as the compulsory ones, but they must -

- be the right colour - white at the front, red at the back,
- not dazzle other road users (LIVEWELL, 2016c).

If they're flashing, it must be at a rate of one to four equal flashes per second (LIVEWELL, 2016c).

Cycling safely

- Practise in a safe environment,
- Wear a helmet,
- Be seen and heard,
- Check your bike,
- Be alert and plan your route,
- Always follow the Highway Code (LIVEWELL, 2014h).

If you haven't cycled much before or you're out of the habit of cycling, find yourself a traffic-free area to start off in, such as your local park.

Practise riding single-handed so you can make hand signals, and get comfortable looking over both shoulders to improve your visual awareness.

To learn to cycle with confidence, see CTC's cycle training or Bikeability for information on training schemes, some of which are free.

Before you start cycling in traffic, check the Highway Code for up-to-date rules and regulations for cyclists.

For health benefits, adults and older adults should do at least 2 hours and 30 minutes (150 minutes) of moderate-intensity activity each week.

Children and young people should do at least an hour (60 minutes) of moderate to vigorous intensity activity every day.

A 30-minute ride, where your breathing is quicker and deeper, will count towards your recommended weekly activity target.

If you're just getting started, take it slowly and increase your cycle rides gradually. Any improvement on what you currently do is beneficial (LIVEWELL, 2014h).

Getting your bike ready to ride

Do the following checks on your bike regularly to make sure it's in good working order (LIVEWELL, 2016c).

Front tyre and wheels Lift the front end of the bike by the handlebar stem and then -

- give the top of the wheel a bang with your hand to check it doesn't fall out of the forks or move from side to side,
- check the wheel doesn't move from side to side when you try to wobble it to be sure the bearings aren't worn,
- spin the front wheel - the brakes shouldn't rub on the wheel rim,

- squeeze the sides of the tyre - inflate it if it feels soft,
- look for gaps, cuts, or bulges on the tyres – these are signs the tyres are worn and need to be replaced (LIVEWELL, 2016c).

If you have a front mudguard, there should be at least 5mm between the front mudguards and the tyre. Remove the mudguard if it rubs against the tip of your shoe when you pedal.

Lift the rear of the bike by the saddle and go through the same checks for the back wheels (LIVEWELL, 2016c).

Brakes Apply the front brakes. Check that -

- the brakes work - try pushing the bike forward with the brakes on,
- the brake pads sit evenly on the wheel rim - they shouldn't touch at one end and not the other,
- the cables inside the brake levers aren't frayed,
- the brake levers and handgrips are tight on the handlebars, all the nuts and screws are attached, and the ends of the handlebar tube are covered (LIVEWELL, 2016c).

Apply the back brake and go through the same checks. The back tyre should slide, not roll, when you apply the brakes and push the bike forward (LIVEWELL, 2016c).

Handlebars and steering All the parts on the handlebars should be tight and you should be able to steer freely. Release the brakes and stand in front of the front wheel and grip it between your knees (LIVEWELL, 2016c).

Then make sure nothing is loose when you try to -

- turn the handlebars from side to side,
- apply the brakes and try to rotate the handlebars (LIVEWELL, 2016c).

Saddle Your saddle should be set at a height that's comfortable for you. Place one heel on the pedal. Your leg should straighten when the pedal is furthest from the saddle.

Make sure you don't raise the saddle high enough to see the height limit mark on the seatpost. If the saddle needs to be this high for you to sit comfortably, you probably need a bigger bike.

Move towards the rear of the bike and hold the saddle tightly. Check that you can't move it up and down or side to side. If it moves, tighten it (LIVEWELL, 2016c).

Chain, gears and pedals Ask someone to work the pedals by hand while you hold the rear wheel off the ground by the saddle. Then -

- shift through all the gears on the back sprocket (a small wheel the chain passes through) and front gear changer to check the chain stays on and moves smoothly,
- wobble each pedal from side to side to check they don't move too much - if they do, the bearings in the bottom bracket need replacing (LIVEWELL, 2016c).

Make sure the chain isn't hanging off, broken, or rusty. Lubricate the chain with some oil if necessary.

For advice on buying and looking after cycling equipment and correct riding positions, go to Bike4Life or speak to the staff at your local bike shop (LIVEWELL, 2016c).

Staying motivated

Make it a habit The easiest way to ensure you cycle regularly is to use your bike as a means of everyday transport. Work out your routes on the Sustrans website, Transport Direct's cycle journey planner or Cycle Streets. If you want some company on your bike ride, whether it's to work or just for fun, find a cycling pal using BikeBUDi. The free Bike Hub iPhone app finds quickest or quietest cycle routes, on roads or on cycle paths. It also locates nearest bike shops (LIVEWELL, 2014h).

Cycle to work Commuting by bike is cheap, green and one of the easiest ways to fit exercise into your routine. Work out your route to work using Sustrans or contact your local council for free cycling maps. Transport for London has an interactive cycle journey planner and free local cycling maps (LIVEWELL, 2014h).

Cycle to school Riding to school is a great way to get the kids more active. Cycling has many benefits for children such as improved health, confidence and concentration. Parents may want to accompany younger children, which makes it a good way for grown-ups to get cycling, too (LIVEWELL, 2014h).

Mix it up There are many wonderful places to cycle in cities and the countryside. Cycling is an ideal way for friends and families to explore their neighbourhood and beyond. Sustrans has free information packs about cycling in your region (LIVEWELL, 2014h).

Join a bike ride From charity rides to park cycles, signing up for a bike ride is a great way to stay motivated and experience the great outdoors. Find a bike ride near you using Bike Hub's events search or Sky and British Cycling's Sky Ride (LIVEWELL, 2014h).

Dancing

From hip-hop to the foxtrot, dance fever is sweeping the nation, fuelled by popular TV shows such as Strictly Come Dancing and Britain's Got Talent.

Dance is the UK's fastest growing art form. More than 4.8 million people regularly attend community dance groups each year in England alone.

Whether you like to jump or jive, tap or tango, shake your belly or your booty, dancing is one of the most enjoyable ways to get some exercise.

Regular dancing is great for losing weight, maintaining strong bones, improving posture and muscle strength, increasing balance and co-ordination, and beating stress.

One of the best things about dancing is that while you're having fun moving to music and meeting new people, you're getting all the health benefits of a good workout.

This section will help you get started in dancing, including wheelchair dancing, introduce you to some popular dance styles taught in the UK, and help you find a dance class in your area (LIVEWELL, 2014i).

Before you start

Most accredited dance schools hold beginners' courses and welcome people with disabilities. Schools are friendly and a great way to socialise. If you don't want to go on your own, get a friend to go with you.

Classes can cost as little as £5–£10 for a 90-minute session. If the first class you try falls short of your expectations, don't be put off. It's worth trying a few different classes until you find the right one for you.

Wear comfortable clothing that gives you freedom of movement and shoes appropriate to the dance style. Some classes - such as ballet, tap or jazz - may require specialist footwear, depending on your level. Avoid wearing jewellery such as earrings, rings and necklaces, which can scratch you or get caught in clothing (LIVEWELL, 2014i).

Find a dance class

- The easiest way to get into dancing is to contact a dance agency in your region on the Dance UK website to find dance classes near you.
- Find your nearest school or teacher accredited by the Council for Dance Education and Training (CDET), the national standards body of the professional dance industry.
- Find a class near you on the Exercise Move Dance website. Search for different styles of dance and levels. You can also sign up to receive healthy recipes, workout plans and local event alerts.
- Find a class near you on the Exercise Movement & Dance Partnership website. Enter your postcode at the top of the page and get information on times, dates, location and more.
- Dance Near You has a database of 1,000-plus dance classes of all levels run by dance teachers, dance schools and studios located across the UK.
- Search Youth Dance England's youth dance directory to find youth dance groups and companies, school teachers and dance events near you.
- London Dance, set up by the Arts Council England and Sadler's Wells Theatre, has a directory of dance classes offered across London.
- If you can't wait to get your dancing shoes on, visit Change4Life's Let's Dance section for free online dance routines, games and ideas for all the family.
- To get into wheelchair dancing and find classes near you, contact the Wheelchair Dance Sport Association (LIVEWELL, 2014i).

Dance styles

Not sure which dance style you'd like to try? Below is a quick guide to some of the most popular dance styles taught throughout the UK (LIVEWELL, 2014i).

Modern jive Modern jive, popularly known as LeRoc and Ceroc, has evolved from jive and swing into one of the simplest of all partner dances. There's no footwork to learn so within half an hour your local club will have you turning

and spinning to the biggest chart hits of today and yesterday, with lots of different partners.

For more information, including classes near you, visit The LeRoc Modern Jive Federation (LIVEWELL, 2014i).

Street dance Street dance describes urban dance styles that evolved in the street, school yards and nightclubs, including hip hop, popping, locking, krumping and breaking. These dances are practised competitively, as well as being an art form and a great workout.

For more information, including classes near you, visit Streetdance UK (LIVEWELL, 2014i).

Ballet The first ballet school, the Académie Royale de Danse, was established in France in 1661. Today there are three main forms of ballet: classical, neoclassical and contemporary. Ballet's conventional steps, grace and fluidity of movement are a great foundation for dance in general.

For more information, including classes near you, visit the Royal Academy of Dance or the British Ballet Organization (LIVEWELL, 2014i).

Contemporary dance Unlike dances such as ballet, contemporary dance is not associated with specific techniques. In contemporary dance, people attempt to explore the natural energy and emotions of their bodies to produce dances that are often very personal.

For more information, including classes near you, contact your regional dance agency on the Dance UK website (LIVEWELL, 2014i).

Salsa dancing Salsa dancing is a fun and flirtatious form of partner dancing, fusing steamy Afro-Caribbean and Latin styles into simple and lively movements. The word "salsa" is Spanish for "sauce" (usually hot and spicy), which is an appropriate description for a dance that is energetic, passionate and sexy. The basic steps are easy to learn, and you'll salsa your way across the dance floor before you know it.

For more information, including classes near you, visit Salsa Jive UK (LIVEWELL, 2014i).

Ballroom dancing Ballroom dancing has made a comeback in recent years, partly thanks to TV shows such as Strictly Come Dancing and Strictly Dance

Fever. There are many styles of ballroom dancing from around the world, such as the waltz, tango and foxtrot, and each has specific step patterns. It is essential for both partners, the leader as well as the follower, to know the steps so they can dance together.

For more information, including classes near you, visit the British Dance Council (LIVEWELL, 2014i).

Zumba Zumba is a popular fitness programme inspired by Latin dance. The word "Zumba" comes from a Colombian word that means to move fast and have fun. Using upbeat Latin music together with cardiovascular exercise, Zumba is aerobic dancing that's great fun and easy to learn.

For more information, including classes near you, visit Zumba Fitness (LIVEWELL, 2014i).

Flamenco dancing From Andalucia in Spain, this is the dance of swirling skirts, castanets and breathtakingly fast heel stomping. Flamenco's musical and dance traditions are centuries old, blending gypsy, Moorish and Andalucian influences. Flamenco is a solo dance characterised by hand clapping, percussive footwork and intricate hand, arm and body movements.

For more information, including classes near you, visit the Spanish Dance Society (LIVEWELL, 2014i).

Tap dancing Tap dance uses shoes with small metal plates on the soles to make the dance itself part of the music. Tap evolved in America and had its roots in African dance, Irish dance and clog dancing. Tap is as popular today as it was in the heyday of the great Fred Astaire and Gene Kelly musicals, and companies like Tap Dogs demonstrate how contemporary it can be.

For more information, including classes near you, visit the tap section on the Imperial Society of Teachers of Dancing (ISTD) website (LIVEWELL, 2014i).

Bollywood dancing Bollywood dancing stems from the Indian film industry and is now popular throughout the world. It's known for being upbeat and often helping to tell a story or show emotions. Bollywood dance blends classical Indian dance forms - with its intricate hand gestures and footwork - with modern western styles, including hip hop and jazz.

For more information, including classes near you, visit the South Asian Dance Alliance (LIVEWELL, 2014i).

Modern jazz dance Jazz dancing is energetic and fun, consisting of unique moves, fancy footwork, big leaps and quick turns. Jazz dance evolved alongside jazz music and was popularised in ballrooms across the US by the big bands of the swing era. It offers a full body workout, developing dance ability, flexibility, strength and rhythm.

For more information, including classes near you, contact your regional dance agency on the Dance UK website (LIVEWELL, 2014i).

Wheelchair dancing BBC3's Dancing on Wheels has done wonders for the sport of wheelchair dancing and raised its profile as a recreational activity. Wheelchair dancing is open to people of all abilities, including mixed ability dance partners. From the ballroom to the street - not forgetting ballet, and group dances like Gangnam or line dancing - nothing is off limits for those wheels of steel.

For more information and to find a class near you, visit the Wheelchair Dance Sport Association (LIVEWELL, 2014i).

Nordic walking

Nordic walking is a full-body exercise that's easy on the joints and suitable for all ages and fitness levels. Find out about Nordic walking technique, the health benefits and getting started (LIVEWELL, 2015o).

What is Nordic walking?

Nordic walking was originally a summer training regime for cross-country skiers. It's based on using specially designed walking poles in a way that harnesses the power of the upper body to propel you forward as you walk. It is now a recognised way to turn a walk into whole body exercise that can be done by anybody anywhere (LIVEWELL, 2015o).

Who is Nordic walking suitable for?

Nordic walking is suitable for people of all ages and fitness levels. Classes range from gentle walks for people with health concerns, to workout walks, which are a great way to improve fitness, lose weight and tone the whole body (LIVEWELL, 2015o).

What equipment do you need?

You'll need a pair of Nordic walking poles (which are different to those used for trekking due to how you use the strap and the angle you plant them on the ground) and walking shoes and appropriate clothing. Most Nordic walking instructors will provide the poles but you can buy a pair for about £30 (LIVEWELL, 2015o).

What difference do the poles make?

When properly used, the poles take the weight off the knees and lower body joints - this makes you feel lighter on your feet (LIVEWELL, 2015o).

What's the technique?

You move in a similar way to ordinary walking and swing your arms from your shoulder with your elbows straight - think of a soldier marching. To get the full benefits and avoid injury, Gill Stewart of Nordic Walking UK recommends that you start with lessons to get the basic technique (LIVEWELL, 2015o).

What are the health benefits of Nordic walking?

Similar to other forms of moderate activity, regular Nordic walking can lower your risk of chronic illnesses, such as heart disease, type 2 diabetes, asthma, stroke and some cancers. Nordic walking, like any other form of exercise, can also be used as part of an exercise programme to lose weight (LIVEWELL, 2015o).

Is Nordic walking hard on your joints?

Nordic walking is no harder on the joints than walking. It's an activity suitable for people with joint conditions or who may be carrying some extra body weight (LIVEWELL, 2015o).

How do you get started?

Nordic walking can be done in any location, city or countryside, but it's recommended that you learn the technique from a qualified instructor. They will generally offer a taster session so that you can make sure it's something that's right for you first. Most instructors also run local groups, which you can join for

regular walks once you have learned the technique. Find an instructor on the websites of Nordic Walking UK or British Nordic Walking (LIVEWELL, 2015o).

Pilates

What is pilates?

Pilates aims to strengthen the body in an even way, with particular emphasis on core strength to improve general fitness and wellbeing. Pilates exercises are done on a mat or using special equipment, such as the Reformer, the Cadillac and Wunda Chair. With its system of pulleys and springs, handles and straps, the apparatus can provide either resistance or support, depending on your needs.

Pilates was developed by German-born Joseph Pilates, who believed mental and physical health were closely connected. His method was influenced by western forms of exercise, including gymnastics, boxing and Greco-Roman wrestling. Pilates immigrated to the US in the 1920s and opened a studio in New York, where he taught his method - which he called contrology - for several decades (LIVEWELL, 2015q).

Who is pilates for?

Pilates has something to offer people of all ages and levels of ability and fitness, from beginners to elite athletes. The apparatus can be used to provide support for beginners and people with certain medical conditions, as well as resistance for people looking to challenge their body. Before starting any exercise programme, it's advisable to seek advice from your GP or a health professional if you have any health concerns, such as a health condition or an injury (LIVEWELL, 2015q).

What are the health benefits of pilates?

There are many reports on the health benefits of pilates. However, few of these have been subjected to rigorous scientific examination and there's a need for more research in this area. Practitioners say regular pilates practise can help improve posture, muscle tone, balance and joint mobility, as well as relieve stress and tension. For elite athletes, including dancers, pilates can complement their training by developing whole body strength and flexibility, and help reduce the risk of injury (LIVEWELL, 2015q).

Can pilates help reduce back pain?

There's some evidence that pilates can provide pain relief to people with non-specific lower back pain. The use of apparatus enables someone with back pain to perform exercises with support. For the exercises to be effective, they need to be tailored to the individual and vetted by an appropriately qualified health professional. Pilates teachers are not medically qualified and cannot prescribe, treat or offer therapy (LIVEWELL, 2015q).

Can pilates help me lose weight?

Pilates is classed as a muscle-strengthening activity, which can help you maintain a healthy weight. Classes can vary in intensity: they can be gentle, or dynamic and offer a solid workout. If you want to lose weight, you're advised to combine pilates with a healthy diet and some aerobic activities, such as swimming, walking and cycling (LIVEWELL, 2015q).

Try our pilates video workouts -

- pilates for beginners
- pyjama pilates

Can I injure myself doing pilates?

Pilates is a low-impact form of exercise, so injuries are uncommon. However, it's important that you find a qualified teacher and a class suited to your level of fitness and ability. Pilates teachers aren't medically qualified, so if you're recovering from injury, you are advised to check with your GP or relevant health professional on the suitability of certain exercises or movements before starting a class (LIVEWELL, 2015q).

What's the difference between pilates and yoga?

While the methods are different, pilates and yoga both develop strength, balance, flexibility, posture and good breathing technique. Both systems emphasise the connection between physical and mental health, although yoga places more emphasis on relaxation and uses meditation. Pilates is performed both on apparatus and mats, whereas classic yoga doesn't require any equipment. Pilates exercises are performed in a flow of movement without the static poses associated with yoga (LIVEWELL, 2015q).

What's the difference between apparatus and mat work?

Joseph Pilates originally devised more than 500 exercises for his system, of which 34 were mat exercises. Mat work may involve traditional pilates equipment such as magic circles or hand weights, as well as non-pilates gear such as stretch bands, gym balls and foam rollers. Pilates with apparatus uses equipment designed by Joseph Pilates, such as the Reformer, Cadillac, Wunda Chair, Spine Corrector and Ladder Barrel.

Mat and apparatus pilates can be adapted to suit different levels of fitness and ability. However, if you cannot lie down on a mat for whatever reason, the apparatus can provide alternative ways to exercise.

Pilates can be taught on a one-to-one or group basis. If you have a health condition that may require close attention, check with the pilates teacher that their class is suitable. Classes using apparatus offer a higher level of individual attention, but they're usually more expensive (LIVEWELL, 2015q).

Choosing a pilates class

Pilates can be taught in a dedicated pilates studio with apparatus, or in an open area with mats and small equipment. Both mat and apparatus pilates can be taught privately or in small groups, with most classes lasting 60 minutes.

Ideally, apparatus classes should be taught on a one-to-one basis, and around a maximum of 12 for mat work, to ensure personal attention can be provided. Group apparatus classes are popular, but a degree of experience in using the apparatus is advisable before joining a group class.

Anyone can call themselves a pilates teacher as there is currently no legal requirement to be registered or have a pilates qualification. There is a nationally recognised level 3 qualification for mat-based pilates teaching, but no qualification for teaching pilates using apparatus.

When choosing a pilates teacher, you should consider their experience and the quality of their training, as well as their personality and rapport. Experienced teachers will normally have undergone a minimum of 450 teacher training hours over a period of several months or years (LIVEWELL, 2015q).

Running

Running is free, you can do it anywhere, and it burns more calories than any other mainstream exercise.

Regular running can reduce your risk of chronic illnesses, such as heart disease, type 2 diabetes and stroke. It can also boost your mood and keep your weight under control.

It's not surprising that running is the latest fitness craze, with Gordon Ramsay, Nigella Lawson and Katie Price among the celebrities who love it.

This section is designed to make running a safe and enjoyable experience for beginners, and to provide you with tips on how to stay motivated (LIVEWELL, 2014t).

Before you start

If you feel out of shape, or you're recovering from injury or worried about an existing condition, see your GP before you start running.

If you've not been active for a while, you may want to build your fitness levels gently with the section on Walking before you move on to running.

Running requires very little equipment, but a good pair of running shoes that suit your foot type will reduce the risk of injury.

There are many types of trainers on the market, so get advice from a specialist running retailer who will assess your foot and find the right shoe for you.

The shoes' shock absorbers weaken over time, increasing your risk of injury. It's advisable to replace running shoes every 300 miles (482km).

Plan your runs. Work out when and where (the exact route and time) you're going to run and put it in your diary. That way, it won't slip your mind (LIVEWELL, 2014t).

What to wear

If you haven't exercised for a while, chances are you may not have any suitable clothing. Don't let this be an excuse - once you have the outfit sorted, you're far more likely to feel motivated to get out there and use it.

You need a pair of running shoes. Shop around and find sales staff with some technical knowledge. A decent pair of running shoes can cost around £30 to £40, and running socks can also reduce your risk of blisters.

In terms of clothing, you don't really need technical gear. You just need something loose and comfortable in a breathable material, like cotton. If you keep running regularly after completing Couch to 5K, some specialist clothing would be a good investment.

Women should also consider buying a sports bra, which is sturdier than a regular bra and provides additional support. Normal bras reduce breast movement by around 30%, but a good sports bra achieves closer to 55% (LIVEWELL, 2014g).

Starting out

To avoid injury and enjoy the experience, it's essential to ease yourself into running slowly and increase your pace and distance gradually over several outings.

Start each run with a gentle warm-up of at least five minutes. This can include quick walking, marching on the spot, knee lifts, side stepping and climbing stairs.

Start walking for an amount of time that feels comfortable (anywhere from 10 to 30 minutes).

Once you can walk for 30 minutes easily, include some running intervals of one to two minutes into your walking at a speed that feels comfortable.

As time goes on, make the running intervals longer, until you're running for 30 minutes continuously.

Run with your arms and shoulders relaxed, and elbows bent. Keep an upright posture and a smooth running stride, striking the ground with the middle of your foot. For more information on good running technique, read How to run correctly.

Give yourself a few minutes to cool down (to bring your heartbeat back to normal) after each run by walking followed by gently stretching your leg muscles.

Regular running for beginners means getting out at least twice a week. Your running will improve as your body adapts to the consistent training stimulus.

It's better to run twice a week, every week, than to run half a dozen times one week and then do no running for the next three weeks (LIVEWELL, 2014t).

Warming up and down

Each Couch to 5K run includes a five-minute walk at the beginning and end of the session. Don't just go out the front door and start running, make sure you go through the preparatory brisk walking stage. As for stretching before a run, opinion is divided on whether this is necessary or even helpful.

For a warm-down, the worst thing you can do is stop running and immediately sit down, so keep walking until you're fully recovered.

You may want to put on an extra layer of clothing while cooling down, as this will stop you getting cold (LIVEWELL, 2014g).

How to run

Good running technique will help make your runs feel less tiring, reduce your risk of injury and, ultimately, be more enjoyable.

Avoid striking the ground with your heel or your forefoot first. Landing on the middle of your foot is the safest way to land for most recreational runners. Your foot should land below your hips - not right in front of you (LIVEWELL, 2014g).

How to run correctly

Running should be as easy as putting one foot in front of the other, right? Anyone can run, but having proper technique can make a huge difference.

Good running technique will help make your runs feel less tiring, reduce your risk of injury and ultimately be more enjoyable.

Mitchell Phillips, director of running experts StrideUK, shares his basic tips to help you run relaxed and efficiently (LIVEWELL, 2014q).

Keep your head straight Look straight ahead of you, about 30 to 40 metres out in front, and avoid looking down at your feet. Looking down will create tension in your neck and shoulders. Keep your jaw and neck relaxed (LIVEWELL, 2014q).

Don't hunch your shoulders Your shoulders should be back and down. Keep them relaxed and avoid tensing them. Don't hunch over as this restricts breathing, allowing less oxygen to get to the muscles (LIVEWELL, 2014q).

Keep your hands relaxed Your hands should be relaxed, but don't let them flop. Tight hands can cause tension all the way up to the back and shoulders (LIVEWELL, 2014q).

Keep your arms at 90 degrees Your arms should be bent at a 90-degree angle. Try to swing them forward and back, not across your body. The arm movement helps to propel you forward, so swinging them sideways is a waste of energy (LIVEWELL, 2014q).

Lean forward while running Don't bend forward or backward from the waist as this places pressure on the hips. Some experts advise running in an upright position, but Phillips believes using your body weight to lean forward a bit while running can reduce heel strike and help you land on the middle of your foot (LIVEWELL, 2014q).

Keep your hips stable Your hips should remain stable and forward-facing. Don't stick your bottom out or rock your hips from side to side. Keeping this position in your hips can help prevent low back and hip pain (LIVEWELL, 2014q).

Don't lift your knees too high Land with a slight bend in the knee. This helps to absorb the impact of running on hard surfaces. Don't lift your knees too high and avoid bouncing up and down. Your knees should be lifting forwards rather than upwards (LIVEWELL, 2014q).

Aim for a mid-foot strike Landing on the middle of your foot is the safest way to land for most recreational runners. Avoid striking the ground with your heel or your forefoot first. Your foot should land below your hips - not out in front of you (LIVEWELL, 2014q).

Don't strike the ground heavily Aim for short light steps. Good running is light and quiet. Whatever your weight, your feet should not slap loudly as they hit the ground. Light steps are more efficient and cause less stress to the body (LIVEWELL, 2014q).

Breathe deeply and rhythmically Whether you breathe through your nose or mouth, try to breathe deeply and rhythmically. Avoid shallow and quick breaths. Try to aim for one breath for every two strides, but don't be afraid to try longer breathing (LIVEWELL, 2014q).

Eating and drinking

It's important to have energy for your run, but don't overdo it. Avoid having a large meal within two hours of your run. You need blood to be in your muscles, not your digestive system. However, a light snack, such as a banana, before running is fine.

As for water, provided you are drinking enough throughout the day, this should not be problem. Some people like to have a water bottle with them while running. If you're thirsty, drink - just not too much (LIVEWELL, 2014g).

Finding time and staying on track

If you have decided to take on the challenge of Couch to 5K, you are probably making a commitment to becoming more active. This is great and is so important for your health, but making a change like this will require effort and dedication.

"*When you decide to start Couch to 5K, you need to examine all the potential barriers that could get in the way and work out in advance how you're going to deal with them*," explains Robin Gargrave of Central YMCA, the activity for health charity. "*Once you've done that, you can start to commit some time, and I would put that in your diary or have a chart on the wall. You could even put some reminders up on the fridge to remind you of the benefits - anything that might trigger you.*"

Robin also recommends persuading a friend or relative to get involved too. "*Running with a buddy can really help. Family members need at least to be supportive - it would be fantastic if they can buddy you and come along for a run.*"

Robin also says it's important to accept in advance that you will encounter setbacks in your Couch to 5K journey. You might have a hectic week at work, be away from home, or even experience illness or injury. "*If you're feeling under the weather - particularly if you have a temperature - do not run*," warns Robin. "*It could be dangerous. But lapse is not failure. Everyone lapses, just don't give up. It doesn't matter - as long as you get back on the programme*" (LIVEWELL, 2014g).

Staying motivated

Improve your running If you're looking to improve your running, why not try the NHS Choices 5K+ running podcasts. Each podcast in the series provides a structured run with running music and coaching to develop your running technique, speed and stamina (LIVEWELL, 2014t).

Set yourself a goal Whatever your level, setting challenges is useful to stay motivated. Training for a race, such as a 5K, or a charity run is a good way to keep going (LIVEWELL, 2014t).

Run with a friend It really helps to have someone about the same level of ability as you to run with. You'll encourage each other when you're not so keen

to run. You'll feel you don't want to let your running partner down, and this will help motivate you. Find a running partner on realbuzz or Jogging buddy (LIVEWELL, 2014t).

Keep a diary Keep a diary of your runs. Note down each run, including your route, distance, time, weather conditions and how you felt. That way, whenever your motivation is flagging, you can look back and be encouraged by how much you've improved. Check out Real Buzz's running blogs (LIVEWELL, 2014t).

Mix it up Keep your running interesting by adding variety. Running the same route over and over again can become boring. Vary your distances and routes. Use Real Buzz's route planner to find, record and share your favourite running routes (LIVEWELL, 2014t).

Join a club A running club is the perfect way to commit to running regularly. Most clubs have running groups for different levels, including beginners. Clubs are also a great way to find running partners to run with outside of club sessions. Find a running club near you with UK Athletics' club search (LIVEWELL, 2014t).

Swimming

Swimming is a great form of all-round exercise. It's ideal if you want to be more active and stay healthy, whatever your age or ability.

Regular swimming can reduce the risk of chronic illnesses, such as heart disease, type 2 diabetes and stroke. It can also boost your mood and keep your weight under control.

Swimming is a lifelong skill that could save a life. If you can't swim, it's never too late to learn. Most pools cater for a variety of tastes and abilities, such as women-only classes, parent and toddler groups, and lessons for different age groups.

This guide is designed to make swimming fun and safe for beginners of all ages, and encourage them to stick with it (LIVEWELL, 2014x).

Before you start

For most people, swimming is a safe and effective form of exercise. If you're worried about an existing health condition, see your GP before you start swimming.

Don't worry if you're afraid of the water or panic when you think about the deep end. Beginners' lessons focus on building confidence in the water.

A swimming costume is all you need. Make sure your swimwear is comfortable and fits properly.

If you wish to cover up, most pools allow you to wear whatever swimwear you like, within reason, such as leggings or a close-fitting, long-sleeved T-shirt.

Wearing a pair of goggles is a good idea to avoid the stinging sensation caused by chlorine in the water and to see where you're going under water (LIVEWELL, 2014x).

Starting out

The best place to get started is at your local pool. You'll find information on classes for different age groups and levels, women-only sessions, timetables and prices.

Most pools offer adult-only beginners' lessons, which focus on building water confidence and improving your stroke.

If you're unsure about starting lessons, ask if you can watch a class or two to get a better idea if it's for you, or ask to speak with one of the teachers.

A 30-minute session of moderate to vigorous-intensity aerobic activity at the pool on one or more days a week will count towards your recommended weekly activity.

But any improvement on what you currently do is good. Even small changes can make a big difference to your health and make you feel great (LIVEWELL, 2014x).

Staying motivated

Make it a habit Try to set aside time every week to go to the pool, before or after work or on weekends. Write it in a diary so it becomes a permanent fixture in your weekly schedule. Consider getting an annual swim pass. This will help you save money and encourage you to go more often (LIVEWELL, 2014x).

Take the kids Swimming is a great way for families to get moving and have fun together. There are so many things you can do to keep the kids interested, such as humming songs under water. For more swimming games, see the Change4Life website (LIVEWELL, 2014x).

Swim with a friend It really helps to go swimming regularly with someone of about the same ability as you. You'll encourage each other when you're not so keen to go to the pool. You'll feel you don't want to let your swimming partner down and this will help motivate you (LIVEWELL, 2014x).

Mix it up The swimming pool makes a great playground and a great gym, even for non-swimmers, with activities such as aquafit. However, learning to swim will introduce you to a whole new world of water-based activities in the pool and beyond (LIVEWELL, 2014x).

Join a club If you enjoy swimming and want to get more involved, consider joining a club. Clubs are a great way to make new friends, improve your swimming and motivate you to exercise regularly. Most clubs have a lively social scene away from the pool, with trips and nights out. Find a swimming club near you (LIVEWELL, 2014x).

Open water swimming For competent swimmers there is a world of swimming opportunities beyond the pool, such as rivers, lochs, lakes and the sea. Open water swimming can be great fun so long as you take the necessary safety precautions. Avoid swimming alone. Plan your swim: check the water temperature, entry and exit points, currents and tides (where relevant), weather conditions and water cleanliness. For more information, including a wild swim map, visit the Outdoor Swimming Society (LIVEWELL, 2014x).

Tai-chi

All you need to know about tai chi, including the health benefits, different styles and getting started (LIVEWELL, 2015t).

What is tai chi?

Tai chi, also called tai chi chuan, combines deep breathing and relaxation with slow and gentle movements. Originally developed as a martial art in 13th-

century China, tai chi is today practised around the world as a health-promoting exercise (LIVEWELL, 2015t).

What are the health benefits of tai chi?

While there's scope for more rigorous research on tai chi's health benefits, studies have shown that tai chi can help people aged 65 and over to reduce stress, improve balance and general mobility, and increase muscle strength in the legs (LIVEWELL, 2015t).

Can tai chi help to prevent falls?

Some research suggests that tai chi can reduce the risk of falls among older adults who are at increased risk. However, more research is needed (LIVEWELL, 2015t).

Can tai chi help with arthritis?

There is some evidence that tai chi can improve mobility in the ankle, hip and knee in people with rheumatoid arthritis (RH). However, it is still not known if tai chi can reduce pain in people with RH or improve their quality of life (LIVEWELL, 2015t).

Is tai chi good for treating osteoporosis?

Studies have looked into the potential benefits of tai chi for people with osteoporosis, but there is currently no convincing evidence that tai chi can prevent or treat the condition (LIVEWELL, 2015t).

Am I too old for tai chi?

No, tai chi is commonly performed as a low-impact exercise, which means it won't put much pressure on your bones and joints. Most people should be able to do it (LIVEWELL, 2015t).

Is tai chi suitable for me?

Get advice from your GP before starting tai chi if you have any health concerns or an existing health condition. You may need to take certain precautions if you're pregnant, have a hernia, back pain or severe osteoporosis (LIVEWELL, 2015t).

Don't I need to be fit to do tai chi?

No, tai chi is for everyone. It is ideal for inactive older people wanting to raise their activity levels gently and gradually. Also, many of the tai chi movements can be adapted to people with a disability, including wheelchair users (LIVEWELL, 2015t).

Can I injure myself doing tai chi?

Tai chi is essentially a gentle activity that is unlikely to cause injury if done correctly. The exercises involve lots of flowing, easy movements that don't stress the joints or muscles (LIVEWELL, 2015t).

Tips on getting started

It's a good idea to watch a class or attend a free taster session before signing up for a course. If you have a medical condition, any health concerns or haven't exercised for a long time, speak to your GP before you start tai chi (LIVEWELL, 2015t).

Are there different styles of tai chi?

Yes, such as yang, chen and wu. Some teachers often practise a combination of styles. The main differences between the different tai chi styles are in the speed of movement and the way the body holds the postures [30] (LIVEWELL, 2015t).

What's the basic technique?

Tai chi is characterised by its slow, graceful, continuous movements that are gentle on the joints and muscles. Done correctly, you'll find that the tai chi poses flow smoothly from one into another. Many movements are completed with bent knees in a squat-like position (LIVEWELL, 2015t).

[30] a series of movements designed to increase strength and flexibility

Can I learn tai chi from a book or DVD?

It's a good idea to learn the basics of tai chi from an instructor to make sure your style is correct, effective and won't cause injury. You can consider using a book or DVD once you're familiar with the poses (LIVEWELL, 2015t).

Walking

Walking is simple, free and one of the easiest ways to get more active, lose weight and become healthier.

It's underrated as a form of exercise, but walking is ideal for people of all ages and fitness levels who want to be more active.

Regular walking has been shown to reduce the risk of chronic illnesses, such as heart disease, type 2 diabetes, asthma, stroke and some cancers.

Use this section to increase the amount of walking you do every week and maximise the health benefits (LIVEWELL, 2014aa).

Before you start

A pair of shoes is all the equipment you really need. Any shoes or trainers that are comfortable, provide adequate support and don't cause blisters will do.

Wear loose-fitting clothing that allows you to move freely. Choose thin layers rather than heavy, chunky clothing.

If you're walking to work, you can just wear your usual work clothes with a comfy pair of shoes.

For long walks, you may want to take some water, healthy snacks, a spare top, sunscreen and a sunhat in a small backpack.

If you start taking regular, longer walks, you may want to invest in a waterproof jacket and some walking boots for more challenging routes (LIVEWELL, 2014aa).

Starting out

Start slowly and try to build your walking regime gradually. To get the health benefits from walking, it needs to be of moderate-intensity aerobic activity. In other words, it needs to be faster than a stroll.

Moderate-intensity aerobic activity means you're walking fast enough to raise your heart rate and break a sweat. One way to tell is that you'll be able to talk, but not sing the words to your favourite song.

Try to walk 10,000 steps a day. Most of us walk between 3,000 and 4,000 steps a day anyway, so reaching 10,000 isn't as daunting as it might sound.

If, to begin with, you can only walk fast for a couple of minutes, that's fine. Don't overdo it on your first day.

You can break up your activity into 10-minute chunks, as long as you're doing your activity at a moderate intensity.

Begin every walk slowly and gradually increase your pace. After a few minutes, if you're ready, try walking a little faster.

Towards the end of your walk, gradually slow down your pace to cool down. Finish off with a few gentle stretches, which will improve your flexibility.

From walking to the shops or part of your journey to work, to walking the dog and organised group walks, try to make every step count (LIVEWELL, 2014aa).

Staying motivated

Make it a habit The easiest way to walk more is to make walking a habit. Think of ways to include walking into your daily routine. Examples include -

- walking part of your journey to work,
- walking to the shops,
- using the stairs instead of the lift,
- leaving the car behind for short journeys,
- walking the kids to school,
- doing a regular walk with a friend,
- going for a stroll with family or friends after dinner (LIVEWELL, 2014aa).

If you live in a city, Walkit has an interactive walk planner to help you find the best walking route. Each suggested route includes your journey time, calorie burn, step count and carbon saving (LIVEWELL, 2014aa).

Mix it up Add variety to your walks. You don't have to travel to the countryside to find a rewarding walk. Towns and cities offer interesting walks, including parks, heritage trails, canal towpaths, riverside paths, commons, woodlands, heaths and nature reserves. For inspiring walks, visit Walk England. For wheelchair users, visit Walks with wheelchairs and for parents with buggies, visit Walks with buggies (LIVEWELL, 2014aa).

Join a walking group Walking in a group is a great way to start walking, make new friends and stay motivated.

Walking for Health's Walk Finder allows you to search for organised walks near you. Many of the walks are aimed at people who do little or no exercise, but who would like to become more active.

Ramblers organises group walks for everyone, including previously inactive people, those with a specific health condition and wheelchair users.

The UK's 15 National Parks run free guided walks for the whole family during the holidays (LIVEWELL, 2014aa).

Become a volunteer One way to keep walking regularly is by becoming a volunteer to promote walking in your community and help other people get active. Walking for Health is England's largest network of health walk schemes, helping people across the country lead a more active lifestyle. Volunteering is a great way to keep active, make new friends and explore your local area (LIVEWELL, 2014aa).

Get your boots on Ramblers promotes walking for health, leisure and as a means for getting around to people of all ages, backgrounds and abilities, in towns and cities, as well as the countryside. Its website has details of many locally organised walking groups, for all levels of fitness (LIVEWELL, 2014aa).

Set yourself a goal You can walk 1,000 steps in around 10 minutes. Pedometers are a fun way to keep track of your walking. Use a pedometer to work out your average daily steps and then start adding extra steps. Find out how you can benefit from walking 10,000 steps on five or more days a week (LIVEWELL, 2014aa).

Yoga

All you need to know to get started with yoga, including the health benefits, yoga styles for beginners, and finding a yoga class (LIVEWELL, 2015x).

What is yoga?

Yoga is an ancient form of exercise that focuses on strength, flexibility and breathing to boost physical and mental wellbeing. The main components of yoga are postures and breathing. The practice originated in India about 5,000 years

ago, and has been adapted in other countries in a variety of ways. Yoga is now commonplace in leisure centres, health clubs, schools, hospitals and surgeries (LIVEWELL, 2015x).

What are the health benefits of yoga?

Dozens of scientific trials of varying quality have been published on yoga. While there's scope for more rigorous studies on its health benefits, most studies suggest yoga is a safe and effective way to increase physical activity, especially strength, flexibility and balance. There's some evidence that regular yoga practice is beneficial for people with high blood pressure, heart disease, aches and pains - including lower back pain - depression and stress (LIVEWELL, 2015x).

Does yoga contribute towards my 150 minutes of activity?

Most forms of yoga are not strenuous enough to count towards your 150 minutes of moderate activity, as set out by government guidelines. However, yoga does count as a strengthening exercise, and at least two sessions a week will help you meet the guidelines on muscle-strengthening activities. Activities such as yoga and tai chi are also recommended to older adults at risk of falls to help improve balance and co-ordination (LIVEWELL, 2015x).

Can yoga help prevent falls?

Yes. Yoga improves balance by strengthening your lower body, in particular your ankles and knees, thereby reducing your chances of falling. However, falls may sometimes be caused by a health condition, in which case it's a good idea to see your GP or visit a falls clinic at a local hospital (LIVEWELL, 2015x).

Can yoga help with arthritis?

Yoga is popular with people with arthritis for its gentle way of promoting flexibility and strength. Some research suggests yoga can reduce pain and mobility problems in people with knee osteoarthritis. However, some yoga moves aren't suitable for people with the condition. Find a teacher who understands arthritis and can adapt movements for individual needs, especially if you have replacement joints. Check with a doctor or physiotherapist to find out if there are any movements to avoid (LIVEWELL, 2015x).

Am I too old for yoga?

Definitely not. People often start yoga in their 70's, and many say they wish they had started sooner. There are yoga classes for every age group. Yoga is a form of exercise that can be enjoyed from childhood to your advanced years (LIVEWELL, 2015X).

Do I have to be fit to do yoga?

No, you can join a class that's suitable for your fitness level. For example, to join a mixed ability yoga class, you need to be able to get up and down from the floor. Some yoga classes are chair-based (LIVEWELL, 2015X).

Don't I need to be flexible to do yoga?

Not necessarily. Yoga will improve your flexibility and help you go beyond your normal range of movement, which may make performing your daily activities easier (LIVEWELL, 2015X).

Can I injure myself doing yoga?

Yoga-related injuries are uncommon. Some injuries can be caused by repetitive strain or overstretching. But yoga is the same as any other exercise discipline. It is perfectly safe if taught properly by people who understand it and have experience. Learning from a qualified yoga teacher and choosing a class appropriate for your level will ensure you remain injury-free (LIVEWELL, 2015X).

What style of yoga should I do?

There are many different styles of yoga, such as Ashtanga, Iyengar and Sivananda. Some styles are more vigorous than others. Some may have a different area of emphasis, such as posture or breathing. Many yoga teachers develop their own practice by studying more than one style. No style is necessarily better or more authentic than any other. The key is to choose a class appropriate for your fitness level (LIVEWELL, 2015X).

What type of class should I look out for?

Classes can vary in duration, but typically last between 45 minutes to 1 hour and 30 minutes. A longer class will give you more time for learning breathing and relaxation techniques, and will give the teacher time to work with your individual ability. It's worth speaking to a teacher about their approach before you sign up for a class (LIVEWELL, 2015X).

Where can I find a yoga class?

No specific qualifications are required to teach yoga in the UK. However, it is generally accepted that teachers need to be insured and have a teaching certificate and accreditation from a yoga association (LIVEWELL, 2015X).

The main UK yoga associations are -

- British Wheel of Yoga (BWY), the Sport England-recognised governing body for yoga,
- Independent Yoga Network,
- Iyengar Yoga Association UK,
- Yoga Alliance UK (LIVEWELL, 2015X).

These associations all list teachers and classes near you on their websites. You can also search for a local class or teacher using the following websites -

- Local Yoga Classes,
- Yoga Class Near You,
- Yoga Village UK,
- Yogahub (LIVEWELL, 2015X).

Can I use a book or a yoga DVD instead of going to a class?

It's better to start with a class to learn the poses and breathing techniques correctly. With a DVD, there will be nobody to correct your mistakes, which may lead to injury over time. With some experience of being in a class, a DVD can then be helpful for keeping up practice (LIVEWELL, 2015X).

Summer energy saving tips

There will forever be tips out there for saving energy in the winter months, but did you know there are steps you can take to prevent your energy bill soaring in the summer?

Whether you are turning up the air conditioning, using more water to run showers or using more electricity to power a fan that keeps them cool indoors, there's one result that is guaranteed - and that's the cost.

According to a recent study, customers of the Big Six energy companies are paying £4 billion more than they should be because they remain on higher tariffs. But for older people, with a limited budget and little knowledge of which energy providers offer the best value for money, the cost of heating needs to be controlled (WHENTHEYGETOLDER, 2016).

What temperature is considered safe for an older person?

There are many risks associated with warmer temperatures, as they put people in danger of exhaustion, heat stroke and other severe health problems caused by hot environments. Older people are at higher risk of developing these health-related illnesses because their bodies' ability to respond to summer heat can become less effective with advancing years.

Fortunately, the summer can remain safe and enjoyable for those who use good, sound judgment. As the temperature starts to rise, it makes sense to turn the thermostat down a notch and let the sun fill a home with natural light and warmth. A safe household temperature is considered to be at least 18'C, so it's a good idea to check it regularly. If the weather takes a turn for the worse, it might be time to turn it up again.

If this might be difficult you can control your heating by installing an A-rated boiler with a full set of heating controls. The radiators will heat up until the room reaches the temperature you have set, and then off until the temperature drops. This will allow you to keep your home at a comfortable temperature without wasting energy or heat (WHENTHEYGETOLDER, 2016).

Consider heatwave friendly alternatives

The terms "insulation" and "cavity walls" are thrown around during the winter time with the promise of keeping heat in and cold air out. But a well-insulated

home is a sound investment all year round with the circulation of cool air indoors and warm air outside the house.

While it can be expensive to install insulation, you may qualify for a home insulation and heating grant. If you have found yourself struggling with the costs of the summer, then you could be eligible (WHENTHEYGETOLDER, 2016).

Go solar for summer

There are lots of ways to make the most of the sunshine - building an extension or greenhouse and spending more time gardening. But for the older generation, with less energy or the support needed for manual labour, this may not be an option for them.

A way to generate your own (free) energy is through solar panels. Sunlight is free, so once the initial installation has been paid for, electricity running costs will be reduced and you will benefit from year round warmth. How viable this is and how long it takes to recover costs depends on factors such as initial investment and how much sunlight is available (WHENTHEYGETOLDER, 2016).

Let the sunlight inside

One thing you can rely on to keep you warm and cosy in your home is sunlight, and with the 16 long hours of sunlight the summer season brings, don't let this go to waste.

The rays coming through your windows will heat the home naturally and reduce the amount of time your boiler will need to be left on. Keep your curtains open for as many hours as possible to fill your room with brightness and to direct sunlight into your homes (WHENTHEYGETOLDER, 2016).

Switch off the lights

Most incandescent lights convert 90% of the electricity they consume into heat, and only 10% into light. Instead, recommend the elderly swap their current bulbs for an energy-efficient alternative, such as compact fluorescent bulbs which use less energy while emitting a brighter light. They also have a longer lifespan and therefore need to be replaced less often, in turn saving them money and you the worry of them getting up that ladder again!

If the right precautions are taken and we follow the above steps to support the elderly when they need us, then Britain's elders can enjoy the summer sun while saving money on their energy bills (WHENTHEYGETOLDER, 2016).

Chapter 8

Self-harm and Suicide

Contents

The statistics

Anecdotal evidence amongst trans groups has suggested that trans people are experiencing -

- high levels of depression,
- anxiety,
- self-harm and
- suicidal ideation (McNeil et al., 2012).
- discrimination, including
  - stigma,
  - transphobia,
  - bullying (Dockerty and Guerra, 2015).

And these are all related to transphobic discrimination experiences and a lack of appropriate health service provision (especially in regard to lack of access to timely, good quality and patient-centred NHS gender reassignment services) (McNeil et al., 2012).

One study in the UK found that 34.4% of trans adults had attempted suicide at least once and almost 14% of trans adults had attempted suicide more than twice (Whittle, Turner, and Al-Alami, 2007).

Another UK study found that 84% had thought about ending their lives at some point (N=581) [31]. These participants were then asked for more information about their experiences. 27% of those who had thought about ending their lives at some point, had thought about attempting suicide within the last week (N=471) with 4% thinking about it every day. In the last year 63% had thought about attempting suicide (N=472) with 3% thinking about it daily (McNeil et al., 2012).

Prevalence of actual suicide attempts, among those who had thought about ending their lives at some point, was 11% within the last year (N=427), however lifetime prevalence [32] was substantially higher, at 48% (N=436). 33% had attempted to take their life more than once in their lifetime, 3% attempting suicide more than 10 times. More significantly, 11% of the respondents were unsure as to whether they were planning to attempt suicide in the near future, and 3.2% were planning to (N=473). When the participants who had never thought about suicide (and therefore were not asked further questions about suicidal ideation and attempts) are factored back in, this results in overall suicide attempt rates (N=581) of 35% attempting suicide at least once and 25% attempting suicide more than once (McNeil et al., 2012).

Suicidal ideation and actual attempts reduced after transition, with 63% thinking about or attempting suicide more before they transitioned and only 3% thinking about or attempting suicide more post-transition. 7% found that this increased

[31] (n=xxx) is a standardised method of showing how many respondents there have been for a particular studies finding

[32] the proportion of a population who have/had a specific characteristic in a given time period

during transition, which has implications for the support provided to those undergoing these processes (N=316) (McNeil et al., 2012).

- 84% had thought about ending their lives at some point,
  - 27% had thought about attempting suicide within the last week,
  - 4% were thinking about it every day,
    - 63% had thought about attempting suicide in the last year,
    - 3% were thinking about it daily,
- 35% had attempted suicide at least once,
- 25% had attempted suicide more than once (McNeil et al., 2012).
- 11% had a suicide attempt in the last year,
- 48% had a lifetime prevalence,
- 33% had attempted to take their life more than once,
- 3% had attempted suicide more than 10 times (McNeil et al., 2012).
- 11% of those who had thought about suicide in the past were unsure as to whether they were planning to attempt suicide in the near future,
- 3.2% were actively planning to (McNeil et al., 2012).

Those statistics are chilling!

We all know someone who has probably thought about suicide, and if we're being brutally honest, we've thought about it too. I certainly have, on several occasions. We may know someone who has attempted it, and we might know someone who actually did it. We may know them personally, or just be acquainted with them, or they might only be a name in a newspaper or on a web page, but either way, we'll know that their death didn't just affect them and their immediate family, but ripples from it have, and will, affect lots of other people who might seem unconnected with the suicide victim.

The costs

The average cost per suicide is calculated to be -

- £1.7 million in England (Knapp, McDaid, and Parsonage, 2011),
- £1.3 million in Scotland (Platt, McLean, McCollam, et al., 2006), and
- £1.5 million in Ireland (Kennelly, Ennis, and O'Shea, 2005), (DOH, 2011).

People know that transgender people are at a higher risk of suicide, but why this risk is higher is often not understood by the public, or misused by people who wish us further harm. The statistic that 40% of transgender people have attempted suicide is used all the time to justify all sorts of things that have absolutely zero basis in science (Tannehill, 2015).

Self-harm

> Self-harm refers to an intentional act of self-poisoning or self-injury, irrespective of the motivation or apparent purpose of the act. It is an expression of emotional distress.

Self-harm is when somebody intentionally damages or injures their body. It's usually a way of coping with or expressing overwhelming emotional distress.

Sometimes when people self-harm, they feel on some level that they intend to die. Over half of people who die by suicide have a history of self-harm.

However, the intention is more often to punish themselves, express their distress or relieve unbearable tension. Sometimes the reason is a mixture of both.

Self-harm can also be a cry for help (NHS, 2015i).

Types of self-harm

There are many different ways people can intentionally harm themselves, such as -

- cutting or burning their skin,
- punching or hitting themselves,
- poisoning [33] themselves with tablets or toxic chemicals,
- alcohol misuse or drugs,
- deliberately starving themselves (anorexia nervosa [34]) or binge eating [35] (bulimia nervosa),
- excessively exercising (NHS, 2015i).

People often try to keep self-harm a secret because of shame or fear of discovery. For example, if they're cutting themselves, they may cover up their skin and avoid discussing the problem. It's often up to close family and friends to notice when somebody is self-harming, and to approach the subject with care and understanding (NHS, 2015i).

[33] when a person is exposed to a substance that can damage their health or endanger their life

[34] a serious mental health condition. It's an eating disorder where a person keeps their body weight as low as possible

[35] an eating disorder where a person feels compelled to overeat on a regular basis through regular binges

Signs of self-harm

If you think a friend or relative is self-harming, look out for any of the following signs -

- unexplained cuts, bruises or cigarette burns, usually on their wrists, arms, thighs and chest,
- keeping themselves fully covered at all times, even in hot weather,
- signs of depression, such as low mood, tearfulness or a lack of motivation or interest in anything,
- self-loathing and expressing a wish to punish themselves,
- not wanting to go on and wishing to end it all,
- becoming very withdrawn and not speaking to others,
- changes in eating habits or being secretive about eating, and any unusual weight loss or weight gain,
- signs of low self-esteem, such as blaming themselves for any problems or thinking they're not good enough for something,
- signs they have been pulling out their hair,
- signs of alcohol or drugs misuse (NHS, 2015i).

People who self-harm can seriously hurt themselves, so it's important that they speak to a GP about the underlying issue and request treatment or therapy that could help them (NHS, 2015i).

Why people self-harm

Self-harm is more common than many people realise, especially among younger people. It's estimated around 10% of young people self-harm at some point, but people of all ages do. This figure is also likely to be an underestimate, as not everyone seeks help (NHS, 2015i).

In most cases, people who self-harm do it to help them cope with overwhelming emotional issues, which may be caused by -

- **social problems** - such as being bullied, having difficulties at work or school, having difficult relationships with friends or family, coming to terms with their sexuality if they think they might be gay or bisexual, or coping with cultural expectations, such as an arranged marriage,
- **trauma** - such as physical or sexual abuse, the death of a close family member or friend, or having a miscarriage,
- **psychological causes** - such as having repeated thoughts or voices telling them to self-harm, disassociating (losing touch with who they are and with their surroundings), or borderline personality disorder (NHS, 2015i).

These issues can lead to a build-up of intense feelings of anger, guilt, hopelessness and self-hatred. The person may not know who to turn to for help and self-harming may become a way to release these pent-up feelings.

Self-harm is linked to anxiety and depression. These mental health conditions can affect people of any age. Self-harm can also occur alongside antisocial behaviour, such as misbehaving at school or getting into trouble with the police.

Although some people who self-harm are at a high risk of suicide, many people who self-harm don't want to end their lives. In fact, the self-harm may help them cope with emotional distress, so they don't feel the need to kill themselves (NHS, 2015i).

Getting help

If you're self-harming, you should see your GP for help. They can refer you to healthcare professionals at a local community mental health service for further assessment. This assessment will result in your care team working out a treatment plan with you to help with your distress.

Treatment for people who self-harm usually involves seeing a therapist to discuss your thoughts and feelings, and how these affect your behaviour and wellbeing. They can also teach you coping strategies to help prevent further episodes of self-harm. If you're badly depressed, it could also involve taking antidepressants or other medication (NHS, 2015i).

Useful organisations

There are organisations that offer support and advice for people who self-harm, as well as their friends and families. These include -

- Samaritans - call 116 123 (open 24 hours a day), email: jo@samaritans.org or visit your local Samaritans branch,
- Mind - call 0300 123 3393 or text 86463 (9am-6pm on weekdays),
- Harmless - email info@harmless.org.uk,
- National Self Harm Network forums,
- YoungMinds Parents Helpline - call 0808 802 5544 (9.30-4pm on weekdays) (NHS, 2015i).

Suicide

> Suicide is the willful and voluntary act of a person who understands the physical nature of the act, and intends by it to accomplish the result of self-destruction (LAWDICTIONARY, 2016).

If you're reading this because you have, or have had, thoughts about taking your own life, it's important you ask someone for help. It's probably difficult for you to see at this time, but you're not alone and not beyond help.

Many people who have had suicidal thoughts say they were so overwhelmed by negative feelings they felt they had no other option. However, with support and treatment they were able to allow the negative feelings to pass (NHS, 2016g).

Causes

Despite being a leading cause of death, both in the UK and worldwide, there is little hard evidence to explain why some people attempt suicide.

Most people who choose to end their lives do so for complex reasons. In the UK, research has shown many people who die by suicide have a mental illness, most commonly depression or an alcohol problem.

In many cases, suicide is also linked to feelings of hopelessness and worthlessness (NHS, 2016g).

Vulnerability to suicide

Many experts believe a number of things determine how vulnerable a person is to suicidal thinking and behaviour. These include -

- life history - for example, having a traumatic experience during childhood, a history of sexual or physical abuse, or a history of parental neglect,
- mental health - for example, developing a serious mental health condition, such as schizophrenia,
- lifestyle - for example, if you misuse drugs or misuse alcohol,
- employment - such as poor job security, low levels of job satisfaction or being unemployed,
- relationships - being socially isolated, being a victim of bullying or having few close relationships,
- genetics and family history (NHS, 2016g).

In addition, a stressful event may push a person ”over the edge”, leading to suicidal thinking and behaviour.

It may only take a minor event, such as having an argument with a partner. Or it may take one or more stressful or upsetting events before a person feels suicidal, such as the break-up of a significant relationship, a partner dying or being diagnosed with a terminal illness (NHS, 2016g).

Mental health conditions

It's estimated 90% of people who attempt or die by suicide have one or more mental health conditions. However, in some cases, the condition may not have been formally diagnosed by a clinician. Conditions leading to the biggest risk of suicide are described below (NHS, 2016g).

Severe depression Severe depression causes symptoms of low mood, tiredness, loss of interest, despair and hopelessness that interfere with a person's life. People with severe depression are much more likely to attempt suicide than the general population (NHS, 2016g). Also see Depression Aging and Trans - Part 3 - Mental Health.

Bipolar disorder Bipolar disorder causes a person's mood to swing from feeling very high and happy to feeling very low and depressed. About one in three people with bipolar disorder will attempt suicide at least once. People with bipolar disorder are 20 times more likely to attempt suicide than the general population (NHS, 2016g).

Schizophrenia Schizophrenia is a long-term mental health condition that typically causes hallucinations (seeing or hearing things that are not real), delusions (believing in things that are not true) and changes in behaviour. It's estimated that one in 20 people with schizophrenia will take their own life.

People with schizophrenia are most at risk of suicide when their symptoms first begin. This is because they frequently suffer loss at this time - for example, loss of employment and relationships. It's also increased when people with schizophrenia experience depression. The risk tends to reduce over time.

People with schizophrenia are also at increased risk of Self-harm (NHS, 2016g).

Borderline personality disorder Borderline personality disorder is characterised by unstable emotions, disturbed thinking patterns, impulsive behaviour and intense but unstable relationships with other people. People with a borderline personality disorder often have a history of childhood sexual abuse. They have a particularly high risk of suicide.

Self-harm is often a key symptom of this condition.

It's estimated just over half of people with borderline personality disorder will make at least one suicide attempt (NHS, 2016g).

Anorexia nervosa Anorexia nervosa is an eating disorder. People with anorexia feel fat and try to keep their weight as low as possible. They do this by strictly controlling and limiting what they eat, as well as sometimes inducing vomiting. It's estimated around one in five people with anorexia will make at least one suicide attempt. Anorexia is associated with a high risk of suicide (NHS, 2016g).

Other risk factors for suicide

Other things that can make a person more vulnerable to suicidal thoughts include -

- being gay, lesbian or transgender, arising from the prejudice these groups often face,
- being in debt,
- being homeless,
- being a war veteran,
- being in prison or recently released from prison,
- working in an occupation that provides access to potential ways of dying by suicide, such as working as a doctor, nurse, pharmacist, farmer or as a member of the armed forces,
- exposure to other people with suicidal behaviour, especially close friends or family members (NHS, 2016g).

Antidepressants and suicide risk

Some people experience suicidal thoughts when they first take antidepressants. Young people under 25 seem particularly at risk.

Contact your GP immediately or go to your local hospital if you have thoughts of killing or harming yourself at any time while taking antidepressants.

It may be useful to tell a relative or close friend if you have started taking antidepressants. Ask them to read the leaflet that comes with your medication. Also ask them to tell you if they think your symptoms are getting worse or if they are worried about changes in your behaviour (NHS, 2016g).

Genetics and suicide

Suicide and some mental health problems can run in families. This has led to speculation that certain genes may be associated with suicide.

However, it would be too simple to claim there's a "suicide gene" as the factors leading to suicide are complex and wide ranging. Genetics may influence personality factors (such as acting impulsively or aggressively) that may increase the risk of suicidal behaviour, especially when a person is depressed (NHS, 2016g).

Other theories

An American psychologist called Thomas Joiner developed a theory known as the interpersonal theory of suicide. The theory states three main factors which can cause someone to turn to suicide. They are -

- a perception (usually mistaken) they are alone in the world and no one really cares about them,
- a feeling (again, usually mistaken) they are a burden on others and people would be better off if they were dead,
- fearlessness towards pain and death (NHS, 2016g).

The theory argues fearlessness towards pain and self-harm may be learnt over time, which could explain the strong association between self-harming behaviour and suicide.

People who are regularly exposed to the suffering and pain of others may develop this fearlessness over time. This could help explain why suicide rates are higher in occupations linked to such exposure, such as soldiers, nurses and doctors (NHS, 2016g).

How common is suicide?

During 2012 there were 5,981 suicides in the UK but the number of attempted suicides is much higher.

Suicide occurs in people of all ages, including children, but adults in middle- and late-middle age have the highest suicide rate (NHS, 2016g).

Warning signs of suicide

Sometimes there may be obvious signs that someone is at risk of attempting suicide. However, this is often not the case (NHS, 2016g).

High-risk warning signs

A person may be at high risk of attempting suicide if they -

- threaten to hurt or kill themselves,
- talk or write about death, dying or suicide,
- actively look for ways to kill themselves, such as stockpiling tablets (NHS, 2016g).

If the person has previously been diagnosed with a mental health condition, contact a member of their care team or the centre or clinic where they were being treated.

If you don't have these details, contact your nearest accident and emergency (A&E) department and ask for the contact details of the nearest CRT. CRTs are teams of mental healthcare professionals, such as psychiatrists and psychiatric nurses, who work with people experiencing severe psychological and emotional distress.

While waiting for help to arrive, remove any possible means of suicide from the person's immediate environment, such as medication, knives or other sharp objects, household chemicals, such as bleach and ropes or belts.

For more information about CRTs, the charity Rethink Mental Illness has a crisis teams factsheet you can download (NHS, 2016g).

Other warning signs

A person may also be at risk of attempting suicide if they -

- complain of feelings of hopelessness,
- have episodes of sudden rage and anger,
- act recklessly and engage in risky activities with an apparent lack of concern about the consequences,
- talk about feeling trapped, such as saying they can't see any way out of their current situation,
- Self-harm - including misusing drugs or alcohol, or using more than they usually do,
- noticeably gain or lose weight due to a change in their appetite,

- become increasingly withdrawn from friends, family and society in general,
- appear anxious and agitated,
- are unable to sleep or they sleep all the time,
- have sudden mood swings - a sudden lift in mood after a period of depression could indicate they have made the decision to attempt suicide,
- talk and act in a way that suggests their life has no sense of purpose,
- lose interest in most things, including their appearance,
- put their affairs in order, such as sorting out possessions or making a will (NHS, 2016g).

If you notice any of these warning signs in a friend, relative or loved one, encourage them to talk about how they are feeling.

Also share your concerns with your GP or a member of their care team, if they are being treated for a mental health condition (NHS, 2016g).

Getting help

If you're reading this because you're having suicidal thoughts, try to ask someone for help. It may be difficult at this time, but it's important to know you're not beyond help and you're not alone.

Talking to someone can help you see beyond feelings of loneliness or despair and help you realise there are options.

There are people who want to talk to you and help. Try talking to a family member or friend about how you're feeling.

There are several telephone helplines you can call at any time of the day or night. You can speak to someone who understands how you're feeling and can help you through the immediate crisis (NHS, 2016g).

Helplines and support groups

We know it can be difficult to pick up the phone, but reach out to somebody and let them know how you are feeling.

- Samaritans (116 123) operates a 24-hour service available every day of the year. If you prefer to write down how you're feeling, or if you're worried about being overheard on the phone, you can email Samaritans at jo@samaritans.org.
- Childline (0800 1111) runs a helpline for children and young people in the UK. Calls are free and the number won't show up on your phone bill.

- PAPYRUS (0800 068 41 41) is a voluntary organisation supporting teenagers and young adults who are feeling suicidal.
- Depression Alliance is a charity for people with depression. It doesn't have a helpline, but offers a wide range of useful resources and links to other relevant information.
- Students Against Depression is a website for students who are depressed, have a low mood or are having suicidal thoughts.
- Bullying UK is a website for both children and adults affected by bullying (NHS, 2016g).

Help for young men

Men may be more likely to avoid or ignore problems and many are reluctant to talk about their feelings or seek help when they need it.

A support group called the Campaign Against Living Miserably (CALM) is an excellent resource for young men who are feeling unhappy. As well as their website, CALM also has a helpline (0800 58 58 58) (NHS, 2016g).

Talking to someone you trust

If you don't want to speak to someone on a helpline, you could talk to -

- a member of your family, a friend or someone you trust, such as a teacher,
- your GP, a mental healthcare professional or another healthcare professional,
- a minister, priest or other type of faith leader (NHS, 2016g).

Seeing your GP

It would also help to see your GP. They can advise you about appropriate treatment if they think you have a mental health condition, such as depression or anxiety, and see also Aging and Trans - Part 2 - General Health

Your GP may be able to help you with access to talking therapies. Talking therapies, such as counselling and cognitive behavioural therapy (CBT), are often used to help people who have suicidal thoughts and usually involve talking about your feelings with a professional (NHS, 2016g).

Offering support to someone who's feeling suicidal

One of the best things you can do if you think someone may be feeling suicidal is to encourage them to talk about their feelings and to listen to what they say.

Talking about someone's problems is not always easy and it may be tempting to try to provide a solution. But often the most important thing you can do to help is listen to what they have to say.

If there is an immediate danger, make sure they are not left on their own (NHS, 2016g).

Do not judge

It's also important not to make judgements about how a person is thinking and behaving. You may feel that certain aspects of their thinking and behaviour are making their problems worse. For example, they may be drinking too much alcohol.

However, pointing this out will not be particularly helpful to them. Reassurance, respect and support can help someone during these difficult periods (NHS, 2016g).

Asking questions

Asking questions can be a useful way of letting a person remain in control while allowing them to talk about how they're feeling. Try not to influence what the person says, but give them the opportunity to talk honestly and openly.

Open ended questions such as "Where did that happen?" and "How did that feel?" will encourage them to talk. It's best to avoid statements that could possibly end the conversation, such as "I know how you feel" and "Try not to worry about it" (NHS, 2016g).

Getting professional help

Although talking to someone about their feelings can help them feel safe and secure, these feelings may not last. It will probably require long-term support to help someone overcome their suicidal thoughts.

This will most likely be easier with professional help. Not only can a professional help deal with the underlying issues behind someone's suicidal thoughts, they can also offer advice and support for yourself (NHS, 2016g).

More information

For more detailed information about helping someone with suicidal thoughts, the charity Rethink Mental Illness has a factsheet available about supporting someone with suicidal thoughts (NHS, 2016g).

Improving your mental health

It's impossible to guarantee you will never get a mental health condition, but you can take steps to improve your mental health.

If you're stronger emotionally, you may find it easier to cope with stressful or upsetting incidents, reducing your risk of developing a mental health condition, such as depression, and the risk of suicidal thoughts (NHS, 2016g).

Exercise and diet

Research shows that for some people with mild depression, exercise can be as effective as antidepressant medication in reducing depressive symptoms. Being physically active helps to -

- lift your mood,
- reduce stress and anxiety,
- encourage the release of "feel-good" chemicals, called endorphins,
- improve self-esteem (NHS, 2016g).

The National Institute for Health and Care Excellence (NICE) recommends exercise should be used to treat depression in people of all ages.

It's also important to eat a healthy diet. Eating healthily may be as important for maintaining mental health as it is for protecting against physical health problems (NHS, 2016g).

Alcohol

Drinking alcohol can be tempting as a way of trying to cope with problems or unpleasant emotions. But alcohol is a depressant, which means it can make unpleasant emotions worse, such as sadness and hopelessness (NHS, 2016g).

To avoid common mental health problems associated with alcohol misuse, don't drink more than the recommended daily limits of alcohol. These are -

- three to four units a day for men,

- two to three units a day for women (NHS, 2016g).

A unit of alcohol is approximately half a pint of normal-strength lager or a single measure (25ml) of spirits. A small glass of wine (125ml) is 1.5 units.

See your GP if you have difficulty moderating your alcohol consumption (NHS, 2016g).

Drugs

People who have problems or unpleasant emotions also commonly use drugs as a way of coping. However, as with alcohol, persistent drug misuse can increase your risk of developing a serious mental health condition, such as depression.

If you find it difficult to stop taking drugs, you may require counselling or medication (NHS, 2016g).

Avoid isolation

Becoming socially isolated is a significant risk factor for suicide. Try to remain engaged as much as possible with the world around you. Talk to someone you trust about how you feel and maintain your friendships and interests, even if you don't feel like it at times.

If you find it difficult to make friends, you may benefit from joining a local activity group, such as a book group or walking group. Your local library, community centre or local council should be able to provide you with details of the various groups and clubs in your community (NHS, 2016g).

Networks of local support groups are run throughout the country by many larger mental health charities, including -

- Depression Alliance,
- Depression UK (NHS, 2016g).

Research has shown that people who regularly spend time helping others through charitable activities or other voluntary work are typically more mentally healthy than the general population. You may benefit from volunteering with a local charity or voluntary organisation.

All charities and most voluntary organisations are grateful for any help. Simply choose an issue you feel strongly about and contact a relevant organisation. The most effective way of finding and contacting an organisation is on the internet (NHS, 2016g).

Staying positive

Staying positive may sound like a meaningless phrase, particularly to someone with severe depression, but it's important to try to remain as positive as possible.

Persistent negative thinking can mean you risk withdrawing from the world and becoming more isolated.

Breaking this pattern usually requires a conscious effort, such as "stepping back" when an event upsets you and considering how you can respond in a more positive way.

If you can't change negative patterns of thinking, you may benefit from a type of talking treatment called cognitive behavioural therapy (CBT). CBT can help you manage your problems by changing how you think and act (NHS, 2016g).

Self-help

When you are diagnosed with generalised anxiety disorder (GAD) or depression, your GP may recommend trying self-help treatments before having more intensive psychological therapy or medication.

This will usually involve working from a book or computer programme for around six weeks or longer. In some cases, you may be closely supported by a trained therapist who you will speak to every week or two, although some treatments only involve minimal or occasional contact with a therapist who will monitor your progress.

There are a number of different books and courses available that can help you learn to cope with your anxiety, but the National Institute for Health and Care Excellence (NICE) only recommends trying treatments based on the principles of cognitive behavioural therapy (CBT).

CBT is a type of psychological treatment that can help you understand your condition better and how your problems, thoughts, feelings and behaviour affect each other. The aim of CBT-based treatments is to help you learn ways to manage your anxiety by modifying negative or unhelpful behaviour and thoughts (NHS, 2016g).

Chapter 9

Planning for the future

Contents

When approaching later life, it can be difficult to think of what would happen if you or your partner became ill or required care. However, there are things you can put in place if this happens and it's a good idea to discuss them in advance with your family so they can be reassured that things are taken care of.

Key points about advance care planning

- No one is obliged to carry out advance care planning,
- You may wish to discuss your wishes with your carers, partner or relatives,
- Include anything that is important to you, no matter how trivial it seems,
- If you wish to refuse a specific treatment, consider making an Advance decisions to refuse treatment,
- It is recommended you seek the advice of an experienced healthcare professional if making an advance decision [36] to refuse treatment,
- If you make an advance decision that refuses treatment that is life sustaining it must be in writing, signed and witnessed,
- If you have named someone to speak for you or have a Lasting Power of Attorney remember to write down their name,
- If your wishes are in writing or if you have a Lasting Power of Attorney, keep a copy of the record safe,
- Provide copies to those who need to know your wishes e.g. nurse, doctor, carer or family member (DYINGMATTERS, 2015).
  Here is an overview of a few things you may find useful.

[36] This is a decision you can make now to refuse a specific type of treatment at some time in the future. It lets your family, carers and health professionals know whether you want to refuse specific treatments in the future. This means they will know your wishes if you are unable to make or communicate those decisions yourself

Powers of Attorney

If you want a partner or friends to act on your behalf, the best way to ensure this happens is to make a Lasting Powers of Attorney (AGEUK, 2015b).

A Health and Welfare Lasting Power of Attorney (LPA) gives one or more trusted persons the legal power to make decisions about your health and welfare if you lose capacity. The person who grants power is known as the 'Donor' and the person appointed to make decisions is the 'Attorney'.

Your Attorney can make decisions about anything to do with your health and welfare such as -

- refusing medical treatment,
- where you are cared for and the type of care you receive,
- day-to-day things like your diet, dress and daily routine (COMPASSIONINDYING, 2014c).

Who should I choose as my attorney?

You need to trust your Attorney to understand your wishes, respect your values and make the best decisions for you. Your Attorney must also feel confident and comfortable making potentially life-changing decisions on your behalf. You should discuss your wishes with your Attorney(s) and consider writing them down in an advance statement [37].

When making an LPA you must choose whether or not you want your Attorney to be able to make decisions about life-sustaining treatment. If you choose no, then all decisions about life-sustaining treatment would be made by your healthcare team (unless you have made an advance decision).

You can also list any restrictions that your Attorney must follow, or any guidance that you would like them to take into account when making decisions on your behalf.

Your Attorney can be anyone over the age of 18 such as a partner or family member or trusted friend. You can appoint more than one Attorney if you want to. You can choose if they can make decisions on their own, without agreement from the other Attorney(s), which is called acting 'jointly and severally', or if they must

[37] This gives you the option to make general statements about your wishes and views for the future, rather than refusing certain specific treatments. Often an advance statement is referred to as a 'statement of wishes and care preferences'

all agree on every decision, which is called acting 'jointly' (COMPASSIONINDYING, 2014d).

Your attorney can be anyone 18 or over, such as -

- a relative,
- a friend,
- a professional, eg a solicitor,
- your husband, wife or partner (GOV.UK, 2016).

You must appoint someone who has the mental capacity to make their own decisions.

When choosing an attorney, think about -

- how well they look after their own affairs, eg their finances,
- how well you know them,
- if you trust them to make decisions in your best interests,
- how happy they will be to make decisions for you (GOV.UK, 2016).

Attorneys are bound by law to make decisions that are in your Best interests. The Office of the Public Guardian can step in and take action if someone feels that an Attorney is not acting in this way (COMPASSIONINDYING, 2014d).

The Office of the Public Guardian is part of the government's Ministry of Justice department. They manage the LPA registration process and maintain a register of all LPAs. They also deal with any compaints, if, for example, someone feels that an Attorney is acting wrongly.

Attorneys only begin to act for you if you lose capacity. Your Attorney could not make decisions for you if you were able to do so yourself.

The Mental Capacity Act (MCA) created two types of LPA - the Health and Welfare LPA and the Finance and Property LPA (GOV.UK, 2016).

Before you can use the lasting power

You or the donor must register the lasting power of attorney (LPA) before you can start making decisions (GOV.UK, 2016).

Acting as an attorney

There are 2 types of LPA. Your responsibilities depend on whether you're the donor's -

- Property and financial affairs lasting power of attorney,

- Health and welfare lasting power of attorney,

Any decision you make on the donor's behalf must be in their Best interests.

You won't be paid for acting as an attorney unless the donor has said in their LPA that they will pay you a fee.

Health and welfare lasting power of attorney

Use this LPA to give an attorney the power to make decisions about things like -

- your daily routine, eg washing, dressing, eating,
- medical care,
- moving into a care home,
- life-sustaining treatment (GOV.UK, 2016).

It can only be used when you're unable to make your own decisions.

Property and financial affairs lasting power of attorney

Use this LPA to give an attorney the power to make decisions about money and property for you, for example -

- managing a bank or building society account,
- paying bills,
- collecting benefits or a pension,
- selling your home (GOV.UK, 2016).

It can be used as soon as it's registered, with your permission.

Best interests

The Mental Capacity Act 2005 (MCA) says that anyone who makes a decision for you must act in your 'best interests'. The MCA provides a list of things that must be considered when someone is deciding what's in your 'best interests'.

The list states that, amongst other things, the person making the decision must -

- consider all the relevant information,
- consider your wishes and feelings (this includes anything you have said to other people and things you have written down),
- consider any values and beliefs you have that would influence the decision,
- listen to the views of your family members, carers and other relevant people,

- not be motivated to bring about death when making decisions about life-sustaining treatment (COMPASSIONINDYING, 2014b).

Advance decisions and advance statements

The concept of next of kin has quite limited meaning when it comes to healthcare, as only the patient is able to consent to treatment. You can, however, make an advance decision or an advance statement to ensure that your wishes about treatment and general wishes are known. For a transgender person, an advance statement could detail what clothes you want to wear in case you become unable to communicate this yourself (AGEUK, 2015b).

Advance decisions

An advance decision allows you to decide now about specific treatments that you do not want to receive in the future. Its purpose is to ensure that, if you are not able to make decisions at the time, you are not forced to receive treatment that you would not want.

Treatment that you can refuse includes life-sustaining treatment. For example, some people may make an advance decision to refuse a blood transfusion for religious or spiritual reasons. You can do this even if it will hasten your own death.

Advance decisions are legally binding as long as they meet certain conditions. This means that they must be followed by doctors and other medical professionals (MELLING AND CHENERY, 2016).

This is sometimes known as an 'advance decision to refuse treatment', an ADRT, or a 'living will', or 'Advance directive'.

Advance statement

Advance statements are similar to advance decisions, but are not the same thing. An advance statement gives you the option to make general statements about your wishes and views for the future, rather than refusing certain specific treatments. Often an advance statement is referred to as a 'statement of wishes and care preferences'.

You could use an advance statement to express your wishes on future care options, such as where you wish to live, or the type of care and support you wish

to receive. You could also use it to express other wishes and preferences not directly related to care, such as the food you would like.

If you have particular religious or spiritual views, an advance statement provides an opportunity to ensure that your values are taken into account by the people who make decisions for you. You can also include a list of people, such as your partner, family or friends, whom you wish to be consulted by health and social care professionals when they are making decisions about your care.

An advance statement can be made verbally, or you can write it down. It is better to put it in writing because then it is a permanent record of your wishes (Melling and Chenery, 2016). They are also known as a 'Statement of wishes'.

Why should I consider making an advance decision or advance statement?

There are a number of reasons why you may wish to make an advance decision or advance statement -

- It can be reassuring to know that you will not be given treatment in the future that you do not want.
- It ensures your views and wishes are taken into account.
- It can help to start conversations about your future care with doctors and nurses that you may not have otherwise.
- It can also help to prompt discussions with your family about your wishes, and what you would like to happen in the future.
- It can take the burden away from your family, who otherwise may be asked to make these decisions for you (Melling and Chenery, 2016).

Could I have both an Advance Statement and an Advance Decision?

Yes. If you have made an advance decision then it's a good idea to make an advance statement as well because it gives your healthcare team a better understanding of your wishes. This means that if you're in a situation that isn't specified in your advance decision, the doctors treating you are more likely to be able to make a decision that you want (compassionindying, 2014a).

Will the doctor have to follow my advance statement?

An advance statement - unlike an advance decision - is not legally binding. This means doctors and medical professionals do not have to follow it. However, doctors, nurses and all other health and social care professionals should take an advance statement into account when making decisions about your care and treatment This means they should try to follow it where possible, and if they do not, it must be because they have a good reason (Melling and Chenery, 2016).

Will the doctor have to follow my advance decision?

Advance decisions, when they meet certain criteria, are legally binding. This means all medical professionals, including doctors, have to follow them. This is only true when your advance decision is both 'valid' and 'applicable' (Melling and Chenery, 2016).

- **Valid** - In order to be valid, an advance decision must have been made at a time when you were capable of making the decision. This is referred to as having 'mental capacity'.
- **Applicable** - In order for the advance decision to be applicable, the wording has to be specific and relevant to the medical circumstances. This means you have to choose what you say carefully. If the advance decision is vague or if it isn't clear that it refers to a particular medical condition, treatment or practice, the doctor may not have to (or be able to) follow it (Melling and Chenery, 2016).

The advance decision must also -

- have been made when you were over 18 and fully informed about the consequences of refusing treatment, including the fact that it may hasten death,
- not have been made under the influence of other people,
- be written down and be signed and witnessed (if it relates to refusing life-saving treatment) (Melling and Chenery, 2016).

What an advance decision cannot do

There are some limits to the kinds of treatments and situations an advance decision covers. It cannot be used to -

- refuse treatment if you still have the capacity to give or refuse consent,

- refuse basic care that is essential to keep you comfortable, such as washing or bathing,
- refuse food or drink by mouth (although it can be used to refuse feeding by tube),
- refuse the use of measures designed solely to maintain comfort - for example, painkillers (which relieve pain but do not treat the underlying condition),
- demand specific treatment,
- refuse treatment for a mental disorder in the event that you are detained under the Mental Health Act 1983,
- request something that is against the law, such as euthanasia or assisting you in taking your own life (Melling and Chenery, 2016).

How to make an advance decision

An advance decision can be as simple or as complex as you want it to be. It is up to you to decide how much detail you include.

You can draft an advance decision yourself using your own words. There is also a template here that you can use if you want some guidance. If this does not cover everything you want to say, use it as a guide. Add to it or delete from it to ensure that it covers everything you want it to.

Unless you want your advance statement to cover life-sustaining treatment, you can make it verbally - that is, you can say what you want to happen. There is no set format for making a verbal advance decision as it depends a lot on the circumstances when it is made. There are a few things that you can do to ensure that it is still valid, however (Melling and Chenery, 2016).

Your verbal advance decision should still be recorded in your medical records by a medical professional as this can help avoid confusion later. The record should include -

- a clear note of the treatment(s) to be refused if you lack the capacity to make the decision at the time,
- details about the person who witnessed your decision,
- whether or not the health professional heard your decision themselves (Melling and Chenery, 2016).

It is always better to make your advance decision in writing, if possible. This ensures that medical professionals are aware of your wishes and that they are correctly understood (Melling and Chenery, 2016).

Talk to your GP

It is strongly recommended that you discuss an advance decision with your GP before drafting it. They will be able to explain how your condition is likely to affect you as it progresses, and what treatment you may need. They can help you understand the advantages and disadvantages of choosing or refusing treatment in advance. They can also explain some of the problems that may arise from an unclear statement, and will be able to confirm that you had mental capacity at the time that you wrote your advance decision (Melling and Chenery, 2016).

Consider talking to a solicitor

You don't need to consult a solicitor to make an advance decision, but it can be a good idea. If you are uncertain about what you want to include or how to say it, a qualified solicitor can help make sure that your views are clearly expressed. However, be aware that a solicitor may not be able to advise you on how your condition might progress and the treatments and interventions that may be available. For this you should talk to your GP (Melling and Chenery, 2016).

Important information to include

If you choose to draft your own advance decision, this is the minimum information you must include -

- your full name,
- your address,
- your date of birth,
- any distinguishing features (eg tattoos, birthmarks),
- the name, address and telephone number of your GP,
- the date you made the advance decision,
- your signature,
- the dated signature of at least one witness over the age of 18. Ideally this should not be a partner, spouse, relative, anyone who stands to benefit under your will, or your attorney under a lasting power of attorney,
- the name, address and phone number of the people you have nominated to be consulted about treatment decisions, if anyone. This might be your attorney under a lasting power of attorney for health and welfare, for example,

- where relevant, the date that you reviewed - and, if necessary, revised - your advance decision, along with your signature,
- if the advance decision applies to refusing life-sustaining treatment, a very clear statement that the advance decision applies to the treatment in question even if your life is at risk (Melling and Chenery, 2016).

Although you don't have to, it is also a good idea to include the following -

- an explanation of when the advance decision should come into effect - for example, it may specify that it comes into effect only if you have a terminal illness,
- any specific treatments that you want to refuse, such as cardiopulmonary resuscitation (CPR) or artificial feeding and hydration - for more information on medical treatments that you could include, speak to your GP,
- a statement that says your advance decision was drawn up without influence or pressure from other people (Melling and Chenery, 2016).

Make copies of your advance decision

You should make a copy of the document for yourself and keep it somewhere safe, You should also make several other copies and give them to the following people -

- your GP, to keep with your medical records,
- your hospital team, to place in your case notes,
- a close relative or friend,
- your attorney under a lasting power of attorney for health and welfare, if you have one (Melling and Chenery, 2016).

Review your advance decision regularly

You should review your advance decision regularly to make sure that it still matches your wishes and preferences. If you want to, you can make changes to it.

To do this, you can start afresh and complete a new form. Or you can make changes to your existing document, making sure you sign and date it again to confirm the changes.

Whether you amend the original form or complete a new one, you must make sure that an independent witness also signs and dates the new version. Be sure to give copies of the revised version to everyone who held a copy of the original version (Melling and Chenery, 2016).

How long is my advance decision valid for, and do I have to renew it?

Your advance decision will be valid from the date you sign it. It is a good idea to review it regularly and, if necessary, revise it to make sure that it still reflects your views. However, your advance decision will continue to be valid even if you don't review it. If you do revise your advance decision, remember to sign and date it with the current date and get it witnessed again. Make sure you know who has copies of your advance decision so that you can give them the revised version (Melling and Chenery, 2016).

Do I have to give my advance decision form to my solicitor?

No. An advance decision is entirely separate from other legal documents such as your will. However, you may want your solicitor to hold it for safekeeping (Melling and Chenery, 2016).

Does my GP have to sign the advance decision form?

No. It is not necessary for your GP to sign your advance decision, but it is useful. If you discuss your advance decision with your GP and ask them to sign it, they will understand your wishes better, and can then be called upon if necessary to confirm that you had mental capacity at the time you made the decision. It is also important to make sure that a copy of your advance decision is placed with your medical records and to make sure that the relevant people know that it is there (Melling and Chenery, 2016).

Can my family overturn an advance decision?

No. An advance decision is a statement of your wishes, and cannot be overturned by anyone, unless -

- you have signed a health and welfare lasting power of attorney after you made the advance decision, and gave the attorney the power to accept or refuse treatment that the advance decision relates to,
- you decide for yourself not to follow the advance decision at a time when you have the mental capacity to do so,
- you made your advance decision at a time when you did not have the mental capacity to do so,
- you made the advance decision under the influence of others, and so it was not valid (Melling and Chenery, 2016).

Recent legal cases

Withdrawal of Treatment

In a landmark case in November the Court of Protection (which makes decisions on behalf of people who lack capacity) allowed the withdrawal of artificial nutrition and hydration from a woman in a 'minimally conscious state.' The woman, known as Mrs N, was 68 and in the end stages of multiple sclerosis. She lacked capacity to make decisions about her medical treatment. Mrs N was being given treatment (artificial nutrition and hydration) that was keeping her alive, but her family argued that it would be in her best interests for treatment to be withdrawn. They felt that providing treatment was prolonging a quality of life that Mrs N would not have wanted.

This followed an earlier case from 2011, which said that treatment could not be withdrawn from a woman, known as M, who was also in a minimally conscious state.

The case demonstrates the significance of the person's wishes in deciding whether providing a treatment is in their best interests. It also emphasises the importance of making your wishes for future treatment and care known, to help avoid these difficult and distressing cases (COMPASSIONINDYING, 2015).

Capacity

A case that has attracted a lot of media attention recently was that of C. C had attempted suicide by taking an overdose but survived with kidney damage. She was refusing dialysis, which was necessary to save her life. The question for the court was whether she had capacity to refuse life-sustaining treatment.

After considering evidence from C, her family and three healthcare professionals, the judge concluded that C did have capacity to refuse the dialysis. She died shortly after the hearing.

The case reiterates a very well-established principle of medical law, which is that an individual who has capacity has an absolute right to refuse medical treatment, even if it is necessary to save their life. It also reiterated Principle 3 of the Mental Capacity Act, which says that a person with capacity has the right to make any decision, even if appears unwise to others (COMPASSIONINDYING, 2015).

Do not attempt resuscitation (DNAR).

In June 2014, a very important case called Tracey stated that there is a duty to consult patients and their families before putting a DNAR order on their medical records.

Two recent cases have also discussed DNAR and showed that the principles in Tracey apply equally to patients who lack capacity, stating that families and carers should be consulted before a DNAR order is placed on the patient's records.

The first concerned Carl Winspear, a 28 year old man with cerebral palsy, who had a DNAR order placed on his records without the knowledge of his family. The court said that this was unlawful. Even though the decision to issue a DNAR is a clinical one that lies with the medical professional, the patient should be involved in the consultation, or their family or carers if they lack capacity.

Another case concerning DNAR was that of Andrew Waters, who was 51 and had Down's Syndrome and dementia. The hospital placed DNAR orders at numerous times on his medical records, without informing or consulting his family. His Down's Syndrome was given as one of the reasons for doing this. The hospital trust later acknowledged that it had been unlawful not to discuss the DNAR form with Andrew's family.

Both of these sad cases demonstrate how the rights of patients to be involved in decisions about their care apply equally to people who do and do not have capacity (COMPASSIONINDYING, 2015).

Making a will

Making a legally valid will is the only way to be sure that, in the event of your death, your money and possessions go to the people and causes you care about. If you do not make a will, those you leave behind may suffer the distress of coping with legal complications as well as losing a loved one.

Many married people believe that their possessions would automatically go to their partner. Without a Will, though, that is not necessarily the case. And if they are not married, their partner could receive nothing.

If you make a will you can also make sure you don't pay more Inheritance Tax than you need to.

You can write your will yourself, but you should get legal advice, for example from Citizens Advice, or will-aid, to make sure your will is interpreted in the way you wanted.

You need to get your will formally witnessed and signed to make it legally valid.

If you want to update your will, you need to make an official alteration (called a 'codicil') or make a new will (GOV.UK, 2015).

Just like everyone else, trans people should write a will to ensure their property and other assets go to those they would prefer to have them on their death. You should make sure you are fully and clearly identified in your will, if you use two names or have only recently begun to live permanently in your new gender role (AGEUK, 2015c).

Why have a will?

The simple answer is everyone should have a will. Most people who don't have a will know that they should have one and with recent statistics indicating that two-thirds of UK adults haven't made a will, there's never been a better time to get such arrangements in order and protect yourself, and your loved ones, for the future (MACKENZIE, 2016).

Top 10 reasons for making a will

1. Whatever you may think, you aren't going to last for ever,
2. Make sure that the people you want to inherit do inherit,
3. Make sure that the people you don't want to inherit don't inherit,
4. Avoid Inheritance Tax,
5. Avoid Nursing Home fees,
6. Make sure, by the appropriate use of trusts, that the right people control your money so that beneficiaries don't fritter away what you have worked for,
7. Provide for vulnerable beneficiaries such as disabled children,
8. Avoid arguments and expensive court proceedings after you have gone,
9. Make sure your ex doesn't receive or control your estate,
10. Give you peace of mind (and stop people like us telling you you need a will) (MACKENZIE, 2016).

Lasting Powers of Attorney

Who would you want to deal with your affairs and make decisions for you if you weren't able to do so yourself? Your spouse, your children? Would they be able to? Probably not (MACKENZIE, 2016).

The Facts

- If you don't have a Lasting Power of Attorney (LPA) no one can make decisions for you, no matter how closely you are related.
- Without an LPA your loved ones would have to apply to the Court for authority. This would be expensive, typically more than £1500 and time consuming, probably more than 8 months, when time may be of the essence.
- Saying you will do an LPA when you need to won't wash. Do you know when you're going to have an accident, develop alzheimers or have a stroke. If any of these occur and you haven't made your LPA then it's too late.
- Choose who you want as attorneys rather than letting the Court decide
- Setting up an LPA is painless and relatively inexpensive
- Pay a reduced Court fee for registering an LPA of £110 as opposed to the Court fee without an LPA of £400 (MacKenzie, 2016).

Don''t leave your loved ones in a fix. Make a Lasting Power of Attorney (MacKenzie, 2016).

Why it is important to make a will

It is important for you to make a will whether or not you consider you have many possessions or much money. It is important to make a will because -

- if you die without a will, there are certain rules which dictate how the money, property or possessions should be allocated. This may not be the way that you would have wished your money and possessions to be distributed, see Who can inherit if there is no will - the rules of intestacy,
- unmarried partners and partners who have not registered a civil partnership cannot inherit from each other unless there is a will, so the death of one partner may create serious financial problems for the remaining partner,
- if you have children, you will need to make a will so that arrangements for the children can be made if either one or both parents die,
- it may be possible to reduce the amount of tax payable on the inheritance if advice is taken in advance and a will is made,
- if your circumstances have changed, it is important that you make a will to ensure that your money and possessions are distributed according to your wishes. For example, if you have separated and your ex-partner now lives with someone else, you may want to change your will. If you are married

or enter into a registered civil partnership, this will make any previous will you have made invalid.

If you are in any doubt as to whether or not you should make a will, you should consult a solicitor or a Citizens Advice Bureau who can give you lists of solicitors (CAB, 2016b).

Who can inherit if there is no will - the rules of intestacy

When a person dies without leaving a valid will, their property (the **estate**) must be shared out according to certain rules. These are called the **rules of intestacy**. A person who dies without leaving a will is called an **intestate person**.

Only married or civil partners and some other close relatives can inherit under the rules of intestacy.

If someone makes a will but it is not legally valid, the rules of intestacy decide how the estate will be shared out, not the wishes expressed in the will (CAB, 2016a).

Married partners and civil partners

Married partners or civil partners inherit under the rules of intestacy only if they are actually married or in a civil partnership at the time of death. So if you are divorced or if your civil partnership has been legally ended, you can't inherit under the rules of intestacy.

Partners who separated informally can still inherit under the rules of intestacy. Cohabiting partners (sometimes wrongly called 'common-law' partners) who were neither married nor in a civil partnership can't inherit under the rules of intestacy (CAB, 2016a).

If there are surviving children, grandchildren or great grandchildren of the person who died and the estate is valued at more than £250,000, the partner will inherit -

- all the personal property and belongings of the person who has died, and
- the first £250,000 of the estate, and
- half of the remaining estate (CAB, 2016a).

If there are no surviving children, grandchildren or great-grandchildren, the partner will inherit -

- all the personal property and belongings of the person who has died, and
- the whole of the estate with interest from the date of death (CAB, 2016a).

Being the beneficiary of a will

In terms of being a beneficiary of a will, it is important as a trans person to keep some evidence of your past identity, including your gender as registered at birth. If you have a Gender Recognition Certificate this will provide the link. If not, you should keep some other paperwork, such as your change of name, to ensure you can rightly benefit from a will (AGEUK, 2015c).

Care

You may be concerned about how care services will treat you as a lesbian, gay, bisexual or transgender person, or as a couple. However, you are protected by the law against discrimination (AGEUK, 2015b).

Care services

Many people who underwent treatment in the 1960s and 1970s are now facing all the ordinary issues that come with ageing, as well as some that are unique to trans people.

The 1990s and 2000s have seen a large increase in the number of people pursuing gender transition and reassignment, many of them in their middle or older ages. This means they are 'older' people but 'young' in terms of their experience of living and being in their new gender. We are also increasingly seeing disabled people undergoing gender reassignment who would not have been able to access services or treatments in the past.

Therefore, for the first time, there is an ageing trans population.

Consequently, it is increasingly common for health and social care professionals to be working with a trans client who may have complex social or bodily needs relating to their gender reassignment treatments. Seeking advice from a multi-disciplinary team on how to meet the client's needs would appear to be common sense, but the privacy rights now afforded to trans people mean that they **must** get the client's permission before discussing the matter in any way that might identify the client (AGEUK, 2015c).

Transgender personal care issues

When approaching a care agency or local authority for an assessment of your needs or if considering hospital tests or treatment, it is important to be mindful of the issues you face daily to manage a trans body and your personal privacy needs. It is helpful to ask yourself the following questions and be ready to raise any concerns you may have prior to engaging with health and care services (AGEUK, 2015c).

Trans women

- Do I still look masculine when undressed?
- Do I still have a penis?
- Do I have breasts?
- Do I need to shave regularly?
- Do I need my own room in which to dilate and douche?
- What do I need in order to maintain my hormone regime?
- Do I need to maintain my hair, e.g. a wig, hairpiece or weave? (AGEUK, 2015c)

Trans men

- Do I still look feminine when undressed?
- Do I have no penis, or do I still have breasts?
- Do I need to take special care of my penis or metoidioplasty, e.g. catheterisation? (AGEUK, 2015c)

Care in the home

You can receive care services provided by, or on behalf of the social services department of your local authority. You can also make your own arrangements with an independent care agency.

These organisations should have accessible equality, anti-bullying and confidentiality policies. Do not be frightened to ask for a copy. If they do not include trans people in their remit ask how to contact the right person to discuss how trans people should be included (AGEUK, 2015c).

Assessment

Your local authority has a legal duty to carry out an assessment of anyone living in its area who may need community care services, once it becomes aware of this need. Then based on its eligibility criteria, it must make a decision as to whether to provide services. The assessment should take into account all your needs - psychological, social and cultural, as well as personal care and domestic (AGEUK, 2015c).

Means testing

Services arranged by the local authority are generally means tested, which means you may have to make a financial contribution (AGEUK, 2015c).

Personalisation and direct payments

The Government's personalisation policy aims to give service users more choice and control over the services they receive. If eligible for financial help from your local authority to provide services, you now have the option to receive direct payments so that you can arrange services yourself or with support from a third party. This may be very important to you because it means you can arrange the assistance you need to meet personal and other care needs. You may choose to recruit a personal assistant - someone you feel comfortable with, who can respond to your individual needs and preferences and offer continuity of care (AGEUK, 2015c).

Sheltered housing and residential care

There has been no significant research into the care of older trans people in sheltered or residential accommodation. When facing decisions about sheltered housing or residential care, the trans person and/or their carer should ensure they do plenty of research and visit all the establishments they might consider.

As with care services, these organisations should have accessible equality, anti-bullying and confidentiality policies. Ask to see a copy of their policies. If they do not include trans people in their remit, ask how to contact the right person to discuss how trans people should be included (AGEUK, 2015c).

Chapter 10

Trans and getting older

Contents

Your experience will vary according to the age at which you transitioned and when that was. If you are now 60 and transitioned when you were 20, you will have had a different life and faced different issues from someone who is now 60 but transitioned when they were 55.

Knowledge is improving as trans people age but there are still unanswered questions about what later life and health will be like for trans people. We are only now seeing the first generation of trans people in their 60s and over who have taken hormone therapy for 30 years or more. Individuals are living with gender reassignment surgeries performed using the very different techniques of the 1960s and 70s.

More data needs to be collected and monitored to understand what it is like to have an older trans body. The experiences of older trans men and older trans women will be different (AGEUK, 2015c).

Being a healthy older FtM trans man

Annual health checks are strongly recommended as a minimum. Issues to consider, and to discuss as appropriate with the relevant health professional include -

- osteoporosis risk,
- side effects associated with testosterone therapy,
- vaginal health (if you still have a vagina),
- safe sex,
- whether or not to undergo a hysterectomy,
- need for smear tests if you have not had a hysterectomy,
- risk of urethral stones, if you have had genital reconstruction,
- breast cancer (even when trans men have their breasts removed, not all potentially cancerous glands are removed),
- the state of any silicone testicular implants and/or penile prosthetics (AGEUK, 2015c).

If you sense, see or feel anything peculiar about your body, it is important to get this checked promptly.

Most trans men find they 'pass' less easily as they get older. They tend to appear smaller in stature than ever. They may find that what has been their natural speaking voice for many years starts to develop an effeminate tone. You can discuss any concerns at your health check (AGEUK, 2015c).

Being a healthy older MtF trans woman

Annual health checks are strongly recommended as a minimum. Issues to discuss as appropriate with the relevant health professional include -

- the effects of oestrogen replacement therapy,
- lifestyle issues - smoking cessation, diet and exercise,
- blood pressure,
- oestrogen, testosterone and prolactin (hormone) levels,
- prostate health (the prostate is not removed when you have lower surgery),
- dilation and douching advice if you have had vaginoplasty (surgery performed to create a vagina),
- the health of your neo-vagina,
- breast self-examination and mammograms,
- the state of any silicone breast implants (AGEUK, 2015c).

The important thing to remember is that if you sense, see or feel anything peculiar about your body, to get this checked promptly.

Trans women may find they 'pass' more easily as they get older. This is because as women age and their oestrogen level drops, they tend to develop more masculine features (AGEUK, 2015c).

Health issues related to hormones

If you transitioned early on in life and you are now over 60 you may have been on oestrogens for well over 40 years. There are possible issues with the longer term use of oral oestrogens and it could be useful to have your hormone levels checked regularly, to make sure you are on the correct dose of oestrogens for you. You might also want to consider using an oestrogen patch rather than taking it orally.

Many older trans women who had lower surgery when younger have been led to believe that they can greatly reduce or stop taking oestrogens completely. However, too low a dose of hormones might not offer you protection against osteoporosis, which causes thinning of the bones (THT, 2015).

Hormone level checks

If your GP offers you hormone level testing, along with a yearly general health check, it is important that they understand the correct hormone levels for you as a trans woman.

Endocrinologists specialise in understanding hormones. Your GP can refer you to an NHS endocrinologist - however, they don't all understand or specialise in trans peoples' hormonal issues, so it is important that your GP refers you to the appropriate specialist.

As trans women it is important to know all of your hormone levels - testosterone (T) is just as important as oestrogen. We all need a balance of hormones that is correct for us as individuals (THT, 2015).

Breast screening

Taking oestrogen can increase the risks of breast cancer, so it is important to regularly check your breasts for lumps. A nurse will be able to explain how to do this if you are unsure. If you notice any lumps or discharge from your nipples, see a doctor as soon as possible (THT, 2015).

Prostate checks

It is worth remembering that you will retain your prostate and will need to have this checked periodically (THT, 2015).

Experiencing problems with libido

Libido refers to a person's sex drive or desire for sexual activity. The desire for sex does not have to decrease as we get older and some people's libido will remain the same throughout their life. Some older people find their sex drive seems to decrease - some are happy with this but others may find it distressing (THT, 2015).

Vaginal dilating - getting older

As we get older skin starts to lose its elasticity, so it is important to maintain regular dilation as this will keep your vagina open and maintain depth. Dilation will also help you to cleanse your vagina. If you find dilation becomes difficult, it is important to speak to your clinician (THT, 2015). Your first point-of-call in this situation will be to talk to your GP, and be prepared to be referred, perhaps to your local gynaecologist at your nearest hospital, or back to being where your surgery was performed.

The longer term prognosis

Studies indicate that the longer term prognosis for the transsexual person is good. A review of a number of studies carried out over a 20-year period found that 96% of people who had gender reassignment surgery were satisfied. Research by 'Press for Change' suggests that the vast majority of transsexual people enjoy much happier lives following surgery.

However it is important to be aware that personal finances can be affected. There is also a greater risk of relationship breakdown and becoming a victim of harassment or assault (AGEUK, 2015c).

Chapter 11

Transphobia

Contents

Examples of Transphobic Crime

- A 16 year old trans girl, on her way to school, regularly experienced people shouting insults from their cars like, "Girl with a cock", "There's the he/she/it", "Tranny boy" and other names.
- An 18 year old received 84 abusive and threatening text messages within three days after she told her former school class that she had transitioned.
- An older boy pulled up the skirt of a 12 year old trans girl to look at her genitals.
- A trans women was discovered at a bus station by another woman who then engaged in yelling abuse, spitting, punching, kicking and trying to scratch the trans woman's face.
- A trans police officer was outed by the press under the headline "Lady Boy in Blue". She was then threatened by a group of young men, near her home; her car was vandalised.

- An elderly trans man was surrounded by a teen-age gang who shouted insults and poked him with sticks.
- A 15 year old trans girl was beaten up on her way home.
- A trans woman was raped at knife-point on her way home.
- An assailant approached a trans woman, after realising she was transsexual, punched her to the ground, undid his trousers and forced her to perform an act of oral sex on him.
- A son murdered his father on discovering he was a transsexual person (ORTHOINFO, 2008a).

The following are a few examples of transphobic attitudes -

- The belief/insistence that trans women are not ”real women”,
- The belief/insistence that trans men are not ”real” men,
- The belief/insistence that non-binary genders are invalid. You are either ’male’ or ’female’, there are no other options available.
- The belief/insistence that transsexual people are gay people in denial and wish to have sex reassignment surgery to attempt to restore ’heteronormativity’,
- The refusal to acknowledge a trans person’s true gender,
- Refusal to use the correct name for a trans person,
- Repeated and deliberate mis-gendering of trans people,
- Exclusion of trans people from activities, services or conversations (BOHLIN, 2001).

Transphobia has been defined by the Crown Prosecution Service as -

> “The fear of or a dislike directed towards trans people, or a fear of or dislike directed towards their perceived lifestyle, culture or characteristics, whether or not any specific trans person has that lifestyle or characteristic. The dislike does not have to be so severe as hatred. It is enough that people do something or abstain from doing something because they do not like trans people.”

Transphobia and prejudice against trans people are sadly all too common in our society and trans people often meet with discrimination and prejudice when they’re trying to get on with their lives and perform everyday activities (LGBT+, 2016).

Transphobia is fear, discrimination or hatred against transgender people or people of non-binary gender.

Transphobia is often closely connected with homophobia and is justified for the same reasons that homophobes use to justify their hatred of gays (religion, pre-

scriptive gender norms, etc.). Indeed, many clueless homophobes conflate homosexual people with transgender people and cross-dressers. Transphobia also manifests itself in some schools of radical feminist thought, as some feminists resent the idea that people who aren't "really" women might make claims as women.

On a societal scale, it can manifest itself in any number of ways, from systemic discrimination against transgender people in housing, healthcare, and employment, to a relatively high murder rate, to a series of demeaning depictions in the mass media.

Media and police

Transgender people are regularly discriminated against by the media and police. Both the media and police when involving a transgender person invariably use the descriptor "transsexual" or "transvestite" (with its associated archaic psychiatric baggage) in place of transgender. Transgender people face high rates of rape and deaths in custody while in prison. The media, in going for sensationalised stories, typically publish the transgender person's previous name without permission even if they have legally changed their name and that name change is protected by privacy laws. An individual's gender identity is suggested in these stories to be fake or a fraud by connotation, with the intention to deceive.

When referring to trans women, the use of recycling exaggerated stereotypes such as "long and leggy", "tall physique", "fierce looking", "muscular", etc. combined with negative notions that transgender individuals are perverted or depraved is all-too common in the media. Such stereotypical imagery is imposed on other media such as film and television, where trans women are mostly portrayed in acting roles as sick, twisted, prostitutes or "stranger danger" serial killers.

On 9 May 2014, the UK Press Complaints Commission ruled in Dr Kate Stone v Daily Mirror, that the publication of a person's transgender status is not relevant and that the disclosure of a person's previous name without consent was an unjustified intrusion into their privacy (PCC, 2014). Newspapers named in the original complaint complied with the ruling and removed reference to Dr. Stone's birth name and transgender status on-line. The media covering the PCC case, not involved in the original complaint, ignored the ruling, such as The Guardian with a piece written by feminist journalist Yvonne Roberts, who referred to Dr. Stone as "Transgender Kate Stone" before amending their story caption to "Scientist Kate Stone" six hours after publication, following complaints by readers (the

story url however remains unchanged and visible as "transgender-kate-stone-press-complaints-commission-ruling") (TheGuardian, 2014).

Among fundamentalist Christians

Fundamentalist Christians do not, as a rule, (Roberts, 2008) think highly of transgender people. This opinion is generally based upon a handful of biblical verses, such as Genesis 1:26: "And God created man in His image, in His likeness; male and female He created them... and it was very good." From this, through a generous bit of interpolation, conservative Christians conclude that transgender people (like gays) are either actively rebelling against God (Wright, 2010) or have been socialized into it by bad parenting, the liberal media, and other such machinations of Satan (Bohlin, 2001).

Some fundamentalists, such as Pastor Sean Harris of Berean Baptist Church in Fayetteville, North Carolina, have advocated beating children at the first sign of "gender-inappropriate" behaviour; for example, says the pastor, when a four-year-old boy lets his wrist go limp, his father needs to paste him one in the jaw, and if his daughter starts acting too butch, he needs to demand that she make herself attractive (Murdock, 2012).

I'd like to conclude this small section with a scripture from Galatians 3:28 which reads, "There is neither Jew nor Greek, neither slave nor free, neither male nor female; for you are all one in Christ Jesus."

In the UK ...

In the UK, homophobic and transphobic hate crime is still a serious issue. In 2013, one in eight lesbian, gay and bisexual people were the target of verbal abuse, physical assaults and harassment. What's more, some reports suggest that as many as 75% of transgender people are victims of hate crime every year. In the UK, a hundred lesbian, gay, bisexual and transgender (LGBT) hate crimes are reported to the police weekly, but estimates from LGBT organisations suggest a far higher incident rate. Many individuals receive so much abuse that they don't see the point in reporting every incident, while others don't trust the police system to act. There are even more worrying statistics about homophobic abuse online, which is almost never reported. In 2013 the word 'faggot' was tweeted a staggering 13 million times.

Hate crimes and incidents are any crime or incident which is targeted at a victim because of the offender's hostility or prejudice against an identifiable group of people.

So any incident or crime, which is perceived to be motivated because of a person's sexual orientation or transgender identity - either their actual sexual orientation or gender identity or as perceived by the offender - will be recorded as such. Hate crimes can be committed against a person or property.

A homophobic hate crime is -

> "Any criminal offence which is perceived, by the victim or any other person, to be motivated by a hostility or prejudice based on a person's sexual orientation or perceived sexual orientation."

A transphobic hate crime is -

> "Any criminal offence which is perceived, by the victim or any other person, to be motivated by a hostility or prejudice against a person who is transgender or perceived to be transgender (Vision, 2016).

What type of incidents can be a homophobic or transphobic hate incident?

Homophobic and transphobic hate incidents can take many forms including -

- verbal and physical abuse,
- physical violence,
- teasing,
- bullying,
- threatening behaviour,
- online abuse,
- damage to property,

It can be a one-off incident or part of an ongoing campaign of harassment or intimidation.

Hate incidents are not only carried out by strangers. It could be carried out by a carer, a neighbour, a teacher or someone you consider a friend (CAB, 2015).

Chapter 12

Warnings

Beware of bleeding risks with antacids containing aspirin

Antacids that contain aspirin may cause stomach or intestinal bleeding in rare cases, U.S. Food and Drug Administration officials said recently.

Since it issued a warning about serious bleeding risk with aspirin in 2009, the FDA has recorded eight new cases of serious bleeding caused by aspirin-containing antacid products sold over-the-counter, which include Alka Seltzer and Bromo Seltzer. In some of those cases, patients required a blood transfusion, the agency said in a news release.

"*Take a close look at the Drug Facts label, and if the product has aspirin, consider choosing something else for your stomach symptoms*," Dr. Karen Murry Mahoney, deputy director of the division of nonprescription drug products, said in the release.

"*Unless people read the Drug Facts label when they're looking for stomach symptom relief, they might not even think about the possibility that a stomach medicine could contain aspirin*," she added.

"*Today we're focusing on bleeding risk specifically with antacid-aspirin products used to treat upset stomach or heartburn. We're not telling people to stop taking aspirin altogether*," Mahoney said (DRUGS.COM, 2016a).

People with a higher risk of serious bleeding with aspirin-containing antacid products include those -

- aged 60 and older,

- with a history of stomach ulcers or bleeding problems,
- who take blood-thinning drugs,
- who take a steroid medicine such as prednisone to reduce inflammation,
- who take other medicines containing NSAIDs [38] such as ibuprofen or naproxen,
- those who drink three or more alcoholic drinks a day (DRUGS.COM, 2016a).

Warning signs of stomach or intestinal bleeding include -

- feeling faint,
- vomiting blood,
- passing black or bloody stools,
- and abdominal pain (DRUGS.COM, 2016a).

If you have these signs, consult a health care provider right away.

"*Some people may have been taking aspirin-containing antacid products frequently for a long time. Apart from the bleeding risk, it's not normal to have frequent or chronic upset stomach or heartburn. You should talk to a health care provider if that's happening*," Mahoney said (DRUGS.COM, 2016a).

[38] non-steroidal anti-inflammatory drugs

Glossary

A

advance decision This is a decision you can make now to refuse a specific type of treatment at some time in the future. It lets your family, carers and health professionals know whether you want to refuse specific treatments in the future. This means they will know your wishes if you are unable to make or communicate those decisions yourself 404, 405, 408–414

advance statement This gives you the option to make general statements about your wishes and views for the future, rather than refusing certain specific treatments. Often an advance statement is referred to as a 'statement of wishes and care preferences' 405, 408–411

alcohol misuse means drinking excessively - more than the lower-risk limits of alcohol consumption 154, 156, 157, 389, 400

anorexia nervosa a serious mental health condition. It's an eating disorder where a person keeps their body weight as low as possible 389

athlete's foot a rash caused by a fungus that usually appears between the toes 74, 75

B

binge eating an eating disorder where a person feels compelled to overeat on a regular basis through regular binges 389

C

cholesterol is a fatty substance known as a lipid and is vital for the normal functioning of the body. It's mainly made by the liver, but can also be found in some foods 14, 30, 35, 53, 62–66, 109, 116, 118, 156

chronic A health condition or disease that is persistent or otherwise long-lasting in its effects or a disease that comes with time . . 13–18, 21, 33, 84, 92, 93, 100, 105, 117, 132, 179, 199, 203, 207–209, 223, 224

chronic fatigue syndrome this causes persistent fatigue (exhaustion) that affects everyday life and doesn't go away with sleep or rest 231

D

dehydration this occurs when your body loses more fluid than you take in . . . 69, 89, 94, 129–132, 144, 158, 161, 163, 180, 202–206, 218, 236, 248, 257, 258, 284, 337–339

diabetes This is a life-long disease that affects the way your body handles glucose, a kind of sugar, in your blood 10, 16, 17, 21, 28, 47, 67, 78, 87, 91, 95, 96, 104, 112, 129, 132, 136, 139, 140, 142–144, 170, 179, 184, 189, 190, 192, 205, 212, 224, 238, 241, 249, 251, 259, 263, 264, 271–273, 286, 287, 353, 363, 367, 372, 377

E

ECG Electrocardiogram - a recording of the electrical conductivity of the heart 25, 182

F

food poisoning an illness caused by eating contaminated food. It's not usually serious and most people get better within a few days without treatment . 68–72, 100, 118, 119, 201

G

general housework I'm including things like vacuuming and mopping floors in this, something that exercises all parts of your body whilst cleaning your home 40

genetics How you inherit physical and behavioural characteristics, including genetic and inherited medical conditions 21, 102, 392, 395

H

heel pain usually felt as an intense pain when using the affected heel 75

high blood pressure High blood pressure or hypertension increases the risk of heart disease and stroke. Hypertension risk factors include obesity, drinking too much alcohol, smoking, and family history . . 14, 21, 26, 29, 30, 36, 50–54, 78, 108, 111, 156, 170, 190, 259, 317, 319, 332, 333, 338, 339, 347, 348, 380

I

ingrown toenails this develops when the sides of the toenail grow into the surrounding skin 74

L

lifetime prevalence the proportion of a population who have/had a specific characteristic in a given time period 387, 388

listeria Listeriosis is an infection that usually develops after eating food contaminated by listeria bacteria. In most people, listeriosis is mild and causes symptoms including a high temperature (fever), vomiting and diarrhoea. These symptoms usually pass within three days without the need for treatment 70, 118

M

metabolic rate how quickly the body converts food into energy 35

metabolism How fast your body can burn calories 21, 44, 118, 263, 266

multi-morbidity the co-occurrence of two or more chronic medical conditions in one person 260, 262

O

obesity this describes a person who's very overweight, with a lot of body fat . 17, 35, 51, 54, 108, 112, 136, 137, 189, 273, 286, 287

P

pandemic this is the name given to the worldwide spread of a new disease . . . 241, 242

poisoning when a person is exposed to a substance that can damage their health or endanger their life 389

postures a series of movements designed to increase strength and flexibility . . 376, 379

prescribing cascade an adverse reaction to one drug goes unrecognised or misinterpreted, causing the healthcare provider to inappropriately subscribe a second drug to treat signs and symptoms. This can lead to potentially dangerous situations and overprescribing 33

S

schizophrenia a severe mental disorder with symptoms such as hallucinations, paranoia, and disorganized thinking 87, 324, 325, 327, 392, 393

seasonal affective disorder Seasonal affective disorder is a type of depression that comes and goes in a seasonal pattern. It often improves and disappears in the spring and summer, although it may return each autumn and winter in a repetitive pattern 231

seasonal flu the kind of flu that affects many people every winter 242

statins Statins are a group of medicines that can help lower the level of low-density lipoprotein (LDL) cholesterol in the blood. LDL cholesterol is often referred to as "bad cholesterol", and statins reduce the production of it inside the liver 65, 66

T

tendons the cord-like tissues that attach muscles to bones 35

toxic Capable of causing injury or death, especially by chemical means; poisonous . . 128, 130, 137, 142, 155, 163, 165, 172, 176, 288, 297, 299, 316, 320, 334, 389

V

verrucas these are warts that usually develop on the soles of the feet 75

Acronyms

C

CRT crisis resolution team 396

G

GP General Practitioner, a community-based doctor . . 43, 49, 50, 53, 57, 60–62, 64, 66, 73, 85–88, 90–92, 99, 101, 104, 105, 112, 183, 184, 186–188, 190–192, 198, 201–203, 205, 206, 212, 214, 218, 219, 225, 228, 229, 238, 241, 244, 246, 250, 251, 253, 254, 256–258, 271, 284, 291, 295, 301, 307–309, 314, 353, 364, 365, 367, 373, 375, 376, 380, 390, 391, 394, 397, 398, 401, 402, 412–414, 425, 426

L

LGBT Lesbian, Gay, Bisexual and Transsexuals 430

N

NSAIDs non-steroidal anti-inflammatory drugs 433

S

SUDs substance use disorders 330

U

UTI's Urinary Tract Infection 143

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