

# Health and Wellbeing Guide



## Safety Shield

Prepare. Engage. Intervene.

## **Welcome to the Wood Health and Wellbeing Guide.**

Having a healthy lifestyle not only can help you reduce your risk of developing serious health problems, but it can also make you feel better, increase your energy levels and help you cope with the challenges of day to day life.

This guide provides information on a range of common topics all designed to provide you with some helpful tips and advice to help you develop and maintain that healthy lifestyle.

It can be difficult to change old habits but the information in the **Wood Health and Wellbeing Guide** can provide that important step in identifying and learning new positive habits to achieve that.

When using this guide, the key to developing positive habits that you are more likely to keep is to:

**Start slowly** - change just one thing at a time - see the benefits that can come from eating more wholesome food or, taking up exercise or, quitting smoking

**Make small changes** – like going for a regular walk, instead of pushing yourself to run 5km every day, this will have more chance of becoming a habit you'll keep.

**Be flexible** – for example, if you decide to cut down on sugar, do it gradually over a few weeks rather than all at once. By cutting down from two teaspoons in your coffee to one-and-a-half, then one and so on, your taste buds will adapt and you're less likely to crave for the sugar.

**Build on what you already do** – for example, if you sometimes buy fruit to eat, then try buying more of this (and fewer biscuits and chips).

Remember, increasing or adding even one new health behaviour can make a big difference to your health. Being healthy, however is about more than getting fit and feeling better, it's about staying that way too.

And remember if you find that you have any health and wellbeing concerns seek help and advice early.

## Guide to a Healthy Weight



## Healthy Weight

Weight matters for the simple reason that your body functions better when you are at your optimal weight!

Being overweight means that you are at a much greater risk of:

- Cardiovascular disease including high blood pressure, heart attack and stroke
- Non-insulin dependent diabetes (NIDDM)
- Osteoarthritis
- Gallbladder disease
- Sleep apnoea
- Infertility and other gynaecological problems
- Some cancers

In fact, being overweight and in particular obesity is a growing problem worldwide. It is now well recognised that it has reached epidemic proportions.

In 2016, more than 1.9 billion adults, 18 years and older, were overweight. Of these over 650 million were obese. Most of the world's population live in countries where overweight and obesity kills more people than underweight.



39% of all adults  
aged 18 years and  
over in world are  
overweight and  
13% are obese

### The reason for this is simple:

- People are eating too much calorie rich foods which are high in fats and sugars
- People are eating not enough food with good nutritional values
- People are also less physically active due to changes in technology making work, transport and leisure activities less demanding

So, doing something now to ensure a healthy weight has never been more important

## Healthy Weight

**The definition of a healthy weight looks at both psychological and physical factors including:**

- Being generally satisfied with your physical appearance
- Using hunger rather than emotions to influence your eating patterns
- Being able to undertake all the activities you want without being affected by your weight
- Having a BMI and waist circumference in the healthy range
- Having a balanced intake of nutritious food in comparison to your level of physical activity

**BMI or Body Mass Index is a commonly used measure to tell if you are a healthy weight for your height and is influenced particularly by your ethnic origin.**

**BMI is calculated by dividing weight by the square of height as follows:**

**BMI = Weight (kg)/Height (m)<sup>2</sup>**

Body type	BMI European	BMI Asian
Underweight	< 18.5	<18.5
Healthy weight	18.5 -24.9	18.5 – 22.9
Overweight	25.0 – 29.9	23.0 – 24.9
Obese	30.0 – 34.9	25.0 – 29.9
Morbidly obese	>35.0	>30.0

However, BMI does not tell the whole story. It is an indicator only that your weight might be impacting your health. BMI is less accurate for assessing healthy weight in some groups of people because it does not distinguish between the proportion of weight due to fat or muscle.

If you are over your expected weight it is where the additional weight is distributed which can impact most on your health. So, it is important to know whether you are an apple or a pear! You can have a healthy weight but still be at risk because of this.



People that carry the weight centrally or in the abdomen are the ones at greatest risk of health consequences. Waist circumference provides a better estimate of visceral fat, the dangerous internal fat that coats the organs, so waist measurement provides important information when considering your risk of heart disease, stroke and diabetes.

To find out your level of risk, it is important to measure your waist circumference accurately.

- Place the tape measure directly on your skin, or over no more than one layer of light clothing.
- The correct place to measure your waist is halfway between your lowest rib and the top of your hipbone. This is roughly in line with your belly button.
- Breathe out normally and measure.
- Make sure the tape is snug, without squeezing the skin.



African Caribbean, South Asian, Chinese and Japanese people tend to carry more fat and less muscle at the same weight as a white European. And the risk of diabetes and heart and circulatory diseases starts to increase at a lower weight gain than for Europeans.

The risk of you developing heart disease, diabetes and stroke can be calculated now.

Waist Circumference			
	Low	High	Very High
BMI	Men who are white European, black African, Middles Eastern, mixed origins <94cm  All other Men <90cm  Women who are white European, black African, Middles Eastern, mixed origins <80cm  All other women <80cm	Men who are white European, black African, Middles Eastern, mixed origins 94 – 102cm  No high-risk category for all other men  Women who are white European, black African, Middles Eastern, mixed origins 80 – 88cm  No high-risk category for all other women	Men who are white European, black African, Middles Eastern, mixed origins >102cm  All other men >90cm  Women who are white European, black African, Middles Eastern, mixed origins >88cm  All other women >80cm
Underweight	Underweight	Underweight	Underweight
Healthy weight	No increased risk	No increased risk	Increased risk
Overweight	No increased risk	Increased risk	High risk
Obese	Increased risk	High risk	Very high risk
Very obese	Very high risk	Very high risk	Very high risk

If you are above your 'healthy weight' or at increased risk because of your waist size even a moderate amount of weight loss can have significant health benefits.

It can result in:

- Improved blood pressure
- Lower cholesterol levels
- Better control of your sugar levels
- Reduced risk of the "lifestyle diseases" such as heart disease and diabetes.

When it comes to weight loss, there's no lack of fad diets promising fast results. But such diets limit your nutritional intake, can be unhealthy, and tend to fail in the long run.

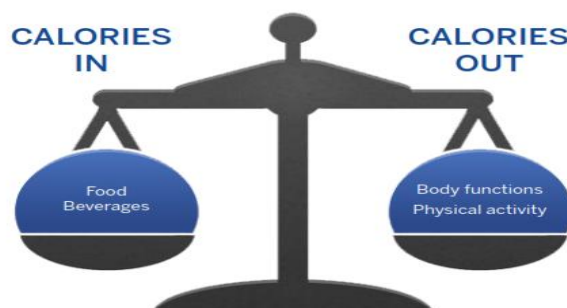
**In achieving a healthy weight, it is important to understand both what you eat as well as why you eat to succeed in having that healthy weight.**

Probably the most successful way to promote weight loss is to have a lifestyle that combines improved nutrition and increased physical activity.

Your goals should focus on behaviour change and improved health, rather than just be limited to actual weight loss.

Some people, however, may need a more intensive approach, such as a very low energy diet, weight loss medication or bariatric surgery. This is especially likely in those who are obese, have other risk factors, or who have been unsuccessful in reducing weight by changing their lifestyle.

### **What you eat is important**





Managing your weight involve achieving a balance between your diet and energy intake in comparison to your physical activity and energy burn.

Any extra energy which you take in above your needs is laid down as fat – therefore to lose weight, you need to burn more calories than you take in. So, start by looking at the calorie values in your food and understand how much you require for what you do! There are numerous tools online to help you achieve this. But on average men need 2500 calories per day, while women need 2000 and children aged 5 to 10 need 1800.

Use tools such as nutracheck: <http://www.nutracheck.co.uk/CaloriesIn/> to understand what is actually in the food you are eating.

Reaching and maintaining a healthy weight should therefore be straightforward - but it is not simple, as it is also important to understand and manage the reasons why you eat as well to achieve your healthy weight.

### Factors influencing weight

The energy balance appears relatively straight forward – however other factors which can influence your weight include:

- Genetic factors – this may affect both how you perceive hunger as well as how your body manages your energy intake and breaks down food
- Certain diseases such as an underactive thyroid are well recognised to be associated with weight gain, conversely an overactive one is associated with weight loss!
- Certain medications – particularly steroids which can stimulate your appetite as well as certain anti-psychotic medications
- Age – unfortunately it is not called the “middle aged spread” for nothing. Aging can result in decreasing muscle mass and increasing fat deposition
- Sleep deprivation – this is known to affect how the body stores fat
- Stress
- Ignoring or being unaware of your body’s signals telling you that you are becoming overfull

## Steps to a healthy weight



- Eat one extra fruit/vegetable per day
- Prepare lunch at home and bring to work
- Exercise – to help you keep the weight off, and you don't need special equipment or a gym membership to be more active!
- Take the stairs at work
- Park further away than usual and walk
- Get off the train or bus one stop earlier and walk to your destination
- Go for a walk at lunch time
- Do physical activities with friends and family – go for a hike, try a new sport together

## So, the time is now to take control of your weight.

Assess your weight to know whether it is in the healthy range or not

Lose weight by changing your lifestyle. The key to achieving and maintaining a healthy weight isn't about short-term changes. It's about a lifestyle that includes healthy eating, regular physical activity, and balancing the number of calories you consume with the number of calories your body uses.

Prevent weight gain - if you are overweight but not ready to lose weight, preventing further weight gain can still be a worthy goal as a first step.

## Guide to a Healthy Diet



## Healthy Diet

A healthy diet is a balanced diet where not only are you eating the correct amount of nutrients needed to maintain good health, but you are eating them in the correct proportion for your activity requirements.

Consuming this correct balance of food and drink also ensures that you maintain a healthy weight and reduces your risk of developing obesity related conditions such as diabetes, heart disease and joint related problems.

The nutrients we require can be sub-categorised into two types; **Macronutrients** and **Micronutrients**. All are necessary to promote growth and development and regulate healthy bodily processes.

- **Macronutrients** consist of Carbohydrate, Protein and Fat and are required in large amounts to provide energy
- **Micronutrients** refers to vitamins and minerals and are essential, yet required in smaller quantities

### Macronutrients Explained:

**Carbohydrates** are required for energy. Glucose is the most essential source of energy in the body. The brain works entirely on glucose alone. Carbohydrates provide 4 calories of energy per gram

Carbohydrates		
GOOD	BETTER	BEST
White Pasta		Quinoa
Potato	Sweet Potato	Carrot and Swede mash
Banana	Kiwi	Strawberry

**Fats** provide about 9 calories of energy per gram. Extra fat is stored in adipose tissue and is burnt when the body has run out of carbohydrate (glucose). Fat is also needed to absorb some micronutrients in the form of vitamins.

Fat		
GOOD	BETTER	BEST
Peanut Butter (No added Sugar)	Nuts	Sesame, Sunflower and Pumpkin Seeds
Sunflower Oil	Olive Oil	Coconut Oil
Sweet Corn	Green Olives	Avocado

**Proteins** - Are the last to be used for energy of all macronutrients. In cases of extreme starvation, the muscles in the body, that are made up of proteins, are used to provide energy. This is called muscle wasting. Proteins also provide 4 calories per gram.

Protein		
GOOD	BETTER	BEST
Beef	Chicken	Salmon
Baked Beans	Black Beans	Soybeans
Semi-Skimmed Milk	Low Fat Greek Yoghurt	Cottage Cheese



Food Group	Main nutritional benefits	How much is needed each day?
Fruit and vegetables (Includes fresh, frozen, juiced, dried or tinned fruit and vegetables)	Vitamins, minerals and fibre	At least 5 portions
Meat, fish, eggs and beans (Includes fresh meat, fresh and tinned fish, eggs, nuts and pulses)	Protein and vitamins and minerals	Two to three portions (one portion is an egg or a serving of meat/fish the size of your palm)
Starchy foods (Includes bread, rice, pasta and potatoes)	Energy, fibre, vitamins and minerals	A third of everything we eat
Milk and dairy foods (Include milk, cheese and yoghurt)	Protein and calcium	Two to three portions (one portion is a small pot of yoghurt or glass of milk)

Fruit and vegetables are one of our main sources of vitamins and minerals, which the body needs to perform a wide variety of functions.



Vitamin A is essential for cell growth and development, as well as vision and helps to strengthen our immune system to fight against infections. It is also a powerful antioxidant so helps prevent disease.

<b>Vitamin A</b>	Found in carrots, broccoli, green leafy vegetables, mangos, melons and apricots as well as animal products such as liver, oily fish, eggs, milk and cheese
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The B vitamins all help us process energy from food - especially B1 (thiamine), B3 (niacin) and B6.

B3 is also involved in making hormones such as insulin which regulates blood glucose as well as serotonin and other mood hormones in the brain. Niacin is therefore often used to prevent and treat depression.

B5 helps support the adrenal gland which regulates the stress response in the body.

B9 (folic acid) is well known to prevent neural defects during pregnancy while B12 helps produce healthy blood cells. All are found in a wide variety of foods.

Vitamin B1 (thiamine)	Found in whole grain food such as cereals and breads, as well as quinoa, pork and liver
Vitamin B3 (niacin)	Found in foods high in protein such as chicken, beef, fish and nuts. Some foods such as bread are also enriched with niacin
Vitamin B5	Found in fish, whole grains, rye, barley, chicken, nuts, egg yolks and leafy green vegetables
Vitamin B6 – the workhorse of nutrients	Found in poultry as well as lean red meat, egg yolks, chickpeas, oily fish, dairy produce, bananas, cabbages and leeks
Vitamin B9 (niacin)	Found in particularly in green leafy vegetables such as kale, but also spinach, Brussel sprouts, broccoli, carrots, apricots, oranges and squash
Vitamin B12	Found in animal products – milk, eggs, red meat, as well as pork and fish. For vegetarians found in seaweed





**Fruit and vegetables** (eaten with the skin on) also contain high amounts of fibre which help to maintain a healthy gut and digestive system.

The starchy foods, also known as **carbohydrates**, are where we get most of our energy from. Our bodies convert these foods into glucose which is used as energy either immediately or stored for later use. Carbohydrates also contain fibre (especially wholegrain varieties so choose them), and iron which we need to make red blood cells to carry oxygen around the body.

**Meat fish, eggs and pulses** provide us with significant amounts of protein which is essentially a building block of the body. Everything from our hair, muscles, nerves, skin and nails needs protein to build and repair itself. Also high in protein are dairy products, and they are also great providers of calcium. The most common mineral in the body, calcium is needed for functions including helping blood to clot, and to build bones and teeth

We do need some fat and sugar in our diet – but it is important to pay attention as to the type and amount you are taking. Try and avoid saturated fat and choose foods that contain unsaturated fat such as vegetable oils, oily fish and avocados instead. Also avoid low fat foods as they often contain high sugar levels!





## Healthy diet

### **Breakfast - Don't skip it! It is an important part of a healthy diet.**

Having protein helps kick start your metabolism. You burn more calories digesting protein than carbohydrates, and it makes you feel fuller longer, so you'll eat less calories for the rest of the day. Start the day with that egg – or salmon or ham – whatever you like.

**Mid-morning snack** – Eating little and often is the best way to manage your sugar levels so try a banana, or dip with veggie sticks – even some oatcakes with peanut butter to help spread your food intake throughout the day.

**Lunch** – Have a mixture of lean protein and starchy carbs to make sure you don't suffer from that mid-afternoon slump. Make sure that it is high fibre whole-grains that slowly release sugars such as a rye bread sandwich with tuna or chicken and salad.

**Mid afternoon snack** – Pick yourself up with some fruit. You could also take some dried fruit and nuts providing you with proteins and essential fats as well to keep you going until dinner. In fact, dried fruit has four times as much sugar in it as its fresh equivalent so is a good source of energy before a gym session.

**Dinner** – This is the time to take most of your carbohydrates for the day – whether pasta, rice or quinoa. Fill half your plate with colourful veggies and add some protein such as meat, fish or beans to have with the carbohydrates

**Importantly – don't get thirsty. Those 'hunger pangs' you are having may be your body telling that you are in fact thirsty. Make sure you drink at least 1.6 – 2 litres of water per day in addition to the water that you get from food. All non-alcoholic drinks count – so that includes tea and coffee though keep these to a minimum. Water and milk are the healthiest options.**

### **What serving we really need**

A big problem is that we don't actually know how much we should be eating and what an actual serving size looks like.

A key part of healthful eating means choosing appropriate amounts of different foods. When it comes to deciding how much to eat, the terms serving size and portion size are often used interchangeably. However, they don't mean the same thing.

Serving size is a standardized amount of food. It may be used to quantify recommended amounts, as is the case with the MyPlate food groups, or represent quantities that people typically consume on a Nutrition Facts label.

Portion size is the amount of a food you choose to eat — which may be MORE OR LESS than a serving. For example, the food label may indicate  $\frac{1}{2}$  cup cereal for one serving but if you eat  $\frac{3}{4}$  cup, that is your portion size.

### Estimating Portion Sizes

Measuring cups and spoons are great tools for making sure your portion is the same as the serving size, however, these tools aren't always available when you're getting ready to eat. Another way to estimate your portion is by comparing it to something else.

A baseball or an average-sized fist

- Measures about 1 cup
- An appropriate portion size for raw or cooked vegetables, whole fruit or 100% fruit juice

A tennis ball or small, scooped handful

- Measures about  $\frac{1}{2}$  cup
- Equal to 25 gm/ 1-ounce equivalent for grains, such as pasta, rice and oatmeal

A deck of cards or the palm of the hand

- Measures about 75 gm/ 3 ounce-equivalents
- An appropriate portion size for fish, chicken, beef and other meats

The size of the thumb

- Measures about 1 tablespoon
- An appropriate portion size for peanut butter or other nut spreads such as almond butter

A postage stamp or the tip of the pointer finger to the first joint

- Measures about 1 teaspoon
- An appropriate portion size for oils or other fats



Measure foods regularly to get an idea of what the serving sizes look like. It becomes easier to pick the appropriate amount as you grow more accustomed to it. While serving sizes are a valuable tool, it's important to listen to your body while eating. If you are still hungry after eating one serving, that likely means you need more food. And if you're full on less than one serving, that's OK too.

### Overcoming portion distortion

It's easy to mistake a larger portion as a better value. To overcome portion distortion and downsize your helpings, try the following:

- **Read the label.** The Nutrition Facts label can help you to identify the appropriate serving size.
- **Eat from a plate, not a package.** It's easy to eat more than one serving when eating straight from the box or bag. Portion out your food first and put the container away before you start munching to keep your portion size in check.
- **Use the right tools.** Try portioning out foods with measuring cups and spoons to give yourself an idea of what the serving size looks like. Small plates and

bowls can also make the portion sizes appear larger and leave you feeling more satisfied.

- **Skip the upgrade.** When dining out, it can seem like a better value to pay a little extra for a larger size. If you can safely transport the food home to eat later, that might be a good deal. Otherwise just stick to the serving size you know you can eat at one sitting without feeling too full.

The eatwell plate is based on 5 food groups



### Calculate your daily requirements

Basal Metabolic Rate (BMR) is the energy expenditure of a human being at complete rest. This is important to know to calculate your daily calorie intake requirement and can be calculated using the following "Harris Benedict" formula;

Women:  $BMR = 655 + (9.6 \times \text{weight in kilos}) + (1.8 \times \text{height in cm}) - (4.7 \times \text{age in years})$

Men:  $BMR = 66 + (13.7 \times \text{weight in kilos}) + (5 \times \text{height in cm}) - (6.8 \times \text{age in years})$

Once BMR is known, an individual's activity level must be taken into account to calculate daily calorie requirements. The following calculations can be used to suite the individual's current activity level;

If you are sedentary (little or no exercise):

Calorie-Calculation =  $BMR \times 1.2$

If you are lightly active (exercise/sports 1-3 days/week):

Calorie-Calculation = BMR x 1.375

If you are moderately active (exercise/sports 3-5 days/week):

Calorie-Calculation = BMR x 1.55

If you are very active (exercise/sports 6-7 days a week):

Calorie-Calculation = BMR x 1.725

### Case Study Part 1

Joe Bloggs is a 40-year-old male, is 182 cm and weighs 90 kg. Joe works in an office where he is relatively sedentary, but he attends the gym twice per week and walks at the weekend. He wants to lose weight at a healthy rate of 0.5 kg per week.

First, he must calculate his BMR;

$BMR = 66 + (13.7 \times \text{weight in kg}) + (5 \times \text{height in cm}) - (6.8 \times \text{age})$   
 $BMR = 66 + (13.7 \times 90) + (5 \times 182) - (6.8 \times 40)$

$BMR = 66 + (1.233) + (910) - (272)$

$BMR = 1937 \text{ kcal}$

Joe must then factor in his activity levels:

Calorie Requirements = BMR x 1.375  
 Calorie Requirements =  $1937 \times 1.375$   
 Calorie Requirements = 2663 kcal

Joe requires approximately 2663 kcal per day to maintain his weight with his current activity level to lose weight, Joe must consume fewer calories through adjusting his nutrition or he must burn more calories through increasing his activity level.

A simple recommendation for Joe would be to reduce his calorie intake by 500 kcal and increase his daily exercise levels by walking every evening for 20 - 30 mins.

### Keeping Hunger at bay

One of the biggest challenges to maintaining a healthy weight is the inability to control hunger. However, this shouldn't be the case and there are some very simple tips that can help keep you satisfied for longer:

- Eat complex carbohydrates (wheat, barley, oats and vegetables) instead of simple carbohydrates (white bread, chocolate, fruit juice and jam). Complex

carbohydrates contain more fibre and is slower to be broken down by the body. This promotes fullness sooner and for longer

- Eat most fruit and vegetables with the skin on to increase fibre intake further
- Eat protein at every meal
- Combine at least 2 macronutrients e.g. protein and carbohydrate instead of a single macronutrient
- Aim to eat at regular intervals of approximately 2-3 hours
- Stay hydrated

## Hydration

Your body is dependent on water for survival. Every cell, tissue and organ in our body needs water to function correctly. For example, our body uses water to maintain its temperature, remove waste and lubricate joints. Water is essential for good health. It is essential to remain hydrated through the day and to replenish fluids lost through the night.

Signs of dehydration include:

- Little or no urine, or urine that is darker than usual
- Dry mouth
- Sleepiness or fatigue
- Extreme thirst
- Headache
- Confusion
- Feeling dizzy or lightheaded

**As a guide, it is recommended that females should drink approximately 1.6L of water per day and males drink 2L per day. Remember that you will need to drink more during and after exercise, or in hot environments.**

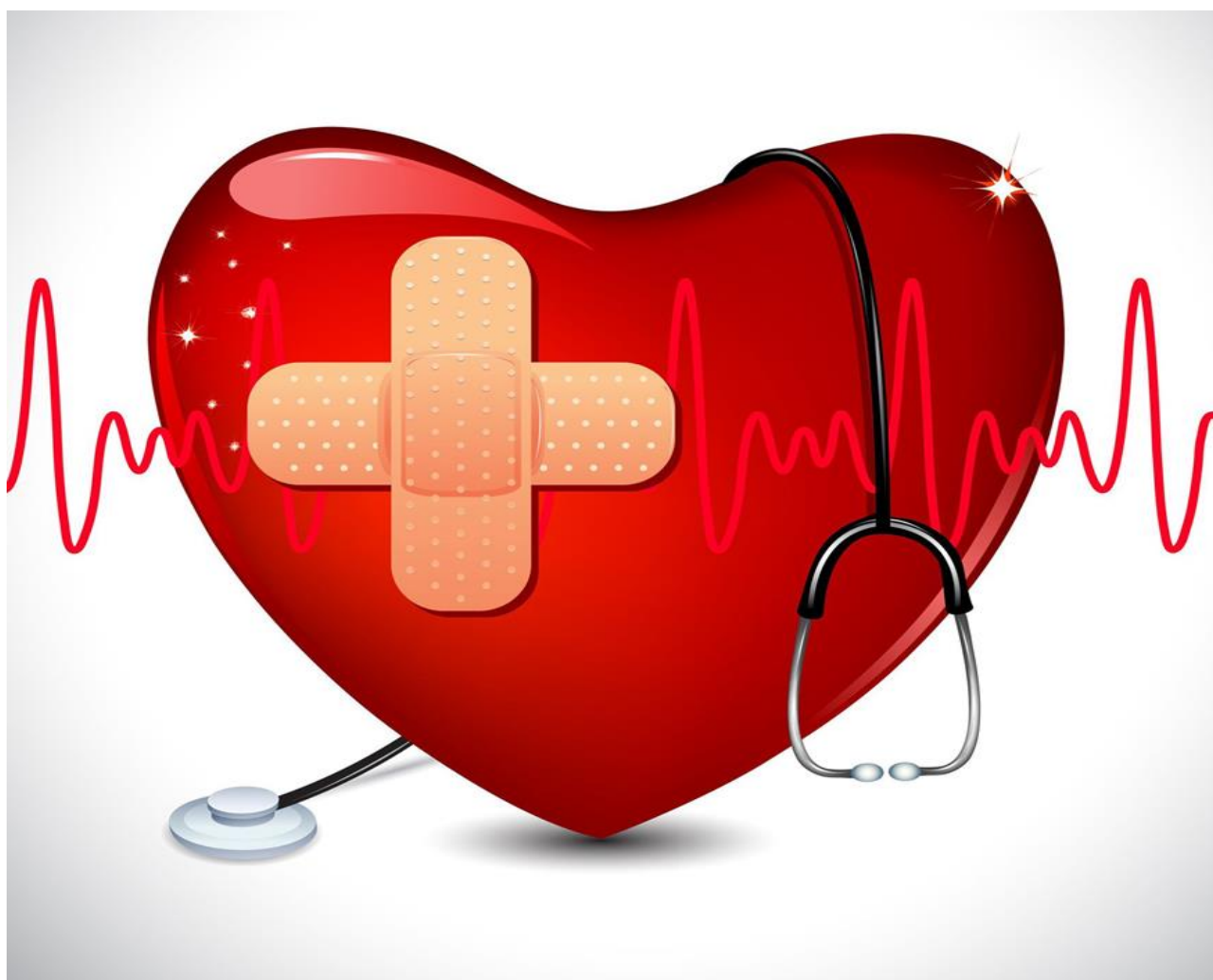
## Tips for staying hydrated

- Keep a refillable bottle of water with you during the day
- Compensate for sweating during exercise by drinking more before, during and after
- Start and end your day with a glass of water
- When you're feeling hungry, drink water. The sensation of thirst is often confused with hunger
- Drink on a schedule if you have trouble remembering to drink water i.e. breakfast, lunch, dinner and evening
- Alcohol and Caffeine have diuretic effects on the body, therefore minimise their consumption
- Whilst tea and coffee can contribute to your water intake, it's best to consider this in addition to your recommended water intake

## Your body needs water to work properly and to avoid dehydration



## Guide to Heart Disease



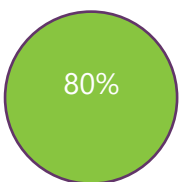


## Heart Facts:

- **Heart disease** is the leading cause of death for both men and women in the world. More people die annually from cardiovascular diseases than from any other cause
- Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels and they include:
  - Coronary heart disease – disease of the blood vessels supplying the heart muscle;
  - Cerebrovascular disease – disease of the blood vessels supplying the brain;
  - Peripheral arterial disease – disease of blood vessels supplying the arms and legs;
  - Rheumatic heart disease – damage to the heart muscle and heart valves from rheumatic fever, caused by streptococcal bacteria;
  - Congenital heart disease – malformations of heart structure existing at birth;
  - Deep vein thrombosis and pulmonary embolism – blood clots in the leg veins, which can dislodge and move to the heart and lungs



An estimated 17.7 million people died in 2015 from cardiovascular diseases – this accounts for nearly 1/3<sup>rd</sup> of all causes of death.



80% of all cardiovascular deaths are from heart attacks and strokes - 7.4 million of these deaths were due to heart disease while another 6.7 million were due to stroke.



Women are 4 times more likely to die from heart disease than breast cancer

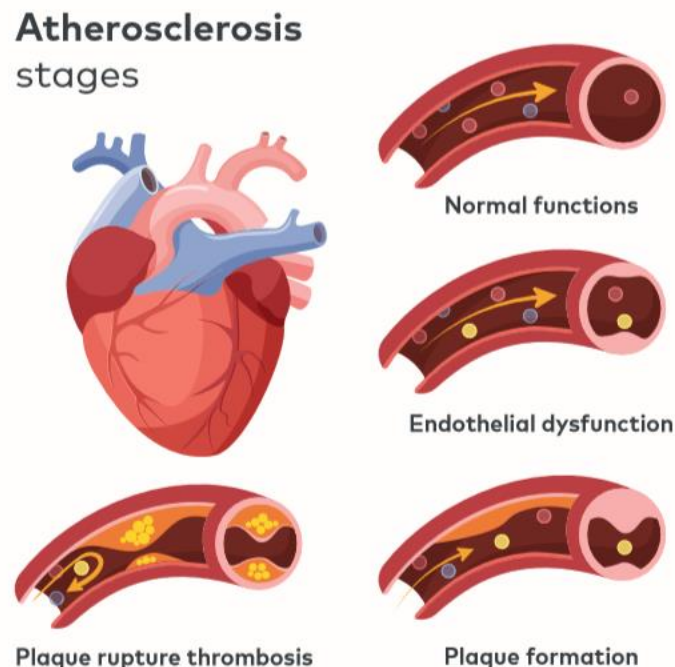


1.1 Billion adults have raised blood pressure – less than 1 in 5 have it under control

## Coronary Heart Disease

Coronary heart disease is the most common by far of all the cardiovascular diseases. It is the condition which occurs when you get a build-up of fatty plaques or atheroma on the inside of your coronary blood vessels. These are the small but crucial blood vessels which supply the blood to your heart muscle enabling it to keep pumping.

The deposition of these fatty plaques leads the arteries to narrow and harden, a process known as atherosclerosis. This can take years to occur and can remain undetected for a long time.



The effect of this narrowing can result in reduced amounts of blood and therefore oxygen getting to the heart muscle. This can result in the condition known as angina. This is the word used to describe the pain or tightness that is experienced in the chest, arm, jaw, neck or stomach usually when you exert yourself. Angina is essentially a protective mechanism – as by causing pain – you cease doing the strenuous activity which resulted in the increased demand for oxygen and by stopping allows the heart muscle to recover.

If the artery, however becomes completely blocked because of a blood clot for example, part of the heart muscle then becomes starved of oxygen and it dies – this is what occurs during a “heart attack”.

## Risk of coronary disease

Everybody has some risk of developing the build-up of fatty plaques or atheroma, however certain risk factors can increase the risk of these developing.

The risk factors can be divided into:

**Lifestyle factors** – these can all be prevented or changed

**Treatable or partly treatable** risk factors, or

**Fixed** risk factors – the ones that you cannot alter

Treatable risk factors	Lifestyle risk factors	Fixed risk factors
High cholesterol blood level	Smoking	A strong family history of heart disease – this means having a father or brother who developed heart disease before 55 or a mother or sister who developed heart disease before 65
High blood pressure or hypertension	Physical inactivity	Gender – being male makes you more susceptible
High fat or triglyceride levels	Obesity	Age – the older you get the more likely you are to develop atheroma or fatty deposits
Diabetes	An unhealthy diet including eating too much salt	Ethnic group
Chronic kidney disease	Excess alcohol intake	

If you have a fixed risk factors, then you may want to make an extra effort at addressing any lifestyle or treatable risk factors that can be changed!

Some risk factors are also riskier than others such as smoking which is the greatest of all the cardiovascular disease risk factors. Also risk factors interact – if you have two or more risk factors then your health risk is much more greater than if you just have one

### Highest cardiovascular disease death rates

The top 10 countries with the highest death rates for heart disease and high blood pressure per 100 000men and women aged 35 to 74



Country	Men	Women
Russia	1173	466
Ukraine	1067	454
Romania	657	312
Hungary	524	218
Cuba	359	209
Brazil	347	205

Czech Republic	347	142
Argentina	305	139
Mexico	261	137
United States	235	117

### Prevention activities

More than 80% of coronary heart disease is actually PREVENTABLE!

By having a heart-smart lifestyle and minimising your risk factors – this can dramatically lower your chance of developing heart disease.

- by making the right lifestyle choices – you can eliminate the lifestyle risk factors and minimise and even eliminate some of the treatable risk factors
- unfortunately, no fixed risk factors can be changed – however by making some adjustments – your chance of developing heart disease can be reduced significantly

Activities that you can do to minimise your risk include:

- Stopping smoking
- Losing weight
- Being more active
- Keeping your blood pressure under control
- Keeping your cholesterol levels healthy



**These small changes can make a BIG difference!**

## Know your numbers

### 1. Blood Pressure

High blood pressure or hypertension is a well-known risk factor for heart disease.

Your blood pressure does not stay the same throughout the day – it varies according to the time of day as well as what you are doing. Blood pressure is the pressure of blood in your arteries – it needs to be at a certain level to make sure that the blood gets around your body. High blood pressure or hypertension means that your blood pressure is consistently higher than the recommended level.

Having high blood pressure means that the heart must work harder than usual. If it remains higher than normal for a long period of time without being treated, it can result in your heart getting larger which means it works less effectively.

It is important therefore to know your numbers – so that you can monitor your blood pressure and ensure that it doesn't rise as high as put you at risk of developing coronary heart disease, retinal haemorrhage, strokes and kidney disease.

The numbers you need to know are:

1. **Upper number (or systolic pressure)** – this is the pressure generated when your heart muscle contracts and pumps blood through your arteries, and the
2. **Lower number (or diastolic pressure)** – this is the pressure when your heart relaxes between beats.
3. Normal blood pressure should be less than or equal to 140/90 mmHg. For most people the target is to have blood pressure at less than this – however it may require to be at a different level dependent on other medical conditions that you may have.



You should have your blood pressure checked at least every 3-5 years. High blood pressure (hypertension) usually causes no symptoms, so you will not know if it is

high unless you have it checked. You can do this at your GP, Family physician or Internist. This can also sometime be done at local pharmacies or chemists – even at some gyms and also by yourself if you buy a home monitor.

## 2. Waist circumference

The increased health risk of obesity is most marked when there is excess fat mainly in the tummy (abdomen) rather than on the hips and thighs. As a rule, a waist measurement of 102 cm or above for men (90 cm for African Caribbean, South Asian, Chinese and Japanese men) and 88 cm or above for women (80 cm for African Caribbean, South Asian, Chinese and Japanese women) is a significant health risk – so aim to keep this down – see the Guide to a Healthy Weight for more information.

## 3. Cholesterol

In general, the higher your blood cholesterol level, the greater your risk of developing cardiovascular diseases. However, it is more complex than simply just knowing your total cholesterol. Cholesterol is carried in the blood as part of particles called lipoproteins. There are different types of lipoproteins but the most relevant to cholesterol are:

**Low-density lipoproteins** carrying cholesterol (**LDL cholesterol**) - This is often referred to as 'bad' cholesterol. This is the one mainly involved in forming blockages in the arteries (atheroma). Most of the cholesterol in the blood is LDL cholesterol but how much varies from person to person.

**High-density lipoproteins** carrying cholesterol (**HDL cholesterol**) -This is often referred to as 'good' cholesterol. This may prevent atheroma forming – you want a higher level of this.

So, when it comes to cholesterol the numbers you need to know are:

**Total cholesterol (TChol): 5.0 mmol/L or less**

**LDL cholesterol: 3.0 mmol/L or less.**

**HDL cholesterol: 1.2 mmol/L or more.**

Having a high cholesterol level is riskier if you also have other risk factors such as diabetes or high blood pressure. As a rule, no matter what your cholesterol level is, lowering the level reduces your risk. This is why people at high risk of developing a cardiovascular disease are often offered medication to lower their cholesterol level. A diet including plant-based sterols can also assist.

As a rule, the higher the LDL cholesterol level, the greater the risk to health. A blood test only measuring total cholesterol may be misleading. A high total cholesterol may be caused by a high HDL cholesterol level and is therefore healthy. It is very important to know the separate LDL cholesterol and HDL cholesterol levels.

## Smoking

Smoking is by far the biggest risk factor for coronary heart disease. It actually doubles the risk of you having a heart attack and also reduces your recovery after having one.

Cutting back is NOT enough irrespective of your age. You need to not only say NO to smoking but also avoid smoky environments and passive smoking as they all contribute to your risk of developing coronary heart disease.

If you stop smoking before age 30 – you could live as long as if you never smoked, even if stopping at 40, 50 or 60 could add an extra 9, 6 or 3 years to your life. Help is available as it can be hard to quit on your own. Speak to your GP, Family Physician or Internist

Research has also shown that leading an active lifestyle can not only prevent and manage heart disease but can also reduce many of the risk factors. It helps keep your blood pressure within the normal range as well as your weight under control

## Exercise

Never underestimate the importance of exercise - it is what you do NOW that counts, not what you did in the past!

30 minutes of moderate exercise at least 5 days per week (where your heart rate increases, and you feel a little out of breath but can still hold a conversation) halves your risk of getting heart disease and the.... GOOD NEWS is .... you don't have to do it all on one go! The 30 minutes can be split into shorter sessions so can fit it into your daily routine. 2 active sessions of 15 minutes or 3 sessions of 10 minutes are just as beneficial.





## Diet

Diet has a huge influence on the health of your heart, by making small changes it not only:

- Prevents the development of atherosclerosis or slows its progression
- Helps lower blood pressure
- Controls or more importantly reduces your weight and waist size
- Delays the onset of diabetes
- Maintains healthy cholesterol levels

### Briefly a healthy diet means:

- AT LEAST five portions, or ideally 7-9 portions, of a variety of fruit and vegetables per day.
- A THIRD OF MOST MEALS should be starch-based foods (such as cereals, wholegrain bread, potatoes, rice, pasta), plus fruit and vegetables.
- NOT MUCH fatty food such as fatty meats, cheeses, full-cream milk, fried food, butter, etc. Use low-fat, mono-unsaturated or polyunsaturated spreads. One study conducted at Harvard University found that replacing saturated fats with

polyunsaturated fats is an effective way of lowering your risk of heart attacks and other serious problems from heart disease.

- INCLUDE 2-3 portions of fish per week, at least one of which should be oily (such as herring, mackerel, sardines, kippers, salmon, or tuna).
- LIMIT SALT to no more than 5 g a day (and less for children).
- If you eat meat, it is best to eat lean meat, or poultry such as chicken.
- If you do fry, choose a vegetable oil such as sunflower, rapeseed or olive.

**Further advice on a healthy diet can be found in the Wood Healthy Diet Guide. Having a healthy heart - it is in your hands.**

#### Key messages to protect heart health

- Tobacco use, an unhealthy diet, and physical inactivity increase the risk of heart attacks
- Engaging in physical activity for at least 30 minutes at least 5 days of the week will help to prevent heart attacks
- Eating at least five servings of fruit and vegetables a day, and limiting your salt intake to less than one teaspoon a day, also helps to prevent heart attacks

## Guide to Pre-diabetes



## Prediabetes

Prediabetes is also known as borderline diabetes. It is a metabolic condition that is closely tied to obesity.

It is characterised by higher glucose (sugar) levels in the blood than normal – but not at a level to be classified as diabetes. It does though indicate that you maybe at risk of developing diabetes. Having prediabetes means that you are also at increased risk of developing conditions such as heart disease, peripheral arterial disease and stroke (cardiovascular diseases).

	Normal	Prediabetes		Diabetes
Test type		Impaired fasting glucose	Impaired glucose tolerance	
A1c	<42mmol/l	42 – 47 mmol/l		>47 mmol/l
A1c	<6.0%	6.0 - 6.4%		>6.4 %
Fasting blood glucose	<6.1 mmol/l	6.1 to 6.9 mmol/l	<7 mmol/l	>7 mmol/l
Oral glucose tolerance test	< 7.8 mmol/l	< 7.8 mmol/l	>7.8 but <11.1 mmol/l	> 11.1 mmol/l

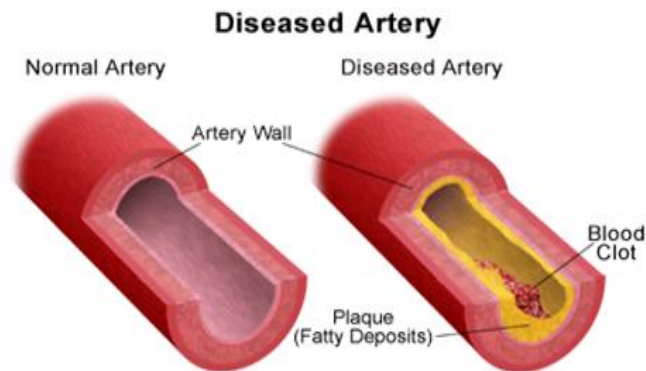
**In the UK it is estimated that 1 in 3 adults have this condition.**

**An estimated 33.9% of U.S. adults aged 18 years or older (84.1 million people) had prediabetes in 2015, based on their fasting glucose or A1C level. Nearly half (48.3%) of adults aged 65 years or older had prediabetes.**

**In Australia 2 million people have pre-diabetes.**

**Without intervention, within 10 years between 1 and 3 out of every 4 people with prediabetes are likely to have developed type 2 diabetes.**

Research has indicated that even at this prediabetes stage, damage like that seen in diabetes may already be occurring particularly in the heart and circulatory system resulting in the development of small vessel disease which is implicated in the development of both heart attacks and stroke



People with prediabetes are also more likely to have other risk factors for cardiovascular disease including high blood pressure, raised cholesterol and being overweight.

#### Prediabetes can be broken down into 2 separate conditions:

- **Impaired fasting glucose (IFT)** where your glucose levels are higher than normal after a period of fasting and,
- **Impaired glucose tolerance (IGT)** where your glucose levels are higher than normal after eating

However, the effect is the same it means raised blood sugar and a higher risk of getting diabetes and heart disease.

The WHO (World Health Organisation) has said that someone has impaired fasting glycaemia if they have:

- A fasting blood glucose between 6.9 and 6.9 mmol/l; and
- A blood glucose of less than 7.8 mmol/l after a two-hour oral glucose tolerance test.

Many people have prediabetes and because they have no symptoms, they do know that they have it. It is often found incidentally when blood tests have been taken for other reasons. Occasionally your health professional may suggest screening for it if you have

some risk factors for pre-diabetes or diabetes such as high blood cholesterol levels, being overweight and high blood pressure or if you have had a heart attack or stroke.

Prediabetes develops for the same reasons as type 2 diabetes. There are three main things that contribute to becoming prediabetic and then progressing to diabetes:

- What you eat:
- Being overweight or obese affects the body's ability to process sugar in the blood
- What you do: Long periods of inactivity (e.g. watching television all evening) reduce the ability of insulin to deal with sugar in the blood. By the same token, being physically active increases the efficiency of the insulin.

The genes you inherit: this also contributes to the of development of prediabetes. You can't change your genes, but you can do something about your eating habits and your physical activity.

Other known risk factors include:

- being over the age of 40,
- having given birth to a baby who weighed over 9 pounds,
- coming from an Afro-Caribbean, South Asian or Native American background
- having other risk factors for cardiovascular disease
- having polycystic ovary syndrome and being overweight
- having developed diabetes during pregnancy (gestational diabetes).

**It is important to realise that managing prediabetes or diabetes is not simply about eating less sugar.** The body's ability to process sugar depends on the action of insulin in the bloodstream. This in turn depends on your level of activity as well as what you eat.

Medical conditions such as an underactive thyroid can also be linked to prediabetes, as this makes it difficult to keep to a normal weight.

## Medications can cause prediabetes

Some drugs such as steroid tablets, drugs for schizophrenia and some blood pressure treatments such as diuretics and beta-blockers (in combination) may increase your risk of developing diabetes.

Some others, however, such as ACE inhibitors for high blood pressure, may reduce the risk. Your health professional will be aware of this and can discuss these issues with you.

## Reduce the risk of developing diabetes

The good news is that for many people with prediabetes, diabetes can be delayed or prevented by:

- increasing your physical activity,
- making changes to what you eat and,
- losing weight.

Maintaining these changes improves your overall health and reduces your heart disease risk too.

Out of 100 people with prediabetes who make 'healthy lifestyle' changes, only 13 will go on to develop diabetes (compare this with 33 out of 100 if no action is taken!).

Research has shown that the more changes you make the better the outcome. Lifestyle changes are the most effective way to stop pre-diabetes from developing into diabetes.





**The key target areas are:**

**Activity** – aim for 30 minutes activity at least 5 days per week. For example, walking, swimming, cycling, jogging, dancing. The level of activity needed is one that make you breather faster or your heart beat harder, however when first starting try for 20 minutes on 3 days per week for the first month.

You can spread activity over the day such as two 15-minute spells of walking or cycling. Regular physical activity also reduces your risk of having a heart attack or stroke.

Increasing your activity is probably the easiest as well as the most important of all the target areas to achieve. Being active is not just about helping you lose weight, but more importantly it's about helping your insulin to work and control your blood glucose better

Going to the gym is recognised as not being for everyone – the aim is to identify something that you will enjoy and also useful to you – such as gardening or taking up a new hobby. If you don't do much activity – start slowly as recommended above and gradually build up what you do.



**Lose weight** – aim for 5% weight loss over several months; however first try to lose 5 pounds or 2.5 kgs in the first 2 - 3 months. The best way of losing weight is doing it in gradual steps. Losing weight if you are overweight and increasing your levels of physical activity can help reduce insulin resistance and therefore make the insulin that is being produced by your body more effective at controlling your blood glucose levels.



**Eat healthy food** – see the Wood Guide to a healthy diet for more tips – but aim for at least 5 portions of fruit and vegetables in your diet and replace the fat particularly saturated fats with healthier options.



The diet is the same recommended for everyone. The idea that you need special foods if you have pre-diabetes or diabetes is a myth. Basically, you should aim to eat a diet low in fat, high in fibre and with plenty of fruit and vegetables. Starchy foods contain carbohydrates which your body can break down to use for fuel.

You do need to eat some starchy foods, but you should focus on wholegrain and whole wheat versions – the so-called complex carbohydrates. These tend to have a lower glycaemic index (GI) which means that they are more slowly absorbed and do not raise your blood sugar as rapidly. Your diet should also be low in salt.

It is also important to restrict the amount that you eat. Check the labels of the food that you are buying and try and avoid those high in fat, salt and refined sugars.

Most foods contain some sugar even such things as carrots and potatoes, so it can't be avoided in your diet all together. However, there are different types of sugars and by eating foods that release sugar more slowly can also help you lose weight.

Simple carbohydrate sugars which are found in chocolate, sugary drinks, biscuits and cakes raise your blood sugar both higher and quicker than the complex carbohydrates. This causes the insulin in your body to rise immediately and lead to fat storage.

Complex carbohydrates found in bread, potatoes, pasta and rice raise your blood sugar much more slowly which is better for you. It is even better if you use brown varieties of

bread, rice and sugar rather than white as the sugars are broken down even more slowly.

Your body manages your blood sugar by producing insulin, however it doesn't work as well if you are overweight or inactive. By keeping yourself fit and lean means your body can manage your blood sugar levels naturally.

**Try to stop smoking** – having a clear plan and getting professional assistance can aid this significantly

**Stick to the recommended alcohol intake.**

Even making small changes can help lower the risk of developing diabetes! And remember, it often takes several attempts to change lifestyle habits, so don't be put off if you don't succeed at first. Use the experience to learn where you did go wrong and use this knowledge to plan how to do it differently the next time and so succeed.

**By undertaking some simple measures can make all the difference. It's in your hands to prevent the development of diabetes.**

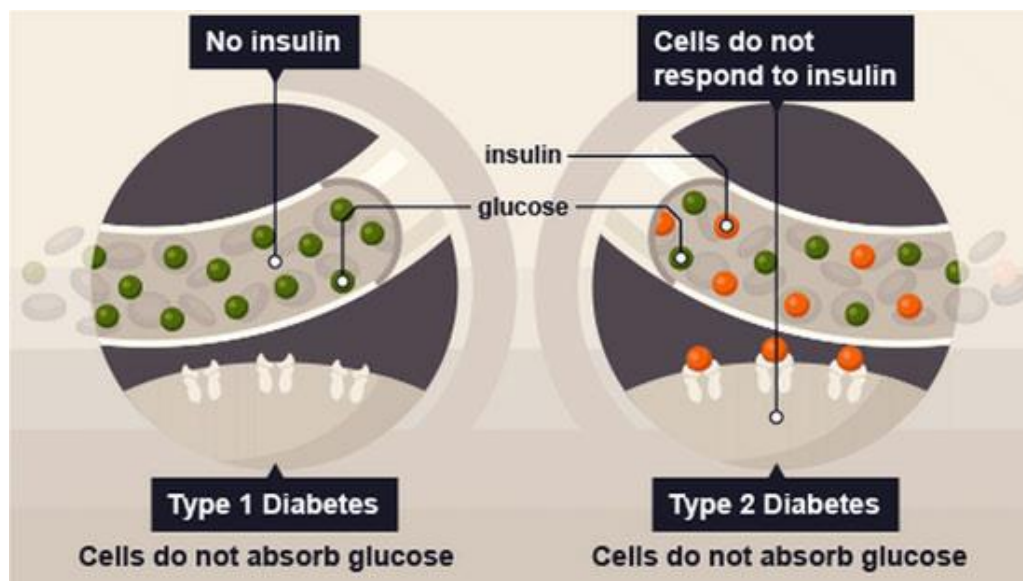
## Guide to Diabetes



**Diabetes mellitus is a condition where there are problems with your ability to control the levels of glucose (sugar) in your blood resulting in it becoming too high.**

There are two main types of diabetes:

Type 1 or insulin dependent, and Type 2 or non-insulin dependent.



When food is digested, the nutrients making it up are broken down into smaller component molecules to allow them to be more easily absorbed through your gut and get into your bloodstream. These molecules include fats, protein as well as sugars including glucose. Glucose is a fuel which is used in the cells in the body for energy.

Once in the blood stream, it is the hormone insulin which then helps to move the glucose out of your blood and into the cells where it is then broken down to either produce energy or to be converted into stores of energy as either glycogen or fat.

So, whenever you eat your blood glucose level starts to rise. In a normal healthy individual the insulin level then also rises to help maintain a stable glucose level.

However, if you have diabetes this process becomes unbalanced with you ending up with too much glucose.

This because there is either not enough insulin produced to move the glucose out of your bloodstream or the insulin that your body produces does not work properly.

## Diabetes is common

### It is the worlds fastest growing chronic health condition

One in 11 adults has diabetes (425 million people)

One in two adults with diabetes is undiagnosed

One in six births is affected by gestational diabetes

75% of people with diabetes live in low- and middle-income countries

37 per cent of all adults with diabetes live in the Western Pacific region (which includes Australia);

China with over 100 million people with diabetes (ranked highest number of people with diabetes),

Indonesia with 10 million people with diabetes (7th highest),

Japan with 7.2 million people with diabetes (9th highest).

The Western Pacific also has the country with the world's highest prevalence of diabetes - in the Pacific Island nation of Tokelau where 30 per cent of adult population has diabetes. Cambodia has the lowest at per cent.

More than three quarters of people with diabetes in Africa are estimated to be undiagnosed

One adult in eight in the North America and Caribbean Region has diabetes

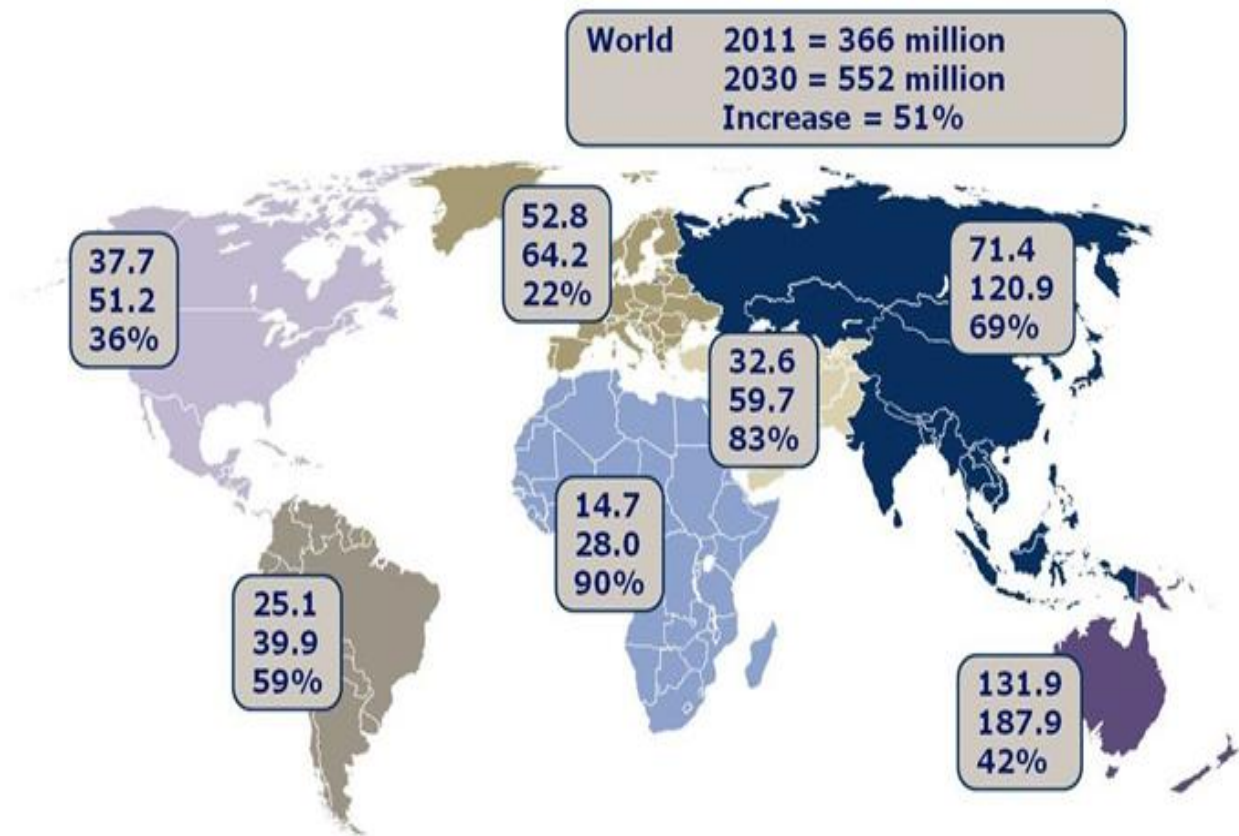
Europe has the highest number of children living with type 1 diabetes

In South East Asia, one quarter of all births are affected by high blood glucose in pregnancy

In the Middle East and North Africa, four out of ten adults with diabetes are undiagnosed

By 2040, the number of people with diabetes will increase by 65 per cent in South and Central America

## The Diabetes Epidemic: Global Projections, 2010–2030



10% of individuals have type 1 or insulin dependent

90% of individuals have type 2

Over 1 million children and adolescents have type 1 diabetes

Two-thirds of people with diabetes are of working age so is an important workplace condition that needs to be supported

Insulin dependent	Non-insulin dependent
Sometimes known as type 1 diabetes	Sometimes known as type 2 diabetes
Typically develops in childhood and adolescence, though can also develop in adults	Occurs mainly in people over the age of 40, though is being increasingly seen now in children
Symptoms usually develop quickly over days to weeks as the pancreas stops producing insulin	Symptoms develop gradually over weeks to months. Individuals still make insulin however may not make enough for the body's needs or the body is unable to use insulin properly
Is thought to be an autoimmune disease – this is where the body's immune system makes antibodies against part of its body. The antibodies attach to the beta cells in the pancreas and are thought to destroy the cells that make insulin. It is thought that a virus triggers the development of the antibodies	<p>Insulin is still made but you either:</p> <ul style="list-style-type: none"> <li>&gt; no longer make enough for your needs, or</li> <li>&gt; the cells in your body no longer use the insulin made properly. This is called insulin resistance.</li> <li>&gt; the cells in your body can also become resistant to normal levels of insulin so that you have to make more.</li> </ul> <p>It is possible to have a combination of these.</p>

There are other types of diabetes. Pregnant women who have never had diabetes before but who have high blood glucose levels in pregnancy have gestational diabetes. Their blood glucose levels return to normal after the birth of the child however are at risk of developing pre-diabetes later.

There are also a number of less common forms of diabetes:

**Secondary diabetes:** diabetes can be caused by other diseases. Examples include diseases that affect the pancreas, such as cystic fibrosis and chronic pancreatitis. Diabetes can also



be caused by other hormone (endocrine) diseases, such as Cushing's syndrome and acromegaly.

**Latent autoimmune diabetes of adults (LADA):** a slow-onset form of type 1 diabetes that occurs in adults, often with a slower onset than the usual type 1 diabetes that starts in childhood.

**Maturity-onset diabetes of the young (MODY):** this includes several forms of diabetes which are caused by genetic defects of the cells in the pancreas that make insulin.

**Wolfram's syndrome: another genetic cause of diabetes.** It is also called DIDMOAD (because it causes diabetes insipidus, diabetes mellitus, optic atrophy and deafness).

**Other genetic diseases that can cause diabetes:** these include Friedreich's ataxia and haemochromatosis.

### Signs and symptoms of diabetes

The signs and symptoms of diabetes are

- being very thirsty
- urinating often
- feeling very hungry
- feeling very tired
- losing weight without trying
- sores that heal slowly
- dry, itchy skin
- feelings of pins and needles in your feet
- losing feeling in your feet
- blurry eyesight.

The reason why you make a lot of urine and become thirsty is because the glucose leaks into your urine, which results in extra water being pulled through your kidneys. This water is lost from your body which then triggers the sensation of thirst.

However, some people with diabetes don't have any of these signs or symptoms. The only way to really know if you have diabetes is to have your doctor do a blood test which looks at the level of glucose in your blood



The symptoms of diabetes resolve when you start treatment for diabetes. However, the symptoms may come back if your blood glucose levels are poorly controlled. Without treatment the blood glucose level becomes very high and cause you to become extremely unwell.

## Risk factors for diabetes

Genetic factors are known to play a part in both type 1 and 2 diabetes.

In type 1 diabetes if you have a first degree relative - parent or sibling with diabetes then you have a 6 in 100 chance of also developing type 1 diabetes.

In type 2 diabetes your risk is also increased – with those having a family member with diabetes being 3 times greater than those that don't.

Other risk factors for type 2 include:

- age over 40 or 25 if you have come from a South East Asian, Afro-Caribbean or Chinese background
- being overweight or obese
- having a waist measurement of more than 31.5 inches or 80cm in a woman or 37 inches or 94cm in a man
- having had gestational diabetes or impaired glucose tolerance when you are pregnant
- polycystic ovaries

## Diagnosis of diabetes



A simple dipstick test can detect glucose in a sample of urine. This may suggest the diagnosis of diabetes. However, the only way that the diagnosis can be confirmed is by doing a blood test. If the blood test result is above the normal expected range it will confirm that you have diabetes.

Some people have to have two samples of blood taken and they may be asked to fast (this means having nothing to eat or drink, other than water, from midnight before the blood test is performed). A different blood test which measures a chemical called HbA1c is now also used to diagnose type 2 diabetes but is not suitable for the diagnosis of type 1 diabetes.

	Normal	Prediabetes		Diabetes
Test type		Impaired fasting glucose	Impaired glucose tolerance	
A1c	<42mmol/l	42 – 47 mmol/l		>47 mmol/l
A1c	<6.0%	6.0 - 6.4%		>6.4 %
Fasting blood glucose	<6.1 mmol/l	6.1 to 6.9 mmol/l	<7 mmol/l	>7 mmol/l
Oral glucose tolerance test	< 7.8 mmol/l	< 7.8 mmol/l	>7.8 but <11.1 mmol/l	> 11.1 mmol/l

### Treatment of diabetes

The treatment of diabetes aims to:

- bring your sugar levels down to normal or near normal levels
- reduce the risk factors that can increase your risk of developing complications such as high blood pressure and cholesterol
- reduce the risk of developing complications, and
- detect complications early. Early treatment can prevent or delay some complications from becoming worse.

Treatment involves both lifestyle changes including diet, weight control, stopping smoking and physical activity as well as medication and regular monitoring of your blood glucose. Medication can take the form of tablets as well as injectable insulin.

People with type 1 diabetes also always need treatment with insulin.

People with type 2 diabetes sometimes don't need any medicines for diabetes control when the diagnosis is first made. However, most people with diabetes need to start taking one or more medicines when a healthy lifestyle is not enough to control blood sugar (glucose) levels. Some people with type 2 diabetes need to use insulin injections if the other medicines don't adequately control the blood glucose levels.

Treating diabetes is not just about blood glucose levels. It is also very important to reduce the risk of the complications of diabetes (see below). It is therefore important to keep blood pressure and cholesterol levels in the normal range.

The treatment for diabetes also includes regular monitoring to keep your blood glucose, cholesterol and blood pressure as normal as possible. It also involves assessments to diagnose and treat complications at an early stage.

Diabetes in pregnancy is associated with possible problems for the mother and baby. Women with diabetes who become pregnant need very close monitoring and specialist treatment to make sure that the mother and baby remain well with no problems.

When you are unwell for any reason, even just a sore throat, this may badly affect your blood glucose control. It is therefore very important to know what to do if you are unwell

**Diabetes unfortunately cannot be cured – however it can be treated successfully.**

### **Complications of diabetes**

These can be either short term, long term or the complications of treatment.

Short term:

- VERY high blood sugar levels.  
This can develop very quickly in type 1 diabetes.  
It is not as common in type 2 diabetes but can be seen with untreated type 2 disease. A very high blood glucose can cause dehydration, drowsiness and serious illness which can be life threatening.

Long term:

These complications occur if the blood glucose level is higher than normal over a long period of time – even if the level is not very much above normal!

Includes:

- Furring or hardening of the arteries which can result in angina, heart attacks, stroke and circulation problems
- Kidney damage which can result in kidney failure
- Visual problems such as cataract as well as diabetic retinopathy
- Nerve problems with peripheral numbness and tingling
- Foot problems including ulcers as well as poor circulation in the foot
- Impotence

Complications of treatment:

- Low sugar levels – this is referred to as hypoglycaemia or a hypo when the glucose level usually becomes lower than 4 mmol/L. Those taking insulin or certain diabetes tablets are at risk of this and may result from delaying or missing a meal, taking too much diabetes medication or doing unplanned exercise or physical activity.

Although diabetes is associated with serious complications, these complications can be prevented or greatly reduced in severity. A healthy lifestyle, regular monitoring and taking medicines to keep your blood sugar (glucose), blood pressure and cholesterol levels as normal as possible are all very important.

There is currently no known way to prevent type 1 diabetes although many studies are looking into several different possibilities.

Type 2 diabetes can be **prevented** by following a healthy lifestyle, such as a healthy diet, regular exercise and not being overweight. This is very important for everyone. However, it is particularly important for people who are at increased risk, including those who have prediabetes. See the Wood Guide to Prediabetes.

## Guide to exercise



## Exercise for health

Given the overwhelming evidence of the positive impact exercise has on our health, it seems obvious that we should all be more physically active. If we want to live long, healthy and fulfilling lives then it is essential to take care of our bodies as we get older.

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 happier life.

People who exercise regularly have a lower risk of developing many long-term (chronic) conditions, 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.

It is medically proven that people who do regular physical activity have

- Up to a 35% lower risk of coronary heart disease and stroke
- Up to 50% lower risk of type 2 diabetes f Up to 50% lower risk of colon cancer
- Up to 20% lower risk of breast cancer f A 30% lower risk of early death
- Up to an 83% lower risk of osteoarthritis
- Up to 68% lower risk of hip fracture
- A 30% lower risk of depression
- Up to a 30% lower risk of dementia



To stay healthy, adults should try to be active every day 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. If you're working at a moderate intensity you should still be able to talk but you won't be able to sing the words to a song.

An activity where you have to work even harder 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.

### Physical activity guidelines

To stay healthy or improve health, adults need to do 2 types of physical activity each week: aerobic and strength exercises.

How much physical activity you need to do each week depends on your age.

To stay healthy, adults aged 19 to 64 should try to be active daily and should do:

- at least 150 minutes of moderate aerobic activity such as cycling or brisk walking every week and



- strength exercises on 2 or more days a week that work all the major muscles (legs, hips, back, abdomen, chest, shoulders and arms) or,
- 75 minutes of vigorous aerobic activity such as running or a game of singles tennis every week and
- strength exercises on 2 or more days a week that work all the major muscles (legs, hips, back, abdomen, chest, shoulders and arms) or,
- a mix of moderate and vigorous aerobic activity every week – for example, two 30-minute runs plus 30 minutes of brisk walking equates to 150 minutes of moderate aerobic activity and
- strength exercises on 2 or more days a week that work all the major muscles (legs, hips, back, abdomen, chest, shoulders and arms)

A good rule is that 1 minute of vigorous activity provides the same health benefits as 2 minutes of moderate activity.

One way to do your recommended 150 minutes of weekly physical activity is to do 30 minutes on 5 days every week.

All adults should also break up long periods of sitting with light activity.

### Moderate aerobic exercise

Moderate activity will raise your heart rate, and make you breathe faster and feel warmer.

One way to tell if you're working at a moderate level is if you can still talk, but you can't sing the words to a song.





Examples of activities that require moderate effort for most people include:

- brisk walking
- water aerobics
- riding a bike on level ground or with few hills
- doubles tennis
- pushing a lawn mower
- hiking
- skateboarding
- rollerblading
- volleyball
- basketball

## Resistance training

Resistance training is the exercise that causes the muscles to contract against an external resistance with the expectation that it increases in strength, tone, mass, and/or endurance.

Resistance training works by causing microscopic damage or tears to the muscle cells, which in turn are quickly repaired by the body to help the muscles regenerate and grow stronger.

- It builds muscle strength and tone. Humans lose 5 pounds of muscle every decade after age 30
- The number of muscle fibres declines with age from 30 years old, resistance exercise can slow down or even reverse the aging process by building muscle mass and strength
- It's been shown to build bone and prevents the onset of osteoporosis
- There is some evidence that resistance exercise helps lower moderately high blood pressure

- More strength can also lead to fewer falls in the elderly

Resistance exercise can raise basal metabolic rate, an important factor in maintaining a healthy body.

### Resistance Training Guidelines

Muscle strength is necessary for:

- all daily movement
- to build and maintain strong bones
- to regulate blood sugar and blood pressure
- to help maintain a healthy weight

Muscle-strengthening exercises are counted in repetitions and sets. A repetition is 1 complete movement of an activity, like a biceps curl or a sit-up. A set is a group of repetitions.

Here is some guidance towards having an enjoyable and effective resistance workout

- Beginners should complete resistance training for the entire body 2-3 times per week
- Perform 8-10 exercises that work the major muscle groups (Chest, Back, Legs and Shoulders)
- Work with a recommended set and repetition range of 2-3 sets of 8-12 reps
- The weight should be manageable but feel progressively difficult up to the 12th rep
- Take rests between sets of 60-90 seconds
- To progress the weight safely you should increase the load by small increments when you can achieve 1 or 2 repetitions over the desired range
- Expect your muscles to feel tender for 2 – 3 days after workouts – this is called delayed onset muscle soreness (DOMS) and is perfectly normal

There are many ways you can strengthen your muscles, whether it's at home or in the gym.

Examples of muscle-strengthening resistance activities for most people include:

- lifting weights
- working with resistance bands
- doing exercises that use your own body weight, such as push-ups and sit-ups
- heavy gardening, such as digging and shovelling
- yoga
- pilates

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.

Examples include:

- circuit training
- aerobics
- running
- football
- rugby
- netball
- hockey

## Cardiovascular training

Interval training has been used by athletes for years to build fitness. Interval training combines short, high intensity bursts of speed, with slow, recovery phases, repeated during one exercise session. An early form of interval training, "Fartlek" (a Swedish term meaning 'speed play') was casual and unstructured. A runner would simply increase and decrease his pace at will.

Today, athletes use more structured interval training workouts and HIT (High Intensity Training) to build speed and endurance. This variation of interval training and speed work can be a simple or sophisticated routine, but the basics are still the same as the original Fartlek training and can be used by anyone.

Getting some regular exercise into your day can make a huge difference to both your physical and mental health – so start and see how much better you can feel.

## Guide to mental health



## Mental Health

Mental health is not just the absence of mental illness. It is defined as:

“a state of well-being in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (WHO, 2007).

Mental Health is about:

- How we feel about ourselves
- How we feel about others
- How we can meet the demands of life.

It is important to recognise that there is a difference between mental ill health and actual mental illness.

**Mental ill health** refers to the kind of general mental health problems we can all experience in certain stressful circumstances; for example, work pressures can cause us to experience:

- Poor concentration
- Mood swings
- Sleep disturbance

Such problems are usually of a temporary nature, are relative to the demands a particular situation makes on us and generally respond to support and reassurance.

All of us can suffer from mental health problems at times, however, such temporary problems do not necessarily lead to mental illness. Being mentally unhealthy can limit our potential as individuals and may lead to more serious problems.

**Mental illness** is defined as a disease or condition that influences the way a person think feels, behaves, and/or relates to others and to their surroundings. Symptoms can vary in severity however usually the individual will experience severe and distressing

psychological symptoms to the extent that normal functioning is seriously impaired. Examples of symptoms include:

- Anxiety
- Depressed mood
- Obsessional thinking
- Delusions and hallucinations

Some form of professional medical help is usually needed for recovery / management. This help may take the form of counselling or psychotherapy, drug treatment and/or lifestyle change. It's important to remember that people can and do recover from mental health problems and illnesses - even the more serious and long-lasting ones.

Anxiety and depression are the most common type of mental illness, with around 1 in 10 people affected at any one time. Anxiety and depression can sometimes be severe and long-lasting and have a big impact on people's ability to get on with life, though generally most people recover without further episodes.

1-2 in every 100 people experience a severe mental illness, such as bi-polar disorder or schizophrenia, and have periods when they lose touch with reality. People affected may hear voices, see things no one else sees, hold unusual or irrational beliefs, feel unrealistically powerful, or read particular meanings into everyday events. These illnesses are treatable and most recover to have meaningful and productive lives.



Mental health problems are one of the main causes of the overall disease burden worldwide.

Major depression is thought to be the second leading cause of disability worldwide and a major contributor to the burden of suicide and ischemic heart disease.

It is estimated that 1 in 6 people in the past week experienced a common mental health problem.

Today, about 450 million people worldwide suffer from a mental or behavioural disorder.



1 in 4

Nearly 1 in 4 of the UK population will experience some kind of mental health problem in the course of a year. It is a common problem. Mixed anxiety and depression is the most common mental health illness in the UK.



300

In the US, job related stress is estimated to cost the industry over \$300 billion annually



41

In France, 41% of employees report that they experience work related stress



92

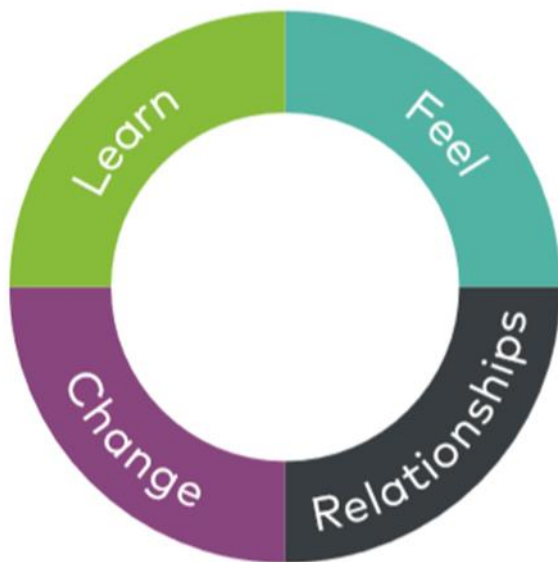
92% of mental disorder claims in Australia are attributed to work related stress



## Good Mental Health

Good mental health is not simply the absence of diagnosable mental health problems but having good mental health is likely to help protect against the development of many such problems.

Good mental health is also characterised by a person's ability to fulfil several key functions and activities including:



The ability to feel, express and manage a range of positive and negative emotions.

The ability to form and maintain good relationships with others.

The ability to cope with and manage change and uncertainty.

The ability to learn.

## How to achieve good mental health

Anyone can make simple changes to their lifestyle that can have a huge impact on their mental health and wellbeing. These changes do not need to cost a fortune or take up too much of your time:

1. **Talking about your feelings.** This should not be regarded as a sign of weakness, rather a positive means of taking charge of your own wellbeing and doing what you can to stay mentally healthy. Talking can be a way to help you cope with a problem.
2. **Eating a healthy diet.** A diet for a healthy physical body is the same as that needed for a healthy mind. Plenty of fruit/vegetables, protein and grains as well as water to drink. Avoiding too much caffeine or sugary foods all helps.

3. **Keeping in touch with friends and family.** Supportive friends can help make you feel included and cared for. Discuss with them what is going on in your head, they may have a different viewpoint to help solve any difficulties you may be experiencing. Caring for others also helps us see the world from another angle. That can help to put our own problems into perspective.

4. **Accepting who you are.** Everyone is different and accepting who you are and not trying to compare yourself to others is much better for your mental health. Feeling good about yourself helps boost your confidence and also helps when life may take more difficult turns.

5. **Taking a break.** This can be a change of scene or change of pace. Even 5 minutes can be enough to de-stress – it could be a burst of activity or slowing the pace to relax and meditate – but all help promote good mental health.

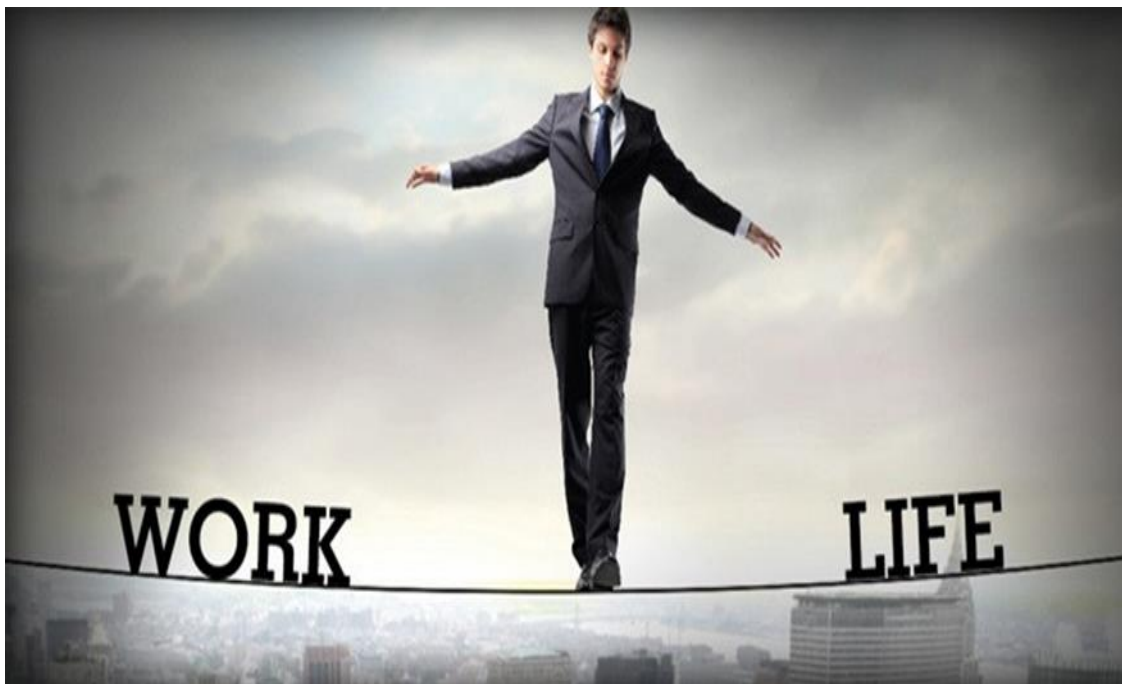
6. **Undertaking activity.** Any form of exercise helps your body release endorphins. This helps produce a natural high and feelings of wellbeing. It also boosts your self-confidence, helps you concentrate, sleep, look and feel better.

7. **Drinking sensibly.** Alcohol is actually a brain depressant, so keeping your alcohol intake to safe limits is important 3 – 4 units per day for men and 2 – 3 units for women.

8. **Accepting help.** We all can get tired and overwhelmed at times. If this occurs – seek help early, whether it is speaking to family or friends, using local support organisations or your GP, family physician or internist. Early intervention can prevent the development of more serious issues.



## Guide to work-life balance



## Managing stress

Stress is a feeling of being under abnormal pressure, whether it is an increased workload, an argument with a family member, or financial worries.

Stress is a natural reaction to many situations in life. Moderate amounts of stress can help us perform better in challenging situations, but too much or prolonged stress can lead to physical problems such as heart attacks, or mental illnesses such as depression.

Feeling unhappy about the amount of time you spend at work and neglecting other aspects of life because of work may increase your vulnerability to stress. You may find that these can have a cumulative effect with each stressor building on top of one another.

During this situation you may feel threatened or upset and your body might create a stress response. This can cause a variety of physical symptoms, change the way you behave and lead you to experience intense emotions.

It is therefore important that we manage our stress in order to keep it at a healthy level and prevent it from doing long-term damage to our bodies and minds.



**Remember - we all have a different threshold to stress – what one person finds stressful, another may find normal.** How you assess and respond to pressures or challenges is unique to you and depends on a number of factors including:

- your background and culture
- your skills and experience

- your personality
- your personal circumstances, and
- your individual characteristics.

### Signs of stress

When stress is affecting your life, health and wellbeing it is important to tackle it as soon as possible and while stress affects everyone differently there are some common signs and symptoms that you can look out for:

Behavioural effects	Physical symptoms	Mental effects	Emotional effects
Difficulty sleeping	Tiredness	Becoming more indecisive	Becoming easily irritable or angry
Change in eating habits	Indigestion and nausea	Finding it hard to concentrate	Feelings of constant worry or anxiety
Smoking or drinking more	Headaches	Suffering loss of memory	Feeling numb, drained or listless
Avoiding family or friends	Aching muscles	Feeling inadequate	Increased hypersensitivity
Difficulty relaxing	Palpitations	Low self-esteem	Mood swings or changes in mood
	Diarrhoea and constipation	Feeling overwhelmed	

Symptoms like these are triggered by a rush of stress hormones in your body which, when released, allow you to deal with pressures or threats. This is known as the 'fight or flight' response.

Hormones called adrenaline and noradrenaline raise your blood pressure, increase your heart rate and increase the rate at which you perspire. This prepares your body for an emergency response.<sup>8</sup> These hormones can also reduce blood flow to your skin and reduce your stomach activity. Cortisol, another stress hormone, releases fat and sugar into your system to boost your energy.

As a result, you may experience headaches, muscle tension, pain, nausea, indigestion and dizziness. You may also breathe more quickly, have palpitations or suffer from various aches and pains. In the long-term, you may be putting yourself at risk from heart attacks and stroke.

All these changes are your body's way of making it easier for you to fight or run away and once the pressure or threat has passed, your stress hormone levels will usually return to normal.

However, if you're constantly under stress, these hormones remain in your body, leading to the symptoms of stress. If you're stuck in a busy office or on an overcrowded train, you can't fight or run away, so you can't use up the chemicals your own body makes to protect you. Over time, the build-up of these chemicals and the changes they produce can be damaging for your health.

Three steps to take when feeling stressed

### 1. Realise when it is causing you a problem

- Try to make the connection between feeling tired or ill and the pressures you are faced with
- Look out for physical warnings such as tense muscles, over-tiredness, headaches or migraines.

### 2. Identify the causes

- Try to identify the underlying causes
- Sort the possible reasons for your stress into three categories:
  - those with a practical solution
  - those that will get better given time and
  - those you can't do anything about
- Try to release the worry of those in the second and third groups and let them go

### 3. Review your lifestyle

- Could you be taking on too much?
- Are there things you are doing which could be handed over to someone else?
- Can you do things in a more leisurely way?



To act on the answer to these questions, you may need to prioritise things you are trying to achieve and re-organise your life. This will help to release pressure that can come from trying to do everything at once

## Achieving work-life balance

Some simple steps can help you achieve this balance:

**Take personal responsibility for your work-life balance.** This includes speaking up when work expectations and demands are too much. Your line manager needs to be aware of where the pressures lies in order to address them. Engage with them early.

**Try to 'work smart, not long'.** This involves tight prioritisation - allowing yourself a certain amount of time per task - and trying not to get caught up in less productive activities, such as unstructured meetings that tend to take up lots of time. By organising your tasks and using your time effectively allows you to get more things done each day. This can help you to reduce stress and do better in the workplace.

- Plan ahead – be clear about what you intend to do during the week and when you will do it
- Break down complex tasks into manageable chunks
- Notice how your energy level varies at different points in the day. Tackle more demanding activities when you are fresh, and use lower energy times to do routine things
- Avoid distractions and learn to deal with interruption. Make clear to others when you are busy and when you are available for other things. All of us get stuck sometimes. Recognise when you need to seek advice from others

**Take proper breaks at work.** Take at least half an hour for lunch and getting out of the workplace if you can.



**Try to ensure that a line is drawn between work and leisure.** If you do need to bring work home, try to ensure that you only work in a certain area of your home - and can close the door on it.

**Take seriously the link between work-related stress and mental ill health.** Try to reduce stress, for example through exercise, relaxation or hobbies.

**Recognise the importance of protective factors**, including exercise, leisure activities and friendships. Try to ensure that these are not sacrificed to working longer hours or try to ensure that you spend your spare time on these things.

**Watch out for the cumulative effect of working long hours** by keeping track of your working hours over a period of weeks or months rather than days. Take account of hours spent worrying or thinking about work when assessing your work-life balance. These are a legitimate part of work and a good indicator of work-related stress.

If possible, assess your work-life balance with your colleagues and with the support and involvement of managerial staff. The more visible the process, the more likely it is to have an effect



## Dealing with stressful situations at work

We all have to deal with stressful situations at work sometimes and learning how to approach these is very important for your wellbeing. Tact is the ability to tell the truth in a way that considers other people's feelings and reactions. It allows you to give difficult feedback and say the right thing to preserve a relationship.

To develop tact, think carefully before you speak. Always consider how someone else might interpret your words. Pay attention to your body language, and never react emotionally.



However, make sure that you still get your message across, and that you continue to be appropriately assertive.

The following tool will assist you:

1. **Make sure that good relationships are a priority.** Treat the other person with respect. Do your best to be courteous, and to discuss matters constructively.
2. **Separate people from problems.** Recognize that, in many cases, the other person is not "being difficult" – real and valid differences can lie behind conflicting positions. By separating the problem from the person, you can discuss issues without damaging relationships.
3. Listen **carefully to different interests.** You'll get a better grasp of why people have adopted their position if you try to understand their point of view.
4. **Listen first, talk second.** You should listen to what the other person is saying before defending your own position. They might say something that changes your mind.
5. **Set out the "facts."** Decide on the observable facts that might impact your response, together.
6. **Explore options together.** Be open to the idea that a third position may exist, and that you might reach it jointly.

**You can often prevent contentious and stressful discussions from turning bad by following these simple guidelines.**



## Seven steps to help protect yourself from stress

### 1. Eat healthily

Eating healthily can reduce the risks of diet-related diseases.

There is also growing amount of evidence showing how food affects our mood and how eating healthily can improve this. Bananas are known to contain tryptophan which is a mood enhancing chemical.

You can protect your feelings of wellbeing by ensuring that your diet provides adequate amounts of brain nutrients such as essential vitamins and minerals, as well as water. See the Wood Guide to Healthy Diet for more information.

### 2. Be aware of smoking and drinking alcohol

Try not to or reduce the amount you smoke and drink alcohol.

Even though they may seem to reduce tension initially, this is misleading as they often make problems worse.

### 3. Exercise

Try and integrate physical exercise into your lifestyle as it can be very effective in relieving stress.

Even just going out and getting some fresh air, and taking some light physical exercise, like going for a walk to the shops can really help. See the Wood Guide to Exercise for more information.

### 4. Take time out

Take time to relax.

Strike the balance between responsibility to others and responsibility to yourself, this can really reduce stress levels.

Tell yourself that it is okay to prioritise self-care · Are you needing time out but saying 'I just can't take the time off', if so read more about how taking a break is important for good mental health.

### 5. Be mindful

Mindfulness is a mind-body approach to life that helps us to relate differently to experiences. It involves paying attention to our thoughts and feelings in a way that increases our ability to manage difficult situations and make wise choices.

Try to practice mindfulness regularly.

Mindfulness meditation can be practiced anywhere at any time.

Research has suggested that it can reduce the effects of stress, anxiety and related problems such as insomnia, poor concentration and low moods, in some people.

Other techniques which can help you deal with stress and the emotions it generates in the short term are relaxation techniques. Mental stress will lessen when you relax your muscles. This really does happen, even when you may be in a situation where only partial relaxation is possible. Everyone can relax to some degree, but strong feelings of tension make relaxation difficult especially if they are allowed to build up. Use the STOP! Technique to lower the arousal and bring it back to manageable limits. Do this before it gets out of hand.

## **STOP!**

- Say STOP! to yourself (out loud if the situation permits)
- Breathe in, and hold it briefly
- Breathe out slowly, relaxing shoulders and hands
- Pause
- Breathe in again
- Breathe out slowly, relaxing forehead and jaw
- Stay quiet for a few seconds
- Carry on with whatever you were doing. (If you must talk, speak a little more slowly and with your voice a little lower than usual)
- This STOP! Relaxation can be done, without anyone noticing. You will find that, despite your feelings, the tension will lessen.

## **6. Get some restful sleep**

Good sleep is essential but is often the first thing to go when you become stressed – this unfortunately can lead you to feeling more stressed, so some simple actions may help to manage this.

Your bedroom should be a calm place – so no TV's, computer consoles etc. Keep it as dark as possible with blackout blinds, also if necessary block out noise with earplugs.

Avoid naps during the day, cut down on your coffee intake and try to be physically active.

Having a bedtime routine is key – it's how we manage babies and it's something that we can apply to ourselves and be just as effective. Have a warm bath or shower, avoid heavy meals at least 2 hours before going to bed and alcohol for at least 3 hours. Also switch the

tv off at least ½ an hour before going to bed. Allow your body to start to relax. Also set an alarm to avoid any sleep in panic. Surprisingly having a regular wake up time is more important than a regular bedtime and finally avoid clock watching – turn the clock face away from you!

If you can't get off to sleep – go to a different room and do something that's not mentally challenging, have a warm milky drink, try a relaxation exercise which I'll speak about later.

Worries and concerns can disrupt sleep so try and focus on them solely in the daytime – this can be easier said than done - however it is known that by actually writing them down before you go to sleep can also help put them out of your head as well.

## 7. Don't be too hard on yourself

Try to keep things in perspective.

Remember that having a bad day is a universal human experience.

When your inner critic or an outer critic finds faults, try and find truth and exception to what is being said.

If you stumble or feel you have failed, don't beat yourself up.

Act as if you were your own best friend: be kind and supportive.

Take a few minutes each day to appreciate yourself.

## 8. Accepting help.

We all can get tired and overwhelmed at times trying to balance our lives. If this occurs – seek help early, whether it is speaking to family or friends, using local support organisations or your GP, family physician or internist.

Early intervention can prevent the development of more serious issues and help you achieve a better work-life balance.