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Obesity and Overweight

If you are obese or overweight, you have an increased risk of developing various health problems, including cancer, diabetes and heart disease. Even a modest amount of weight loss can help to reduce your increased health risks. The best chance of losing weight and keeping the weight off, is to be committed to a change in lifestyle. This includes eating a healthy diet and doing some regular physical activity.

What is obesity?

Obesity is the medical term for being very overweight. If you are obese or overweight, this means that you are carrying excess body fat. Being overweight or obese is not just about how you look. Over time, it means that you have an increased risk of developing various health problems. As an adult, you can find out whether you are overweight or obese and whether your health may be at risk, by calculating your body mass index (BMI) and measuring your waist circumference. [See separate leaflet called Childhood Obesity in Children.](#)

Body mass index (BMI)

People are different heights and builds, so just weighing yourself cannot be used to decide if your weight is healthy. BMI is used by healthcare professionals to assess if someone's weight is putting their health at risk. It is a measure of your weight related to your height.

To calculate your BMI, you divide your weight (in kilograms) by the square of your height (in metres). So, for example, if you weigh 70 kg and are 1.75 metres tall, your BMI is $70/(1.75 \times 1.75)$, which is 22.9.

If you do not have scales at home, your practice nurse can measure your height, weigh you and [calculate your BMI](#).

There are different categories of obesity as follows:

- Ideal (normal) BMI is 18.5 to 24.9 kg/m².
- A BMI of 25-29.9 kg/m² is overweight.
- A BMI of 30-34.9 kg/m² is obese (Grade I).
- A BMI of 35-39.9 kg/m² is obese (Grade II).
- A BMI of ≥ 40 kg/m² is obese (Grade III) or morbidly obese.

The more overweight you are, the more the risk to your health. For those who are obese (Grade III), weight is a serious and imminent threat to health. Broadly, the health risks increase the higher the BMI. However, for those who are overweight or obese (Grade I), waist circumference is also taken into account to calculate the risk to health.

On the whole, BMI is a good estimate of how much of your body is made up of fat. However, BMI may be less accurate in very muscular people. This is because muscle weighs heavier than fat. So, someone who is very muscular may have a relatively high BMI due to the weight of their muscle bulk but actually have a proportionally low and healthy amount of body fat. Also in people originally from Asia, the risk to health is higher at lower BMI measurements. Health risks are also calculated differently in older people.

Waist circumference

If you are overweight, measuring your waist circumference can also give some information about your risk of developing health problems (particularly [cardiovascular disease](#) and [type 2 diabetes](#)). If two overweight or obese people have the same BMI, the person with a bigger waist circumference will be at a greater risk of developing health problems due to their weight. This is because it is not just *whether* you are carrying excess fat but *where* you are carrying it. The risks to your health are greater if you mainly carry a lot of extra fat around your waist ('apple-shaped'), rather than mainly on your hips and thighs ('pear-shaped').

The easiest way to measure your waist circumference is to place the tape measure around your waist at belly button level.

As a rule for a man:

- If you have a waist measurement of 94 cm or above, the risk to your health is increased.
- If you have a waist measurement of 102 cm or above, the risk is even higher.

As a rule for a woman:

- If you have a waist measurement of 80 cm or above, the risk to your health is increased.
- If you have a waist measurement of 88 cm or above, the risk is even higher.

For people who are overweight, or obese (Grade I), waist circumference is taken into account with BMI when assessing health risk. If you have a very high waist circumference, you may have a very high level of risk to your health even at the lower grades of obesity. If you have other medical conditions such as **diabetes**, **high blood pressure**, **high cholesterol levels**, or **coronary heart disease**, your risks are even higher. Weight loss is even more crucial.

Health risks of obesity

If you are obese or overweight, from day to day you may:

- Feel tired and lacking in energy.
- Experience breathing problems (for example, shortness of breath when moving around, or not being able to cope with sudden bursts of physical activity like running across the road).
- Feel that you sweat a lot compared with other people.
- Develop skin irritation, particularly if you have folds of skin that touch each other or rub together.
- Have difficulty sleeping.
- Get complaints from your partner that you snore.
- Experience back and joint pains which can affect your mobility.

You may also have an increased risk of developing:

- **Impaired glucose tolerance** (pre-diabetes).
- **Type 2 diabetes**.
- **High cholesterol or triglyceride levels**.
- **High blood pressure**.
- **Coronary heart disease**.
- **Stroke**.
- **Sleep apnoea** (this occurs when your breathing patterns are disturbed while you are sleeping, due to excess weight around your chest, neck and airways).
- **Fertility problems**.
- **Polycystic ovary syndrome**.
- Complications in pregnancy (including an increased risk of **high blood pressure during pregnancy**, **diabetes during pregnancy**, **premature labour**, **caesarean section**).
- **Stress incontinence** (leaking urine when you are, for example, laughing, coughing, etc).
- **Gallstones**.
- **Heartburn** (**gastro-oesophageal reflux**).
- Many cancers, including **kidney**, **colon**, **breast** and **womb (endometrial) cancer**.
- **Gout**.
- **Fatty liver**.
- **Chronic kidney disease**.
- **Difficulty maintaining an erection** (**erectile dysfunction**).
- **Asthma**.

Many people can also develop psychological problems because of being overweight or obese. For example: low self-esteem; not liking how you look (poor self-image); low confidence; feelings of isolation. These feelings may affect your relationships with family members and friends and, if they become severe, may lead to depression.

Being obese can also affect your overall life expectancy: you are more likely to die at a younger age. An analysis of all relevant studies in 2014 showed that you are significantly more likely to die younger if you have a BMI of 35 or more.

Another analysis showed that if you are a woman with a BMI of 30 or more at the age of 40, you are likely to die 7.1 years earlier than average. If you are a man with a BMI of 30 or more at the age of 40, you are likely to die 5.8 years earlier than average. If you smoke as well, your life expectancy is reduced even further.

How many people are obese in the UK?

Obesity and being overweight are common. According to 2015 government reports, in England:

- 58 out of every 100 women were overweight or obese.
- 68 out of every 100 men were overweight or obese.

This means most people in England are overweight or obese. Figures in the rest of the UK are similar. The UK now has the highest rate of obesity in Western Europe. The number of obese people in the UK has been rising rapidly over a period of 30 years. This has been called the obesity epidemic. The government and the National Institute for Health and Care Excellence (NICE) have set out policies and strategies to try to reverse this trend. Not only is it a health risk to the individual, but it causes a great cost to society as a whole. It is estimated that obesity costs the NHS over £6.1 billion every year. Overall cost to the economy is much higher.

Causes of obesity

In some respects, the cause sounds quite simple. Your weight depends on how much energy you take in (the calories in food and drink) and how much energy your body uses (burns) up:

- If the amount of calories that you eat equals the amount of energy that your body uses up, your weight remains stable.
- If you eat more calories than you burn up, you put on weight. The excess energy is converted into fat and stored in your body.
- If you eat fewer calories than you burn up, you lose weight. Your body has to tap into its fat stores to get the extra energy it needs.

However, there is increasing evidence that this explanation, sometimes called the calories-in/calories-out model, is outdated. Research shows that there are many complex interactions that go on inside the body that work together to keep body weight the same. These interactions involve connections between the nerves and the brain and several hormones, including insulin. The medical term for this is homeostatic feedback. For example:

- If you eat fewer calories, not only does this make you hungry but it also reduces the amount of energy that your body uses, ie eating less makes you less active.
- If you exercise, this is followed by a period of increased hunger, ie doing more makes you eat more. Exercise also makes you tired, so you reduce the amount of energy your body uses later on.
- If you eat more calories, this increases the amount of energy your body uses, ie eating more may make you more active.

In other words the body adjusts how much energy you use up depending on how many calories you eat.

What seems to be important in making us obese is that particular foods can easily over-ride these natural feedback mechanisms for keeping us the same weight. High-sugar and high-fat foods taste great and give us pleasure; by triggering the 'reward' centre in our brain, they may be especially good at over-riding these controls.

Foods can be divided into three types (although most foods are a mixture):

- Carbohydrates:
 - Found mainly in fruit, vegetables, beans, grains and milk.
 - 'Refined carbohydrates' are carbohydrates that have been processed in some way, such as table sugar (sucrose), high-fructose corn syrup (found in many processed foods), white flour, and pasta.
- Fats: found in, for example, animal fat, oily fish, butter, cheese, and vegetable oils.
- Proteins: found in meat, fish, eggs, beans, nuts, and meat alternatives.

Refined carbohydrates, fructose and sugar-sweetened drinks have been linked with low levels of feeling full (satiety), difficulty controlling our appetite and a lack of excess energy to make up for the extra calories consumed.

How much you eat and drink

Most people in the UK live where tasty food can be found at almost any time of day or night. Many of the foods that people eat are those higher in calories (particularly fatty and sugary foods), so-called energy-dense foods. Although your body gives you a feeling of fullness after eating enough (satiety), you can easily ignore this feeling if you are enjoying tasty foods. Food portion sizes in general have increased. There has also been a tendency to eat out more over recent years. If you eat out, you are more likely to eat food that is more energy-dense than you would eat at home. The amount of processed foods and ready-made meals available has also increased in response to our busy lives. These are often foods that are more energy-dense as well. However, even healthy foods contain calories and can tip the energy balance if we eat too much of them.

What you drink is also important. Alcohol and sugary drinks contain a lot of calories. Even fresh fruit juices that you may think are healthy can contribute to weight gain. This is thought to be due to the quick release of sugar that they give because the fibre naturally found in fruits is destroyed by juicing them.

Your physical activity levels

Where does physical activity fit in to your current lifestyle? Most people in the UK do not do enough physical activity. Fewer people these days have jobs which are energetic. The variety of labour-saving devices and gadgets in most homes and the overuse of cars, mean that most people end up using up much less energy compared with previous generations. The average person in the UK watches 26 hours of television per week and many even more (the 'couch potato syndrome').

A lack of physical activity by many people is thought to be a major cause of the increase in obesity in recent years. There is no doubt that exercise is good for us; it lowers our risks of heart disease and stroke, amongst others. However, there is debate, due to the mechanisms explained above, that unless we are doing a lot of exercise it may not always help with weight loss.

Genetics

You are more likely to be obese if one of your parents is obese, or both of your parents are obese. This may partly be due to learning bad eating habits from your parents. But, some people inherit a tendency in their genes that makes them prone to overeat. So, for some people, part of the problem is genetic.

It is not fully understood how this genetic factor works. It has something to do with the control of appetite. When you eat, certain hormones and brain chemicals send messages to parts of your brain to say that you have had enough and to stop eating. In some people, this control of appetite and the feeling of fullness (satiety) may be faulty, or not as good as it is in others.

However, if you do inherit a tendency to overeat, it is not inevitable that you will become overweight or obese. You can learn about the power of your appetite, and ways to resist it and be strict on what you eat. But you are likely to struggle more than most people where your weight is concerned. You may find it more difficult to stop yourself from gaining weight or to lose weight.

Scientists have started to identify genes which may be involved in obesity. This may help them find effective treatments in the future.

Medical problems

Very few obese people have a 'medical' cause for their obesity. For example, conditions such as Cushing's syndrome and an underactive thyroid gland are rare causes of weight gain, until they are treated. Women with polycystic ovary syndrome may also be overweight. (See separate leaflets called [Cushing's Syndrome](#), [Underactive Thyroid Gland \(Hypothyroidism\)](#) and [Polycystic Ovary Syndrome](#) for further details on these conditions.)

Some medicines such as [steroids](#), some antidepressants, some [treatments for epilepsy](#) and diabetes, and the [contraceptive injection](#) may contribute to weight gain. If you give up smoking, your appetite may increase and, as a result, you may put on weight. People with low mood or depression may also have a tendency to eat more energy-dense 'comfort' foods and so gain weight.

What are the benefits of losing weight?

It is difficult to measure how much quality of life is improved if you lose some weight. Many people feel better and have more energy. Some people notice an improvement in their self-esteem. But there are also definite health benefits from losing some weight. As explained above, many diseases are more common in obese and overweight people and you are less likely to develop them if you lose some weight.

What is more, if your BMI is between 25 and 35, much of the health benefits come with losing the first 5-10% of your weight. (For example, if you weigh 90 kg and you lose 9 kg, this would be 10% of your original weight.) If your BMI is between 25 and 35, on average, if you reduce your weight by 10%:

- You are much less likely to develop the health problems listed above, such as diabetes.
- If you already have problems such as high blood pressure, high cholesterol, osteoarthritis, or diabetes, these are likely to improve. If you are taking medication for these problems, you may be able to take a reduced dose.
- Your chance of dying at any given age is reduced. This is mainly because you are less likely to die from heart disease, stroke, diabetes, or obesity-related cancers.

If your BMI is more than 35, you are more likely already to have health problems related to being overweight. You will probably need to lose between 15-20% of your original weight to have sustained improvements in these health problems and other health benefits.

How do I know if my weight is already affecting my health?

If you are worried that you are overweight or obese, you should discuss this with your practice nurse or doctor. They may be able to determine if your weight is already affecting your health.

For example, they may start by checking whether you have any symptoms of [coronary heart disease](#) such as chest pains, particularly on exertion. They may also ask about any symptoms of [osteoarthritis](#) such as back pain or joint pains, or any symptoms of [sleep apnoea](#). This occurs when your breathing patterns are disturbed while you are sleeping, due to excess weight around your chest, neck and airways. They may suggest some tests to screen for any underlying health problems that may be caused by your weight. For example, they may suggest:

- A blood test for [type 2 diabetes](#).
- A blood test to look at your cholesterol and triglyceride levels.
- A blood pressure check.

Other blood tests are sometimes suggested to look for other problems such as an [underactive thyroid gland](#) or [liver problems](#).

As mentioned above, quite often it can also be the case that if someone is overweight or obese, this can lead to psychological problems. So, your doctor or nurse may also ask you questions to look for any signs of these.

Note: your doctor or practice nurse may also be a source of help if you would like to lose weight (see below).

How can I lose weight?

Some people lose weight by strict dieting for a short period. However, as soon as their diet is over, they often go back to their old eating habits and their weight goes straight back on. Losing weight and then keeping it off need a change in your lifestyle for life. This includes such things as:

- The type of food and drink that you normally buy.
- The type of meals that you eat.
- Your pattern of eating.
- The amount of physical activity that you do.

See separate leaflet called [Weight Loss \(Weight Reduction\)](#) for more details. Below is a brief summary of the principles in losing weight.

Before you start

- **Motivation is crucial:** no weight loss plan will work unless you have a serious desire to lose weight. You need to be ready and motivated.
- **Monitor your current food intake:** it is helpful to know exactly how much you currently eat. Keeping a detailed diary of everything that you eat and drink over an average week is more helpful.
- **Aim to lose weight gradually:** it is best not to lose weight too fast. Aim to lose an average of 0.5 to 1 kg per week (about 1-2 lb per week).
- **Set clear goals with a realistic timescale:** it is important to set a clear and realistic weight loss goal. As mentioned above, in most cases, health benefits can be gained from losing the first 5-10% of your weight.

Aim to eat a healthy balanced diet

Special diets which are often advertised are not usually helpful. This is because after losing weight, if your old eating habits remain, the weight often goes straight back on. It is usually not a special diet that is needed but changing to a healthy balanced diet, for good.

You will find a lot more information about this in the separate leaflet called [Healthy Eating](#). You can also read about the [Mediterranean Diet](#) which is increasingly being recommended to prevent [cardiovascular disease](#).

Be careful about what you drink

Many people drink sweet drinks to quench their thirst when all they really need is water. Sugary drinks such as cola, tea and coffee with milk and sugar, milk and alcoholic drinks, all contain calories. One of the easiest ways to cut back on calories is simply to drink water as your main drink.

Increase your physical activity levels

Ideally all adults should aim for two and a half hours of exercise a week. One way to do this is to do half an hour of moderate-intensity exercise in bouts of 10 minutes for five days of the week. Moderate physical activity includes: brisk walking, jogging, dancing, swimming, badminton, tennis, etc.

In addition, try to do more in your daily routines. For example, use stairs instead of lifts, park further away from the entrance to the supermarket, walk or cycle to work or school, etc. See separate leaflet called [Physical Activity for Health](#). This includes lots of tips on how to easily increase your levels of physical activity.

Monitor your behaviour and progress

It can be helpful to keep a food diary and it is also important to weigh yourself once a week. Don't be disappointed if you put on a little or your weight loss levels off for a few days. Look at the overall pattern over several months.

Get help and support

Some people may feel motivated enough and are able to lose weight without any help. However, others need the support of a professional or a weight loss group.

You can find a lot more information and helpful tips in the separate leaflet called [Weight Loss \(Weight Reduction\)](#).

Treatment with medication to help with weight loss

Medication to help with weight loss may be an option for some people who want to lose weight. However, there are no wonder medicines available. Lifestyle changes to improve diet and increase physical activity are still important.

There are **two** medicines available in the UK to help with weight loss: orlistat and liraglutide (Saxenda®).

Orlistat

Orlistat is available in the UK on prescription from your doctor and low-dose orlistat is also available to buy over the counter in pharmacies. It stops some of the fat you eat being absorbed into your body. Because the fat passes on through the gut with your stools (faeces), this can cause some unpleasant side-effects. You can have the same weight loss effect by not eating the fat in the first place, so it is not a miracle cure. Doctors and pharmacists are given specific guidelines on when orlistat should be used. [The separate leaflet called Orlistat \(Weight Loss Medicine\)](#) gives further details.

Liraglutide

Liraglutide is a newer medicine that can be prescribed to help with weight loss. It is a glucagon-like peptide-1 receptor antagonist. In the UK it was launched in January 2017 and NICE has issued the following advice: It is to be used in addition to a reduced-calorie diet and increased physical activity for weight management in adult patients with an initial BMI 30 kg/m² or more, or from 27 kg/m² to less than 30 kg/m² if there are other weight-related problems such as pre-diabetes or type 2 diabetes mellitus, hypertension, dyslipidaemia or obstructive sleep apnoea present. The treatment should be stopped after 12 weeks if patients have not lost at least 5% of their initial body weight.

Others

The following medicines have been shown to have helped with weight loss in the short term. They affect either your metabolism to increase how much energy your body uses, or your brain to make you feel full or reduce your emotional desire for food.

- Naltrexone-bupropion
- Phentermine-topiramate
- Lorcaserin

However, their safety, particularly in long-term use as would be needed for weight loss, has not been proven and they are not licensed for weight loss in the UK.

Surgery to help with weight loss

This may be an option if you are obese and your health is at risk. It may be particularly considered if you have [type 2 diabetes](#). This is because it will have even more health benefits, as the surgery may cure your diabetes as well. However, surgery is usually only offered if you have already tried other ways to lose weight which have not worked (including diet, increasing your physical activity levels and orlistat). Surgery usually has very good results and most people do lose a lot of weight. However, this is specialist surgery and it is a major undertaking. Surgeons work in specialist weight management teams. The team helps with all the aspects of weight loss, and all the possible ways of helping you. Surgery to help weight loss is called bariatric surgery. [For more information, including the risks to consider, see separate leaflet called Weight Loss Surgery.](#)

Keeping the weight off

Many people lose weight but at the end of their diet, the weight goes back on. The only way to keep the weight off is to change the lifestyle that led to your weight gain in the first place. [See separate leaflet called Weight Loss \(Weight Reduction\).](#)

If you've lost a lot of weight but are left with a lot of excess skin and fat on the lower part of your stomach (abdomen) you may want to consider a cosmetic procedure called a ['tummy tuck' \(abdominoplasty\)](#).

Can obesity and overweight be prevented?

Yes. You can help to prevent becoming obese or overweight by:

- Following the healthy eating guidelines outlined above.
- Doing 150 minutes of physical activity a week according to the guidelines above.
- Spending less time being sedentary (for example, less time in front of your computer or watching TV).
- Weighing yourself from time to time so that you become more aware of your weight and you can do something about your weight if you start to put some on.
- Encouraging a healthy lifestyle for your whole family.

Further reading & references

- [Flegal KM, Kit BK, Orpana H, et al; Association of all-cause mortality with overweight and obesity using standard body mass index categories: a systematic review and meta-analysis. JAMA. 2013 Jan 2;309\(1\):71-82. doi: 10.1001/jama.2012.113905.](#)
- [Obesity in the UK: A psychological perspective; British Psychological Society, 2011](#)
- [About Obesity: Body Mass Index; MEND - Mytime Active](#)
- [Childhood overweight and obesity; World Health Organization](#)
- [Body Mass Index \(BMI\) charts for girls and boys age 2-18; Royal College of Paediatrics and Child Health and Dept of Health.](#)
- [Hafekost K, Lawrence D, Mitrou F, et al; Tackling overweight and obesity: does the public health message match the science? BMC Med. 2013 Feb 18;11:41. doi: 10.1186/1741-7015-11-41.](#)
- [Arterburn DE, Courcoulas AP; Bariatric surgery for obesity and metabolic conditions in adults. BMJ. 2014 Aug 27;349:g3961. doi: 10.1136/bmj.g3961.](#)
- [Colquitt JL, Pickett K, Loveman E, et al; Surgery for weight loss in adults. Cochrane Database Syst Rev. 2014 Aug 8;8:CD003641. doi: 10.1002/14651858.CD003641.pub4.](#)
- [Obese, overweight with risk factors: liraglutide \(Saxenda\); NICE Evidence Summary, June 2017](#)
- [Yeh JS, Kushner RF, Schiff GD; Obesity and Management of Weight Loss. N Engl J Med. 2016 Sep 22;375\(12\):1187-9. doi: 10.1056/NEJMe1515935.](#)
- [NHS Digital; Statistics on Obesity, Physical Activity and Diet - England, 2017](#)
- [Adult obesity: applying All Our Health; Public Health England, 2018](#)
- [Health matters: obesity and the food environment; Public Health England, 2017](#)
- [Renehan AG, Soerjomataram I, Leitzmann MF; Interpreting the epidemiological evidence linking obesity and cancer: A framework for population-attributable risk estimations in Europe. Eur J Cancer. 2010 Sep;46\(14\):2581-92. doi: 10.1016/j.ejca.2010.07.052.](#)
- [Childhood obesity: a plan for action; Public Health England, 2017](#)
- [Mead E, Brown T, Rees K, et al; Diet, physical activity and behavioural interventions for the treatment of overweight or obese children from the age of 6 to 11 years. Cochrane Database Syst Rev. 2017 Jun 22;6:CD012651. doi: 10.1002/14651858.CD012651.](#)





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Document ID: 4421 (v44)	Last Checked: 01/03/2018	Next Review: 28/02/2021

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