

A practical guide to understanding cancer

**WE ARE
MACMILLAN.
CANCER SUPPORT**

ARE YOU WORRIED ABOUT CANCER?



About this leaflet

People worry about cancer for many different reasons. Perhaps you have a family member or friend who has been diagnosed. Or maybe you have symptoms you think might be cancer.

Some people feel anxious about something they have watched on television, or have read in the newspapers or online.

This leaflet explains:

- what we know about the main causes of cancer
- what you can do to reduce your risk of developing cancer.

We hope it gives you the information you need or helps you find more support.

In this leaflet, we have included quotes from people who have been worried about cancer, which you may find helpful. These are from people who have chosen to share their story with us. To share your experience, visit [macmillan.org.uk/shareyourstory](https://www.macmillan.org.uk/shareyourstory)

We have also listed some other useful organisations at the end of this leaflet (see page 25).

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What causes cancer?

Your body is made up of tiny building blocks called cells. Inside every cell is a set of genes. These genes are the instructions your cells need to work properly. Sometimes the structure inside a gene is permanently changed, so the gene no longer gives the correct instructions. This change is called a **gene mutation**.

Eventually, gene mutations in a cell may mean the cell stops working normally. Cancer develops when cells like this can multiply in an abnormal way and grow out of control.

Some cells in your body develop gene mutations during your lifetime. This happens by chance as a cell divides or does its job in the body. But it can also be caused by your lifestyle or the environment around you.

It is also possible for a gene mutation to run through a family, passing from parent to child. This is called an **inherited mutation**. Some inherited mutations make a person more likely to develop certain types of cancer. We have more information about inherited genes and cancer risk on pages 20 to 22.

It takes a long time for mutations to build up and cause cancer. This is why cancer is more likely to affect older people. People of any age can get cancer, but it is most common in people over the age of 50.

Understanding your risk of cancer

Most of the time, we do not know exactly why a cancer develops in one person and not another. Often, we do not know exactly what caused that cancer to start.

We do know some of the things that cause the damage that makes cancer more likely to develop. These are called **risk factors**. We have more information about risk factors and ways to reduce your cancer risk on pages 5 to 19.

Having one or more risk factors does not mean you will definitely get cancer. Some factors only slightly increase your risk. Others are much more likely to cause cancer. Smoking is a good example. Not everyone who smokes will develop cancer. But smoking greatly increases your risk. About 9 out of 10 people who develop lung cancer (90%) are smokers.

Choose a healthy lifestyle

Around 1 in 3 cases of the most common cancers (about 33%) could be prevented by eating a healthy diet, keeping to a healthy weight and being more active.

You cannot reduce your risk of cancer completely. But there are some ways you can lower your risk, and improve your general health.

Give up smoking

If you smoke, giving up is the single most important thing you can do for your health.

In the UK, more than 1 in 4 cancer deaths (over 25%) are caused by smoking. Smoking increases the risk of the following cancers:

- mouth cancer
- throat cancer
- lung cancer
- bladder cancer
- kidney cancer
- pancreatic cancer
- bowel cancer
- stomach cancer
- cervical cancer.

Chewing or sucking tobacco is not a safe alternative to smoking cigarettes. If you chew or suck tobacco, you have a higher risk of developing mouth and oral cancers.

Breathing in other people's smoke (passive smoking) also increases your risk of developing cancer. Keep your home smoke-free to protect your and your family's health.

The long-term effects of e-cigarettes are not yet fully known. They are thought to be around 95% safer than smoking tobacco cigarettes.

If you want to give up smoking, it is never too late to stop. Ask your GP for advice, or contact the stop-smoking service in your area:

Smokefree (England)

0300 123 1044 (Monday to Friday, 9am to 8pm, Saturday and Sunday, 11am to 4pm).

nhs.uk/smokefree

Smokeline (Scotland)

0800 84 84 84 (Monday to Friday, 8am to 10pm, Saturday and Sunday, 9am to 5pm).

canstopsmoking.com

Stop Smoking Wales

0800 085 2219 (Monday to Thursday, 8am to 8pm, Friday, 8am to 5pm, Saturday, 9am to 4pm).

stopsmokingwales.com

Want2stop (Northern Ireland)

want2stop.info

Keep to a healthy weight

Being overweight increases the risk of many types of cancer, including cancers of the bowel, kidney, womb and gullet (oesophagus).

Women who are overweight and have been through the menopause also have a higher risk of breast cancer.

Keeping to a healthy body weight reduces your risk of cancer and other health problems, such as heart disease and diabetes.

Here are some tips to help you keep to a healthy weight:

- Eat a healthy diet with lots of fruit and vegetables, and less fat and less sugar.
- Only eat as much food as you need according to how active you are.
- Be more physically active.

If you are worried about your weight or need more information, talk to your GP or a dietitian.



Eat a healthy diet

There is no single food that causes or prevents cancer. Eating a balanced diet is good for your overall health and helps reduce your risk of some cancers. It can also help you keep to a healthy weight.

For most people, a daily balanced diet includes:

- lots of fruit and vegetables
- starchy foods (carbohydrates), such as bread, rice, pasta, noodles, couscous and potatoes
- some protein-rich foods, such as meat, poultry, fish, nuts, eggs and pulses (beans and lentils)
- some milk and dairy foods, such as cheese, yoghurt and cream
- a small amount of food high in fat, salt and sugar.

'I eat lots of fruit and vegetables. I try to have 5 a day, and starchy foods like wholegrain bread.'

Robin

Drinks should mainly be water, tea and coffee (without sugar), or sugar-free drinks.

Eating plenty of high-fibre foods helps reduce the risk of bowel cancer. High-fibre foods include:

- wholegrain bread
- brown rice
- oats
- beans
- peas
- lentils
- grains
- seeds
- fruit and vegetables.

Potatoes with their skins on are also a good source of fibre.

Try to limit how much red and processed meat you eat. These are linked to a higher risk of bowel and prostate cancer. Red meat is beef, pork, lamb and veal. Processed meats include sausages, bacon, salami, tinned meats, and packet meats like sandwich ham.

You can find more detailed information about diet and cancer risk on the World Cancer Research Fund website (wcrf-uk.org).

Be physically active

Many studies have found that regular physical activity can reduce the risk of cancer. You should try to do at least 30 minutes of activity every day. Your cancer risk is reduced further if you are active for more than 30 minutes a day and if you exercise harder (vigorous activity).

You do not have to go to the gym to be active. Some people enjoy regular walking, cycling or swimming instead. During your regular activity, you should feel you are breathing faster but are still able to talk. Your pulse should be slightly faster than normal. You can increase the amount of activity you do as you get used to exercising.

If you are not used to doing exercise, ask your GP for advice about getting started. You can find more information about keeping active on these websites:

- England – **[nhs.uk](https://www.nhs.uk)**
- Scotland – **[nhsinform.scot](https://www.nhsinform.scot)**
- Wales – **[nhsdirect.wales.nhs.uk](https://www.nhsdirect.wales.nhs.uk)**
- Northern Ireland – **[nidirect.gov.uk](https://www.nidirect.gov.uk)**



Limit how much alcohol you drink

Drinking alcohol increases your risk of mouth and throat cancers. It is also linked to the following cancers:

- oesophageal (gullet) cancer
- bowel cancer
- liver cancer
- breast cancer.

In general, the more you drink, the higher your risk. Your risk is even higher if you also smoke.

The current guidelines say that if you drink alcohol:

- do not regularly drink more than 14 units of alcohol in a week
- spread the amount you drink in a week over three or more days
- try to have several alcohol-free days every week.

Remember, the number of units you are drinking depends on the size and strength of your drink:

- Half a pint of lower-strength (3 to 4%) beer, lager or cider contains 1 unit.
- Half a pint of higher-strength (5%) beer, lager or cider contains 1½ units.
- A standard glass of wine (175ml), often called a small glass in pubs and bars, contains around 2 units.
- A large glass of wine (250ml) contains 3 units.
- A single measure (25ml) of 40% spirits contains 1 unit.

You can find more information about alcohol and drinking guidelines at [**drinkaware.co.uk**](http://drinkaware.co.uk)

Take care in the sun

Spending some time outside in the sun helps you stay healthy. Our bodies need sunlight to make vitamin D. This is important for bone health and reduces the risk of many illnesses, including cancer. But it is important to protect your skin from burning, as this can increase your risk of skin cancers.

If you are going to be out in the sun for longer than a few minutes, you should protect your skin.

Here are some tips to help you stay safe in the sun:

- Wear clothes that cover your body, arms and legs.
- Wear a hat that protects your head, face and neck.
- Wear sunglasses with wide wrap-around lenses or wide arms with the CE Mark (this shows they meet the relevant European Standard).
- Stay in the shade when you can.
- Use a sun cream with a sun protection factor (SPF) of at least 30.

Using sun beds or sun lamps also increases your risk of skin cancer. If you want to look tanned, use fake-tanning lotions or sprays.

Protect yourself from viruses

Viral infections are very common and usually do not cause cancer to develop. A small number of viruses have been linked to a higher risk of certain types of cancer. These include:

- human papilloma viruses (HPV), which increase the risk of cervical cancer and are also linked to cancer of the head and neck, anus, vulva, vagina and penis
- hepatitis B and C, which are linked to liver cancer
- HIV, which can increase the risk of cancers including lymphoma and sarcoma.

Using condoms and dental dams during sex can help protect you from some viruses.

If you inject drugs, it is important to never share needles. This is because viruses can pass from person to person in the blood.

Vaccines can be used to protect against HPV infection. The NHS offers the HPV vaccine to:

- girls from the age of 12 or 13
- men who have sex with men.

From 2019, the HPV vaccine will also be offered to boys from the age of 12 or 13.

Other people may also have the HPV vaccine, because they may have an increased risk of cancer caused by HPV infection. Your GP, local sexual health clinic or HIV clinic can give you more information.

Know your body

If you know your body and what is normal for you, it will help you be aware of any changes.

People sometimes feel embarrassed talking about a change in their body or think it is not worth bothering their GP about. But if you notice a change in how you feel or how your body works, it is better to get it checked. Always see your GP if you have symptoms that are ongoing, unexplained or unusual for you:

- Unexplained bleeding – this can include blood in your pee (urine), poo (stools), spit or vomit. For women, it also includes vaginal bleeding in between periods, after sex or after the menopause.
- Losing weight without trying to.
- An unexplained lump or swelling anywhere on your body.
- A new, unexplained pain anywhere in your body that lasts for 3 weeks or more.
- Feeling more tired (fatigued) than usual for some time, with no obvious reason.
- A sore or mouth ulcer that has not healed after 3 weeks.
- A new mole, a change in an existing mole, or a change in your skin.
- A cough or hoarse voice that lasts for more than 3 weeks.
- Breathlessness for no reason.

- Looser poo or diarrhoea that lasts for 3 weeks or more.
- Problems peeing, such as pain or needing to go suddenly.
- Difficulty swallowing or chewing, or a feeling that something is stuck in your throat.
- A lot of heartburn or indigestion, or if it is very painful.
- Having a swollen tummy (feeling bloated) most of the time.
- Heavy sweating at night that makes your clothes or sheets damp.

Having any of these symptoms does not usually mean you have cancer, but it is sensible to speak to your GP. If you have already been to see your GP but the symptoms have not gone away, it is important to see them again.

We have more information about signs and symptoms of cancer on our website (macmillan.org.uk).

'If you are worried about any ache or pain, see your GP. It may be nothing, but it's always good to get it checked rather than live with the worry.'

Christine

Take part in cancer screening

Screening uses tests to:

- find cancer early, when treatment is most effective
- find changes that may develop into cancer, so these can be treated to prevent cancer.

In the UK, there are screening programmes for cancers of the bowel, breast and cervix. Taking part in these programmes reduces your risk of these cancers. If you are registered with a GP, you will be invited to take part and have screening tests when needed.

There is more information about screening on these websites:

- England – [nhs.uk/livewell/screening](https://www.nhs.uk/livewell/screening)
- Scotland – [nhsinform.scot/screening](https://www.nhsinform.scot/screening)
- Wales – [screeningforlife.wales.nhs.uk](https://www.screeningforlife.wales.nhs.uk)
- Northern Ireland – [cancerscreening.hscni.net](https://www.cancerscreening.hscni.net)

When cancer runs in families

Most gene mutations that lead to cancer happen during a person's lifetime are caused by lifestyle and environmental factors. These types of mutation build up with age. This is why most types of cancer are more common in older people.

But it is also possible for a gene mutation to run through a family, passing from parent to child. This is called an inherited mutation.

Some inherited mutations make a person more likely to develop certain types of cancer. They may make cancer more likely at a younger age. Having a gene mutation like this does not mean you have cancer. Instead, it means you have a higher risk of developing some types of cancer.

Families affected by an inherited gene mutation may have a pattern of cancers in the family. There may be people on the same side of the family who:

- have the same or related types of cancer
- were younger than usual when they were diagnosed
- had more than one primary cancer – this means they have had cancer twice, not that one cancer has spread to another part of the body.

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It is important to remember that cancer is very common and most of us have relatives who have had cancer. This does not always mean there is an inherited gene mutation in your family, or that you have a higher risk of cancer.

Less than 5 in 100 cases of cancer (5%) are linked to an inherited gene mutation.



If you are worried about cancer in your family

If you are worried about the pattern of cancer in your family, talk to your GP. They may be able to reassure you, or they can refer you to a genetics specialist.

If you meet a genetics specialist, they will talk to you about your family's history of cancer. They will explain if you are likely to have a higher risk of cancer because of the pattern of cancer in your family.

If they think you may carry an inherited gene mutation, you may be offered a blood test to check. This is called **genetic testing**. You might have this test if:

- you are diagnosed with a cancer that is likely to be linked to an inherited mutation
- a close blood relative (such as a parent, brother or sister) has already had a test that found an inherited mutation.

If you have an inherited mutation, or your family history shows you have a higher risk of cancer, you may be offered:

- treatments to reduce the risk
- extra cancer screening.

We have more information for people with an inherited risk of cancer (see page 24).

Further information and support

We provide expert, up-to-date information about cancer. And all our information is free for everyone.

If you are still worried

Most people worry about their health at some point in their lives.

For some, thinking about their risk of a health condition such as cancer helps them make positive lifestyle changes.

Sometimes, health worries are more complicated.

If you have more questions, or you cannot stop worrying about your health, it can help to talk to someone:

- Your GP may be able to help or give you information about counselling services in your area.
- Call our cancer support specialists on **0808 808 00 00** (Monday to Friday, 9am to 8pm).

Order our information

We have a wide range of cancer information available to order for free at be.macmillan.org.uk. You can also order our information by calling us on **0808 808 00 00**.

Deaf or hard of hearing?

Use NGT (Text Relay) on **18001 0808 808 00 00**

Non-English speaker?

Interpreters are available. Alternatively, visit macmillan.org.uk

All of our information is also available at macmillan.org.uk/information-and-support

Related resources

We have more information about cancer risk and cancer genetics in the following resources:

- **Cancer genetics: how cancer sometimes runs in families**
- **Are you worried about bowel cancer?**
- **Are you worried about breast cancer?**
- **Are you worried about ovarian cancer?**
- **Are you worried about prostate cancer?**

Other useful organisations

There are lots of other organisations that can give you information or support.

General health information

Health and Social Care in Northern Ireland **www.hscni.net**

Provides information about health and social care services in Northern Ireland.

NHS.UK **www.nhs.uk**

The UK's biggest health information website. Has service information for England.

NHS Direct Wales **www.nhsdirect.wales.nhs.uk**

NHS health information site for Wales.

NHS Inform **Helpline 0800 22 44 88** (Mon to Fri, 8am to 10pm, Sat and Sun, 9am to 5pm) **www.nhsinform.scot** NHS health information site for Scotland.

Disclaimer

We make every effort to ensure that the information we provide is accurate and up to date but it should not be relied upon as a substitute for specialist professional advice tailored to your situation. So far as is permitted by law, Macmillan does not accept liability in relation to the use of any information contained in this publication, or third-party information or websites included or referred to in it. Some photos are of models.

Thanks

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We welcome feedback on our information. If you have any, please contact [**cancerinformationteam@macmillan.org.uk**](mailto:cancerinformationteam@macmillan.org.uk)

Sources

If you would like information about the sources we use, please contact us at [**cancerinformationteam@macmillan.org.uk**](mailto:cancerinformationteam@macmillan.org.uk)

People worry about cancer for many different reasons. Perhaps you have a family member or friend who has been diagnosed. Or maybe you have symptoms you think might be cancer.

This leaflet explains what we know about the main causes of cancer. It also explains what you can do to reduce your risk of developing cancer.

If you have more questions or would like to talk to someone, call the Macmillan Support Line free on **0808 808 00 00**, Monday to Friday, 9am to 8pm, or visit **macmillan.org.uk**

Would you prefer to speak to us in another language? Interpreters are available. Please tell us in English the language you would like to use. Are you deaf or hard of hearing? Call us using NGT (Text Relay) on **18001 0808 808 00 00**, or use the NGT Lite app.

Need information in different languages or formats? We produce information in audio, eBooks, easy read, Braille, large print and translations. To order these, visit **macmillan.org.uk/otherformats** or call our support line.

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