

A practical guide to understanding cancer

**WE ARE
MACMILLAN.
CANCER SUPPORT**

ARE YOU WORRIED ABOUT BREAST 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.

Breast cancer is one of the most common cancers in the UK. It most often affects women, but can also affect men. This leaflet explains:

- what we know about the main causes of breast 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 breast 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 pages 28 to 29).

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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 23 to 25.

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 22.

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.

Risk factors for breast cancer in women

In the UK, around 55,000 women are diagnosed with breast cancer each year.

Age

The biggest risk factor for breast cancer in women is getting older. It is more common in women over the age of 50.

Hormonal factors

The female hormones oestrogen and progesterone can affect your breast cancer risk. Factors that can increase your risk include the following:

- Taking hormone replacement therapy (HRT) for more than 5 years, particularly if you are taking combined HRT (oestrogen and progesterone). When you stop HRT, your risk reduces again.
- Not having children.
- Having your first child after the age of 30.
- Not breastfeeding, or breastfeeding for less than a year in total.
- Starting your periods early (under the age of 12) or having a late menopause (after the age of 50).
- Taking the contraceptive pill, although the risk reduces if you stop taking it.

Medical conditions

Breast cancer and other breast conditions

Your risk is increased if you have had breast cancer before. This includes ductal carcinoma in situ (DCIS). Having the following breast conditions can also increase your risk:

- lobular carcinoma in situ (LCIS)
- atypical ductal hyperplasia – this is when there are slightly abnormal cells in the milk ducts in a small area of the breast
- dense breast tissue – this is when the breast is mostly made up of glandular and connective tissue and has very little fatty tissue.

Radiotherapy

Women who have had radiotherapy to the chest before the age of 30 (for example, to treat Hodgkin lymphoma) have an increased risk of breast cancer.

Lifestyle factors

The following lifestyle factors may slightly increase your breast cancer risk.

Alcohol

Drinking alcohol increases your risk of developing breast cancer. But the risk is small for women who drink within the recommended guidelines.

Being overweight

The risk of breast cancer is higher in women who are overweight, particularly after the menopause. This is because it may change hormone levels in the body.

Smoking

Smoking may cause a slight increase in breast cancer risk. The younger you are when you start smoking and the longer you smoke for, the bigger the risk.



Risk factors for breast cancer in men

In the UK, around 390 men are diagnosed with breast cancer each year. Because breast cancer in men is rare, the risk factors are not as clearly understood as they are for women.

Age

The risk of breast cancer in men increases with age. It is most common in men over the age of 60. Breast cancer in young men is rare.

Klinefelter syndrome

This is a rare syndrome that only affects men. Men with Klinefelter syndrome have a higher risk of breast cancer. For most men, the lifetime risk of developing breast cancer is about 1 in 1000. But for men with Klinefelter syndrome, it is closer to 1 in 25 (4%).

Radiation

Being exposed to radiation may increase a man's risk of breast cancer. Men who have had repeated doses of radiotherapy to their chest area at a young age may also be at increased risk.

High oestrogen levels

Men may be at risk of developing breast cancer if they have higher levels of the hormone oestrogen than normal. This can be caused by long-term (chronic) damage to the liver, such as liver cirrhosis. Liver damage can also be caused by heavy drinking over a long period of time.

Oestrogen levels can also be affected by being very overweight. Increased levels of oestrogen can affect the growth of breast cancer cells.

Testicular effects

Conditions that can affect or damage the testicles may also increase the risk of breast cancer. These include:

- having undescended testicles
- having surgery to remove one or both testicles
- having mumps as an adult.

Some jobs

Men who work in hot environments, such as blast furnaces, steel works and rolling mills, may have a slightly increased risk. This is probably related to heat damage to the testicles. Some studies have also linked long-term exposure to petrol and exhaust fumes with breast cancer in men.

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 of breast cancer and other cancers, 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**

Be breast aware

When it is found early, breast cancer can often be treated successfully. It is important to be aware of how your breasts and chest normally look and feel, so you can recognise any changes.

You could try checking in the bath or shower using a soapy hand, or when you are getting dressed. If you are not sure how to check your breasts and chest, ask your practice nurse or GP for advice.

Your breasts and chest will change as you get older and at different stages of your life. For women, this happens:

- before the menopause – breasts can feel different at various times of the month
- before you start a period – they may feel tender and lumpy, especially near the armpits
- after the menopause – breasts normally feel soft, less firm and not lumpy.

In most cases, changes to your breasts or chest do not mean you have cancer. But you should see your GP if you notice a change that is not normal for you, such as:

- a new lump or an area that feels thicker in your breast or armpit
- a change to your nipple, such as a rash, discharge or the nipple changing direction or turning in
- a change to the skin on your breast or chest, such as dimpling or redness
- a change in the size or shape of your breast
- constant discomfort or pain in one breast.

'I noticed that I had a lump in my breast. But I had always had very lumpy breasts during my periods, and I just ignored it. Then one morning in the shower, I noticed that my nipple had turned in.'

Jodie



Breast screening

In the UK, women aged between 50 and 70 who are registered with a GP are invited to have breast screening every 3 years.

Breast screening is a way of finding breast cancers early, when they are small. When breast cancer is diagnosed early, less treatment is needed and it is more likely to be effective. The first stage of breast screening is a mammogram, which is an x-ray of each breast.

Women over 70 can still have screening. You will not receive an invitation letter, but you can contact your local screening clinic every 3 years to arrange a mammogram.

You can find out where your local screening clinic is by:

- asking your GP
- contacting your local screening programme.

Men are currently not screened for breast cancer. This is because breast cancer is rare in men and would be difficult to screen for effectively.

We have more information about breast screening in our booklet **Understanding breast screening** (see page 27).

When cancer runs in families

Most gene mutations that lead to cancer happen during a person's lifetime and 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.

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.

Understanding your family history

Families affected by an inherited gene mutation linked to breast cancer may have a pattern of cancers in the family. These are examples of patterns:

- A number of family members have been diagnosed with breast cancer or related cancers, such as ovarian cancer.
- The family members are closely related.
- The family members were diagnosed at a younger age.
- You have a family history of certain cancers and you are from an Eastern European or Ashkenazi Jewish (Eastern European Jewish) background. Some gene mutations linked to breast cancer are more common in these ethnic groups.

'I spoke to a consultant and said that my mum had breast cancer, and that I think she also had ovarian cancer. I asked whether they thought there might be a genetic component.'

Daloni

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 27).

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 cancer?**
- **Are you worried about bowel 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.

Breast cancer support organisations

Breast Cancer Care Helpline

0808 800 6000
(Mon to Fri, 9am to 4pm,
Sat, 9am to 1pm)

Email info@breastcancercare.org.uk

www.breastcancercare.org.uk

Provides breast cancer information and support across the UK.

Breast Cancer Now

Tel 0333 20 70 300
(Mon to Thu, 9am to 5pm,
Fri, 9am to 4pm)

Email

supporterengagement@breastcancernow.org

www.breastcancernow.org

Aims to fight breast cancer through research and awareness. Has information on its website for women with a family history of breast cancer.

Breast Cancer UK

Tel 0845 680 1322

Email

info@breastcanceruk.org.uk

www.breastcanceruk.org.uk

Campaigns for a more preventative approach to breast cancer.

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

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.

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With thanks to: Debbie Brown, Breast Care Nurse Specialist; Lisa Jeffers, Genetic Counsellor; and Andrea Pryor, Clinical Manager Breast Care Service.

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We welcome feedback on our information. If you have any, please contact cancerinformationteam@macmillan.org.uk

Sources

If you would like information about the sources we use, please contact us at 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 breast 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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