

A practical guide to
understanding cancer

ARE YOU WORRIED ABOUT BREAST CANCER?

**WE ARE
MACMILLAN.
CANCER SUPPORT**

Sometimes, women worry about getting breast cancer because a relative has had it.

This leaflet explains:

- **that it is not common for cancer to run in families**
- **what we know about the main causes of breast cancer**
- **what you can do to reduce your risk of breast cancer.**

Cancer risk

More than 1 in 3 people in the UK will get cancer during their lives. Everyone has a certain risk of developing cancer. It's thought that this is affected by a combination of our genes, lifestyle and environment.

Most of the time, we don't know exactly what causes any particular cancer. But we do know some of the risk factors for cancer. Risk factors are things that can make you more likely to develop cancer.

Some risk factors are very likely to cause cancer. Others only slightly increase the risk of getting it. Usually, cancer is the result of a combination of several risk factors.

Having a particular risk factor doesn't mean that you'll definitely get cancer – just as not having any risk factors doesn't mean you won't.

Smoking is a good example of this. If you smoke, it isn't certain that you will get lung cancer – just as if you don't smoke, it's not certain that you won't. But smoking will greatly increase your risk of getting lung cancer. About 9 out of 10 people who develop lung cancer are smokers.

For most people, increasing age is the biggest risk factor for developing cancer. In general, older people (those over 65) are far more likely to develop cancer than younger people (those under 50).

Cancer is very common. Most of us have relatives who've had cancer. People often worry that a history of cancer in their family greatly increases their risk of developing it. But in fact, fewer than 1 in 10 cancers (5–10%) are associated with a strong family history of cancer.

How does family history affect breast cancer risk?

Most breast cancers are not hereditary (caused by inherited cancer genes) and most women who get breast cancer don't have a family history of it.

If you have one female relative who developed breast cancer over the age of 40, your risk is unlikely to be very different from other women the same age as you.

However, sometimes breast cancer can run in families. In general, the more members of your family who have been diagnosed with breast cancer (or related cancers such as ovarian cancer), the younger they were when diagnosed, and the more closely related they are, the more likely it is that there's a family link.

Only a very small proportion of breast cancers (5–10%) are thought to be caused by a change (alteration) in a gene running in the family. The two genes that are most often found to be altered in hereditary breast cancer are called BRCA1 and BRCA2.

If a family has an altered BRCA1 or BRCA2 gene, usually several relatives on the same side of the family are diagnosed with breast cancer or related cancers. People in the family may also be diagnosed with cancers at a particularly young age.

BRCA gene alterations are more common in certain populations. If you have Ashkenazi Jewish ancestry and have relatives who've been diagnosed with ovarian or breast cancer, you may want to discuss your risk with your GP.

If you're concerned about your risk of breast cancer, visit your GP. They can talk to you about your family history and your risk.

Most women who develop breast cancer don't have a strong family history of it.



We have an online tool you can use to assess your risk of genetic breast or ovarian cancer. OPERA (Online Personal Education and Risk Assessment) asks you about 10 questions before giving you a personalised assessment with further information and support. OPERA isn't intended to replace professional advice, so you should still consult your doctor. Visit [macmillan.org.uk/opera](https://www.macmillan.org.uk/opera) to use the tool.

Assessing family history

A family history of cancer is usually based on your **close relatives**, which include your **first-degree relatives**.

First-degree relatives are your parents, brothers, sisters and children. Close relatives are your first-degree relatives and also your grandparents, grandchildren, aunts, uncles, nieces and nephews.

Examples of a family history that may mean you have an increased risk of developing breast cancer include having:

- one first-degree relative who developed breast cancer under the age of 40
- one first-degree male relative (father, brother or son) with breast cancer
- one first-degree relative with cancer in both breasts
- two close relatives (one of whom is a first-degree relative) on the same

side of your family who developed breast cancer under the age of 60

- three close relatives on the same side of your family who developed breast cancer at any age
- breast and ovarian cancer on the same side of the family.

If any of the above apply to your family, or you're worried about your risk, talk to your GP. They may be able to reassure you or refer you to a clinical genetics service or family cancer clinic.

A woman's risk of breast cancer, based on her family history, may be estimated as average, moderate or high.

Average risk (near population risk)

This is also sometimes called population risk. It means your risk is the same or very similar to the risk of women who don't have a family history of breast cancer. You're more likely not to get breast cancer than to get it.

Moderate risk (raised risk)

This means your risk is higher than average but it's unlikely that there is a breast cancer gene in the family. You are still more likely not to get breast cancer than to get it.

High risk

This means you have a high risk of developing breast cancer in your lifetime. However, it doesn't mean that you'll definitely get breast cancer. There may be a hereditary breast cancer gene in your family.

If your risk is moderate or high

If you have an increased risk of developing breast cancer because of your family history, you'll be offered additional breast screening. (The national breast screening programme for women at average risk is explained on page 18).

Moderate risk

Women with a moderate risk are offered yearly mammograms (breast x-rays) between the ages of 40 and 49.

Between the ages of 50 and 59, women either continue with yearly mammograms or have a mammogram every three years as part of the general NHS Breast Screening Programme. Your specialist will advise you on which option is appropriate for your situation.

From age 60 onwards, all women at moderate risk rejoin the NHS Breast Screening Programme and have a mammogram every three years.

High risk

Women at high risk are usually offered yearly mammograms. These may begin at age 30 or 40 and continue until age 59 or 69, depending on individual risk.

Some women will also have yearly MRI scans. The age women are first offered these scans depends on their estimated risk. Women who have an altered BRCA gene are offered MRI scans from the age of 30.

Risk-reducing treatments

Women at increased risk of breast cancer may choose to have treatments such as surgery or drugs that help reduce risk.

Risk-reducing surgery involves an operation to remove the ovaries or the breasts. This is a major step to take and is only suitable for a small number of women with a very high risk of breast cancer. Our booklet *Understanding risk-reducing breast surgery* has more information.

Having risk-reducing drug treatment involves taking a tablet, either tamoxifen or raloxifene, every day for five years. It's estimated that this reduces breast cancer risk by 30%–40%. However, these drugs can cause side effects similar to the menopause such as hot flushes, vaginal discharge, urinary problems and weight gain. They also increase the risk of blood clots and womb cancer. The drugs aren't suitable for women planning to get pregnant.

For most women with a high risk, the benefits of these drugs probably outweigh the risks. But women at moderate risk may have to think more carefully if they're offered this treatment.

Before deciding whether to have any risk-reducing treatment, you should have time to talk through all the possible benefits and disadvantages with a genetics or breast cancer specialist.

Other risk factors

Most women who develop breast cancer don't have a strong family history of it. Other factors can play a more important role in the development of breast cancer.

Age

The strongest risk factor for breast cancer is increasing age. About 8 out of 10 women diagnosed with breast cancer (80%) are over the age of 50. Nearly half of all breast cancers (45%) occur in women over the age of 65.

Hormonal factors

The female hormones oestrogen and progesterone can affect your breast cancer risk. Various things affect your exposure to these hormones, and therefore affect your breast cancer risk.

Your period and menopause Starting periods at an early age (under 12) and having a late menopause (after the age of 50) may increase breast cancer risk.

Pregnancy Pregnancy and giving birth reduce the risk of breast cancer. The younger a woman is when she starts having children and the more children she has, the more her risk is reduced.

Breastfeeding Breastfeeding reduces breast cancer risk. The longer a woman breastfeeds for, the more her risk is reduced. For general health reasons and to reduce breast cancer risk, women are advised to breastfeed if possible.

Contraceptive pill Taking the contraceptive pill slightly increases the risk of breast cancer. If you stop taking the pill, your risk reduces again. Ten years after stopping the pill, any excess risk will have gone.

Hormone replacement therapy (HRT)

Using HRT increases the risk of breast cancer. Both types of HRT (oestrogen-only and combined oestrogen and progesterone) can increase the risk. Once a woman stops taking HRT, her risk reduces again.

If you're unsure about whether it's okay for you to take the pill or use HRT, it's best to discuss the benefits and disadvantages with your GP. They will be able to give you information and advice that takes account of your age, general health and personal risk of breast cancer.

Other breast conditions

Non-cancerous breast conditions are common and most don't increase your risk of breast cancer, but a few can. They include:

- ductal carcinoma in situ (DCIS) – abnormal cells in the milk ducts of the breast
- lobular carcinoma in situ (LCIS) – abnormal cells in the milk glands (lobes) of the breast
- atypical ductal hyperplasia – slightly abnormal cells in the milk ducts in a small area of the breast.

These conditions may be discovered during tests to investigate a breast lump or during routine breast screening. If you have a breast condition that may increase your risk, your doctor can tell you whether you need treatment or more frequent breast screening.

Dense breast tissue

Breasts are made of fat, connective tissue and glandular tissue. Some women have more glandular and connective tissue and less fatty tissue in their breasts. This is known as dense breast tissue and can increase the risk of developing breast cancer. If you have dense breast tissue, this will show up on a breast x-ray (mammogram).

Radiation

Women who have had radiotherapy to their chest before the age of 35 (for example, for Hodgkin lymphoma) have an increased risk of breast cancer. These women may be offered additional breast screening from the age of 25–50.

Being overweight

The risk of breast cancer is higher in women who are overweight after the menopause. It's estimated that more than 8% of breast cancers in women in the UK are linked to being overweight.



Lifestyle factors

Alcohol Drinking alcohol increases your risk of developing breast cancer. The increase in risk is small for women who drink within the recommended guidelines (see page 15), but it increases steadily the more alcohol you drink. It's thought that about 6% of breast cancers in the UK are linked to alcohol.

Shift work Women who work night shifts for many years (20 or more) may have a slightly increased risk of breast cancer.

Inactivity There's evidence that being less physically active increases the risk.

Smoking Smoking may cause a small increase in breast cancer risk. The earlier you start to smoke and the longer you smoke for, the greater the risk.

Up to 40% of cancers in the UK could be prevented by lifestyle changes.

Reducing your risk

Up to 40% of cancers in the UK could be prevented by changes in lifestyle.

Keep to a healthy weight

The latest figures for the UK estimate that more than half of adults (61%) are overweight.

If you are overweight, getting back to a healthy weight will help reduce your risk of breast cancer after the menopause.

Leading an active lifestyle, following a healthy diet and controlling the size of your portions can help you maintain a healthy weight. Your GP can give you more advice on your ideal weight and on losing weight.

Eat a healthy diet

To reduce your cancer risk, eat plenty of fibre, such as beans, oatmeal, fruit and vegetables. Aim to eat five portions of fruit and vegetables every day.

Limit how much red meat and salt you eat, and avoid processed meat. Processed meats are meats that have had preservatives added to them or have been preserved by salting, curing or smoking. They include sausages, ham and burgers.

Eating a healthy diet can also lower your risk of developing other illnesses such as heart disease and diabetes.

**Limit how
much
alcohol you
drink**

Drinking alcohol increases your risk of breast cancer. The European Code Against Cancer recommends that to reduce cancer risk, women should drink no more than one unit of alcohol a day. A unit is half a pint of ordinary strength beer, lager or cider, one small glass (125ml) of wine, or a single measure (25ml) of spirits.

**Keep
physically
active**

Regular physical activity can help to reduce the risk of breast cancer. Being physically active doesn't necessarily mean going to the gym – regular walking, cycling or swimming can be enough.

Try to do at least 2½ hours of moderate-intensity physical activity a week. This could be made up of 30 minutes of activity each day for five days. You could even break it up further into 10 minutes of activity, three times a day.

Moderate-intensity activity is where you're still able to talk, but your breathing is quicker and deeper. Your body is warming up, your face may have a healthy glow and your heart is beating faster than normal but not racing.

If you're not used to exercise, your GP can advise you on getting started.

Give up smoking

There is some evidence that smoking may increase your risk of developing breast cancer. It has been shown to increase the risk of many other cancers such as cancers of the mouth, throat, lung, bladder, cervix, kidney, pancreas, bowel and stomach. Smoking also increases your risk of heart disease and high blood pressure.

Smoking is the single biggest avoidable cause of cancer.

If you smoke, giving up is the most important thing you can do for your health. Help is available if you want to give up smoking. Ask your GP for advice, or contact your national stop smoking service.

Smokefree (England)

Tel 0800 022 4332

(Mon–Fri, 9am–8pm, Sat–Sun, 11am–4pm)

www.smokefree.nhs.uk

Smokeline (Scotland)

Tel 0800 84 84 84

(Mon–Sun, 8am–10pm)

www.canstopsmoking.com

Stop Smoking Wales

Tel 0800 085 2219

(Mon–Fri, 9am–5pm)

www.stopsmokingwales.com

Smokers' Helpline (Northern Ireland)

Tel 0808 812 8008

(Mon–Fri, 4pm–8pm)

www.want2stop.info

Making the lifestyle changes described above doesn't mean that you definitely won't get breast cancer, but it makes it less likely and will improve your health generally.

Be breast aware

Get to know the normal look and feel of your breasts. Visit your GP if you notice any change that's unusual for you.

When it's found early, breast cancer can often be treated successfully.

In most cases, changes to your breasts don't mean that you have cancer, but you should see your GP if you have:

- lumps or bumpy areas in your breast
- a change to the outline or shape of your breast
- nipple discharge that is not milky
- unusual discomfort or pain in one breast (breasts are often more tender or a bit lumpy just before a period).

Screening for breast cancer

After the age of 50, women are invited to join the NHS Breast Screening Programme. This aims to detect breast cancer early when it's easier to treat. Screening involves having a mammogram (breast x-ray) every three years until you reach the age of 70. Women aged 70 and over can continue to have regular mammograms by contacting their GP, who will arrange an appointment at a breast screening clinic.

There are plans to expand the breast screening programme in England from 2016, to include women aged 47–73.

There's more information on breast screening in our booklet *Understanding breast screening*.

Breast screening can help detect breast cancer early, when it's most likely to be treated successfully.

See your doctor if you notice a change in your breasts that isn't normal for you.

If you are still worried

A common reaction to serious illness in the family, or to bereavement, is to feel more vulnerable to the same disease. If you can't stop worrying, you may find it helpful to speak to a counsellor. You can ask your GP for details of a local counselling service, or call our cancer support specialists on **0808 808 00 00**.

The mental health charity MIND has a leaflet called *How to Stop Worrying* – order a copy from **mind.org.uk** or by calling **0300 123 3393**.

Further resources

We have more information on cancer types, tests, treatments, and living with and after cancer. We also have details of other helpful organisations and support groups in your area.

Get in touch

Macmillan Cancer Support

89 Albert Embankment, London SE1 7UQ

Questions about cancer? Call free on 0808 808 00 00 (Mon–Fri, 9am–8pm)

Hard of hearing? Use textphone 0808 808 0121, or Text Relay.

Non-English speaker?

Interpreters are available.

www.macmillan.org.uk

Related Macmillan resources

You may want to order some of our other resources about breast cancer and genetics:

- *Cancer genetics – how cancer sometimes runs in families*
- *Understanding breast cancer*
- *Understanding breast screening*
- *Understanding ductal carcinoma in situ (DCIS)*
- *Understanding risk-reducing breast surgery*

To order a booklet, visit **be.macmillan.org.uk** or call **0808 808 00 00**. All of our information is also available online at **macmillan.org.uk/cancerinformation**

Other useful websites

Cancer Research UK
www.cancerhelp.org.uk

Provides patient information on cancer risk, screening, types of cancer and treatments.

Healthtalkonline
www.healthtalkonline.org

Website containing information about breast screening and breast cancer, and video and audio clips of people talking about their experiences of breast cancer.

UK Breast Screening Programme websites

The following websites have information about the breast screening programme in each country:

www.cancerscreening.nhs.uk/breastscreen

(England)

www.nhsinform.co.uk/screening/breast

(Scotland)

www.screeningservices.org.uk/btw

(Wales)

www.cancerscreening.hscni.net/1826

(Northern Ireland)

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 photographs are of models.

Thanks

This leaflet has been written, revised and edited by Macmillan Cancer Support's Cancer Information Development team. It has been approved by Dr Tim Iveson, Consultant Medical Oncologist and Macmillan Chief Medical Editor.

With thanks to: Nicola Bradshaw, Macmillan Principal Genetic Counsellor; Dr Lynn Greenhalgh, Macmillan Cancer and General Consultant Clinical Geneticist; Dr Marc Tischowitz, Consultant Clinical Geneticist; and the people affected by cancer who reviewed this edition.

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NHS Breast Screening Programme. *Clinical guidelines for breast cancer screening assessment*. NHSBSP Publication No 49. 2010.

World Cancer Research Fund. *Policy and action for cancer prevention. Food, nutrition, and physical activity: A global perspective*. 2007.

Can you do something to help?

We hope this leaflet has been useful to you. It's just one of our many publications that are available free to anyone affected by cancer. They're produced by our cancer information specialists who, along with our nurses, benefits advisers, campaigners and volunteers, are part of the Macmillan team. When people are facing the toughest fight of their lives, we're there to support them every step of the way.

We want to make sure no one has to go through cancer alone, so we need more people to help us. When the time is right for you, here are some ways in which you can become a part of our team.



Share your cancer experience

Support people living with cancer by telling your story, online, in the media or face to face.

Campaign for change

We need your help to make sure everyone gets the right support. Take an action, big or small, for better cancer care.

Help someone in your community

A lift to an appointment. Help with the shopping. Or just a cup of tea and a chat. Could you lend a hand?

Raise money

Whatever you like doing you can raise money to help. Take part in one of our events or create your own.

Give money

Big or small, every penny helps. To make a one-off donation see over.

Call us to find out more

0300 1000 200

macmillan.org.uk/getinvolved

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Name _____

Surname _____

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Phone _____

Email _____

Please accept my gift of £ _____

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I enclose a cheque / postal order /
Charity Voucher made payable to
Macmillan Cancer Support

OR debit my:

Visa / MasterCard / CAF Charity
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Don't let the taxman keep your money

Do you pay tax? If so, your gift will be worth 25% more to us – at no extra cost to you. All you have to do is tick the box below, and the tax office will give 25p for every pound you give.

- I am a UK taxpayer and I would like Macmillan Cancer Support to treat all donations I have made for the four years prior to this year, and all donations I make in the future, as Gift Aid donations, until I notify you otherwise.

I confirm I have paid or will pay an amount of Income Tax and/or Capital Gains Tax in each tax year, that is at least equal to the tax that Charities & CASCs I donate to will reclaim on my gifts. I understand that other taxes such as VAT and Council Tax do not qualify and that Macmillan Cancer Support will reclaim 25p of tax on every £1 that I give.

Macmillan Cancer Support and our trading companies would like to hold your details in order to contact you about our fundraising, campaigning and services for people affected by cancer. If you would prefer us not to use your details in this way please tick this box.

In order to carry out our work we may need to pass your details to agents or partners who act on our behalf.



If you'd rather donate online go to macmillan.org.uk/donate

Please cut out this form and return it in an envelope (no stamp required) to:
Supporter Donations, Macmillan Cancer Support, FREEPOST LON15851,
89 Albert Embankment, London SE1 7UQ

More than one in three of us will get cancer. For most of us it will be the toughest fight we ever face. And the feelings of isolation and loneliness that so many people experience make it even harder. But you don't have to go through it alone. The Macmillan team is with you every step of the way.

We are the nurses and therapists helping you through treatment. The experts on the end of the phone. The advisers telling you which benefits you're entitled to. The volunteers giving you a hand with the everyday things. The campaigners improving cancer care. The community there for you online, any time. The supporters who make it all possible.

Together, we are all Macmillan Cancer Support.

For cancer support every step of the way, call Macmillan on 0808 808 00 00 (Mon–Fri, 9am–8pm) or visit macmillan.org.uk

Hard of hearing? Use textphone 0808 808 0121, or Text Relay.
Non-English speaker? Interpreters available.
Braille and large print versions on request.

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Next planned review 2016. Macmillan Cancer Support, registered charity in England and Wales (261017), Scotland (SC039907) and the Isle of Man (604).



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