

About Breast Cancer - A Quick Guide



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This is a brief summary of the information on 'About breast cancer' from CancerHelp UK. You will find more detailed information on the website.

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The breasts and lymphatic system

The breasts are made up of fat, connective tissue, and gland tissue divided into lobes. A network of ducts spreads from the lobes towards the nipple.

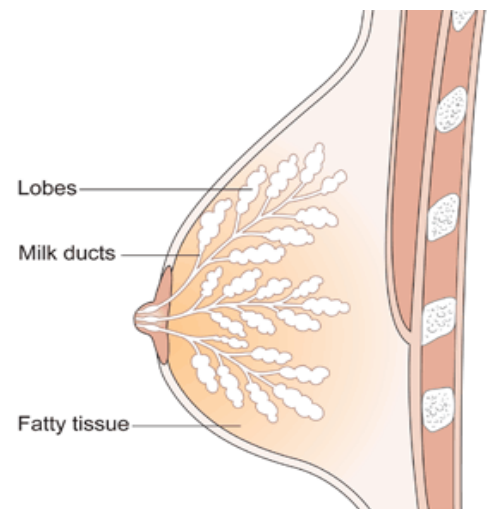


Diagram showing the lobes and ducts of a breast
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Breast size and density

The breasts are not usually the same size as each other. They may also feel different at different times of the month - just before a period they can feel lumpy. Younger women have more glandular tissue in their breasts, which makes them dense. Once a woman is past her menopause, the glandular tissue is gradually replaced by fat, which is less dense.

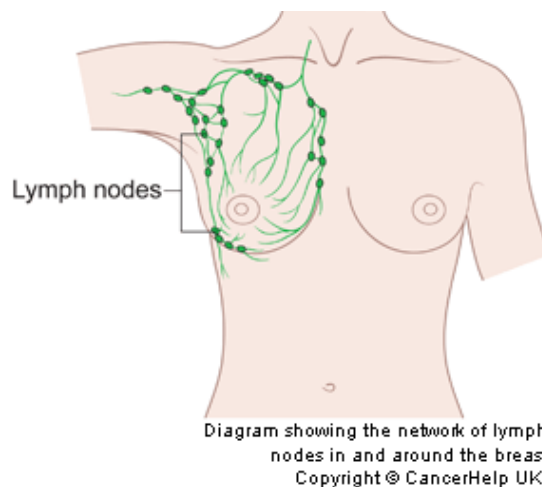
The lymph nodes

A 'tail' of breast tissue leads into the armpit (axilla). The armpits have many lymph glands, also known as lymph nodes. They are part of the lymphatic system. The



lymphatic system is made up of a network of lymph glands, connected throughout the body by tiny tubes called lymph vessels. Lymph is a yellow fluid that flows through the lymphatic system and eventually drains into veins. This system helps to get rid of waste products from the body.

Lymph glands are important in cancer care because any cancer cells that have broken away from a tumour can be carried by the lymph to the nearest lymph glands. If you have cancer, but no cancer cells in any of your lymph glands, your cancer is less likely to have spread.



Finding breast cancer early

Why be breast aware?

The earlier a breast cancer is diagnosed, the easier it is likely to be to treat it and the better the chance of cure. Being breast aware simply means getting to know how your breasts normally look and feel at different times of the month. If you notice a change that isn't normal for you, talk it over with your doctor.

What to look for

You don't need to examine your breasts every day or even every week. Some women have lumpier breasts around the time of a period. If the lumpiness comes and goes with your menstrual cycle, it is nothing to worry about.

It is easiest to check your breasts in the shower or bath. Run a soapy hand over each breast and up under your arm. The NHS breast awareness five-point code says

- Know what is normal for you
- Look and feel
- Know what changes to look for
- Report any changes without delay
- Attend for breast screening if you are aged 50 or over

Breast cancer symptoms

Breast lumps in general

The first symptom of breast cancer for many women is a lump in their breast. But 9 out of 10 breast lumps (90%) are benign. That means they are not cancers. But if you spot a lump, see your doctor straight away.

What to look out for

Changes that could be due to a breast cancer are

- A lump or thickening in an area of the breast
- A change in the size or shape of a breast
- Dimpling of the skin
- A change in the shape of your nipple, particularly if it turns in, sinks into the breast or becomes irregular in shape



- A blood stained discharge from the nipple
- A rash on a nipple or surrounding area
- A swelling or lump in your armpit

These signs don't necessarily mean cancer. But if any of these things happen to you, you should get it checked out.

In a rare type of breast cancer called inflammatory breast cancer, the whole breast can look red and inflamed and can be very sore. Another rare type of breast cancer shows up as a rash on and around the nipple. It is called Paget's disease. It looks a bit like eczema and is sometimes mistaken for that at first.

Definite breast cancer risks

Researchers have identified a number of things that can affect your risk of breast cancer. Breast cancer risk increases with age. Your risk is increased if you've had it before, or if someone in your family has. You have a particularly increased risk if you carry a breast cancer gene. A history of some non cancerous breast diseases or having had DCIS or LCIS also increases risk.

Hormonal factors

There are some hormonal factors that increase risk, including having higher levels of hormones in your blood after the menopause, starting periods early and having a late menopause, having no children or having them late in life, and taking hormone replacement therapy (HRT) or the contraceptive pill.

Lifestyle and past medical treatment

There are also some life style factors that increase risk, including your alcohol intake and your body weight. Past medical

treatment can affect breast cancer risk, for example exposure to radiation, including treatment for Hodgkin's lymphoma.

Breast cancer genes

It is possible to be born with a gene fault that may increase the risk of breast cancer. This doesn't mean you will necessarily get cancer. But it will mean that you are more likely to develop it than the average person.

How much breast cancer genes increase your risk

The first breast cancer gene faults to be found were BRCA1 and BRCA2. Women with these genes have a 50 to 80% chance of getting breast cancer in their lifetime. Genetic tests are available to women with a high risk of having changes in BRCA1, BRCA2, or two other genes called TP53 and PTEN.

Genetic testing

You can have a genetic test if you have a strong family history of breast cancer. Ask your GP for a referral to a specialist breast clinic. If they think your risk is high, they will refer you to a specialist genetics service. To be tested, you usually need to have a living relative with breast cancer, who needs to be tested first. Some labs can do a test without having blood from a relative, but this is less likely to find the fault. No test is 100% accurate and genetic tests can miss the fault.

Possible breast cancer risks

Researchers are investigating several factors that might increase breast cancer risk.

- Diet - Fat in the diet may play a small part in breast cancer risk.
- Uneven breasts - A recent study showed that women who have one breast larger than the other may be at



a slightly increased risk of developing breast cancer. But any increase in risk is small compared to other risk factors. For most women it is normal to have slightly uneven (asymmetrical) breasts.

- Injury to the breast - Scientific research has not identified this as a risk factor but one study did suggest a link. We need more studies to prove or disprove this.
- Diabetes – Studies have reported that women with diabetes have a small increase in their risk of breast cancer. It is not clear why this is.
- Night shift work – A number of studies seem to show that night shift work can increase breast cancer risk. A large study that is due to end in 2011 may provide more information about this.
- Diethylstilboestrol (DES) – This drug was used in the past to stop pregnant women having a miscarriage. Some studies suggest it could increase the risk of breast cancer, but we need more research.

Pesticides, smoking, having a pregnancy terminated and stress have all been investigated as well. But research has found that they don't seem to increase risk.

Breast cancer protective factors

Possible breast cancer protective factors

There are some things that will lower risk of breast cancer. Having a generally healthy lifestyle, including being physically active and maintaining a healthy body weight, lowers risk. Statistically, if you breastfeed you are at less risk of developing breast cancer, particularly if you have your children when you are younger.

Some research suggests that people with coeliac disease have a lower risk of getting breast cancer.

Drugs to prevent breast cancer

There is research into using drugs to prevent breast cancer. Trials show that the drug tamoxifen can lower risk of breast cancer in women at high risk. But there are concerns about side effects for women who are otherwise healthy. We know from other research that women taking aspirin or other non steroid anti inflammatories (such as ibuprofen) have a small reduction in risk of breast cancer. But you shouldn't start taking them without talking to your GP as they can cause other health problems.

An overview of diet and breast cancer

Diet and breast cancer

We may be able to prevent as many as 25 out of every 100 cancer cases (25%) by changing our diets. But it is difficult to be exact about this. Research suggests that between 15% and 35% of cancers may be preventable by changing diet.

What can research tell us?

This area of research is very difficult because we all eat such a range of different foods in such differing amounts.

A clue about diet and breast cancer is found when you look at the rates of the disease in Japanese and American women. Japanese women have a much lower rate of breast cancer than American women. But when Japanese women emigrate to live in the U.S.A. their breast cancer risk goes up. So the difference in risk must be to do with lifestyle or the environment rather than any inherited risk. The most obvious change is



diet. Researchers suspect that changes in diet may be related to the change in breast cancer risk.

On CancerHelp UK there is information about current research into links between diet and breast cancer.

Main food groups and breast cancer

The research into diet causing cancer concentrates on the main groups of food we all eat such as fats, fibre, fruit and vegetables.

Fats and breast cancer

This has been studied a great deal, but we still don't have a definite answer on it. We don't know for sure whether eating a high fat diet will increase risk of breast cancer. Based on the evidence we have, it appears that fat does play a role in increasing breast cancer risk.

Dairy foods and breast cancer

Some recent studies have shown that a high intake of dairy products may lower the risk of breast cancer, but more studies are needed before we can be sure about this.

Fibre and breast cancer

Fibre is mostly found in fruit, vegetables and wholemeal cereals. There is some evidence that diets which contain more than 20g of fibre per day reduce the risk of breast cancer in premenopausal women.

Some dietary factors and breast cancer

Some dietary factors are talked about in relation to breast cancer. Some of these do seem to be associated with breast cancer risk and others don't. On

CancerHelp UK you can find information on

- Soya foods and other phyto-oestrogens
- Calories and obesity
- Food additives
- Pesticides
- Alcohol
- Coffee

Diet and breast cancer summed up

It may help to prevent breast cancer if you

- Replace animal fats with polyunsaturated fats (in many vegetable oils and margarines) and monounsaturated fats (such as olive oil)
- Eat more isoflavones (found in soy, peas and beans) and lignans (found in vegetables, fruits, grains, tea and coffee)

We are not sure, but it may help if you

- Eat more fibre from wheat bran, cereals, beans, fruit and vegetables
- Make sure you have enough calcium in your diet - from milk, cheese and other dairy foods, green leafy vegetables (such as broccoli, cabbage and okra, but not spinach), soya beans, tofu, nuts, bread, and fish where you eat the bones, such as sardines and pilchards
- Eat foods high in carotenoids (chemicals that the body changes to vitamin A) such as carrots, sweet potatoes, spinach, kale, and tomatoes

If you follow these guidelines, you will be eating a healthier diet. This helps you keep



your weight within normal limits and can help protect against a variety of chronic health conditions. Reducing your alcohol intake can also reduce your risk of breast cancer and other illnesses.

Types of breast cancer

DCIS – ductal carcinoma in situ

If you have ductal cancer in situ (DCIS), it means that cells inside some of the ducts of your breast have started to turn into cancer cells. These cells are all inside the ducts and have not started to spread into the surrounding breast tissue. So, there is very little chance that any of the cells have spread to the lymph nodes or elsewhere in the body.

Invasive ductal breast cancer and DCIS are not the same thing. In invasive ductal breast cancer, the cells have broken out of the ducts and so there is a chance they can spread into nearby lymph nodes or other parts of the body.

Treatment for DCIS

The main treatment is surgery. Many women have removal of just the area of DCIS with a border of healthy tissue around it (local excision). But some women have mastectomy. After local excision, you may have radiotherapy to the rest of the breast tissue.

You might have tamoxifen (a type of hormone therapy) to try to reduce the risk of developing an invasive breast cancer in the future. Trials are looking at using other types of hormone therapy to see if they can also help to reduce the risk of DCIS coming back or developing into an invasive breast cancer.

Whichever treatment you have, you will have regular follow up appointments to make sure that if DCIS comes back, it is picked up as quickly as possible.

LCIS – lobular carcinoma in situ

Lobular cancer in situ (LCIS) means that there are cell changes inside the breast lobes. This is not cancer. But having LCIS means that you have an increased risk of getting breast cancer in the future. Even so, most women with LCIS will not get breast cancer. Men can develop LCIS but this is very rare.

It is important to note that there is a type of breast cancer called invasive lobular breast cancer, and this is different to LCIS.

Treatment for LCIS

Most people with LCIS will not get breast cancer. So you don't usually need treatment. But because of the increased risk of breast cancer your doctor is likely to suggest keeping a close eye on you with

- Breast examination every 6 to 12 months
- A breast X-ray (mammogram) every 1 to 2 years

If a cancer does start to develop, the monitoring should pick it up at a very early stage so that you can have the breast cancer treatment you need as early as possible.

Your doctor may suggest you take a type of hormone therapy to lower the chance of breast cancer if you have LCIS.

Invasive ductal breast cancer

Ductal breast cancer is the most common type of breast cancer. Between 70 and 80 out of every 100 breast cancers diagnosed



(70 – 80%) are this type. It is also called ductal carcinoma. An invasive ductal carcinoma of the breast is a cancer that started in the cells that line the ducts of the breasts and has spread into the surrounding breast tissue.

Most often, ductal carcinoma is described as being of no special type. You may see this written as NST or NOS (not otherwise specified).

Remember - if your doctor has told you that you have ductal carcinoma in situ or DCIS, you do not have invasive ductal breast cancer.

Treatment

For ductal breast cancer, you may have

- Surgery
- Radiotherapy
- Chemotherapy
- Hormone therapy
- Biological therapy
- Or a combination of some of the above

On CancerHelp UK we have information on which treatment is used for the different stages of breast cancer. The stage of a cancer tells you how big it is and whether it has spread.

Invasive lobular breast cancer

About 1 in 10 breast cancers diagnosed (10%) are invasive lobular carcinoma. This means that the cancer started in the cells that line the lobules of the breast. Invasive lobular cancer is most common in women between 45 and 55 years old. It is possible for men to get invasive lobular breast cancer, but this is very rare.

Remember - if your doctor has told you that you have lobular carcinoma in situ or LCIS, you do not have invasive lobular breast cancer.

Symptoms and diagnosis

Invasive lobular breast cancer does not always show up as a firm lump. And it does not show up on mammograms. So it can be difficult to diagnose. You may have a thickened area of breast tissue instead of a definite lump.

Treatment

Usually you will have surgery, possibly followed by radiotherapy, chemotherapy, biological therapy, or a combination of treatments. You may also have hormone therapy after surgery if your cancer cells are oestrogen receptor positive.

Inflammatory breast cancer

This is a rare type of breast cancer. Only about 1 to 4 breast cancers out of every 100 diagnosed (1 or 4%) are this type. It is called inflammatory because the breast tissue becomes inflamed. The cancer cells block the smallest lymph channels in the breast. The lymph channels drain excess fluid away from the tissues and organs.

Symptoms

Because the lymph channels are blocked, the breast becomes swollen, red, firm or hard, and hot to the touch. It may be painful, but this is not always the case. Other possible symptoms include thickening, ridges or pitting of the skin of the breast. Sometimes there is a lump in the breast. The nipple may become inverted (pulled in to the breast), or there may be a discharge from the nipple.



Inflammatory breast cancer symptoms can appear quite suddenly. It is often confused with an infection of the breast (mastitis).

Treatment

The treatment for inflammatory breast cancer can be slightly different than for other types of breast cancer. Usually, chemotherapy is the first treatment you have. After chemotherapy, you are most likely to have surgery. You may also have radiotherapy and hormone therapy or biological therapy after your surgery, to try to reduce the risk of the cancer coming back.

Paget's disease

Paget's disease is a rare disease that is associated with breast cancer. It is found in 1 or 2 out of every 100 breast cancers (1 to 2%). Paget's disease starts in the nipple or in the area of darker skin surrounding it (the areola). It usually first appears as a red, scaly rash. It can be itchy. It may be mistaken for other skin conditions such as psoriasis or eczema.

How is it diagnosed?

Your breast surgeon will take a sample of the affected skin tissue (a biopsy) from the nipple and send it to be examined under a microscope. If Paget's disease is diagnosed, you will then have a mammogram. In many cases, Paget's disease is a sign of breast cancer. About half of women with Paget's disease have a lump behind the nipple. In 9 out of 10 cases, this is an invasive breast cancer.

Some women with Paget's disease who do not have a lump also have an invasive breast cancer. But most have carcinoma in situ. This means there are cancer cells in the biopsy, but that they are contained within

the lining of the ducts or lobes of the breast.

How is it treated?

The treatment for Paget's disease is much the same as for any other breast cancer. You will have surgery to remove either the whole breast or just the affected area. If you have invasive breast cancer you may have radiotherapy, chemotherapy, hormone therapy or biological therapy after your surgery.

Rare types of breast cancer

Doctors have developed ways of grouping breast cancers into different types. They sometimes call rarer breast cancers special type and the more common breast cancers no special type. The most common breast cancer is ductal carcinoma and this is often described as being of no special type. You may see this written as NST or NOS (not otherwise specified).

Special type breast cancers have cells with particular features. As well as the rare cancers listed here, lobular breast cancer is also classed as a special type.

On CancerHelp UK there is information about the following special types of breast cancer

- Medullary breast cancer
- Mucinous (mucoïd or colloid) breast cancer
- Tubular breast cancer
- Adenoid cystic carcinoma of the breast
- Metaplastic breast cancer
- Angiosarcoma of the breast
- Lymphoma of the breast
- Basal type breast cancer
- Phyllodes or cytosarcoma phyllodes
- Papillary breast cancer



Breast cancer in men

In men, breast cancer is very rare. There are about 300 men diagnosed each year in the UK, compared with around 45,700 cases of breast cancer in women.

Is the information the same for men?

Most of the information men with breast cancer need is the same as for women. The symptoms, diagnosis and treatment are all very similar to women with breast cancer.

Risks and causes

As with women, the single biggest risk factor for male breast cancer is increasing age. Most cases are diagnosed in men between the ages of 60 and 70. Other risk factors are high oestrogen levels, exposure to radiation, a family history of cancer, or a recognised breast cancer gene in the family, and a rare genetic condition called Klinefelter's syndrome.

Finding support

A diagnosis of breast cancer can be particularly difficult for men. You may feel confused and isolated. It is very common to hear about breast cancer in women but not at all common to hear about it in men. Your consultant may know other men with breast cancer that you could talk to. Or you could contact the charity Breast Cancer Care. They have male volunteers you can talk to on the phone.

Screening for breast cancer

Mammograms in breast screening

A mammogram is an X-ray of the breast. The NHS breast screening programme uses them to screen for breast cancer in women

aged 50 and over. You are also likely to have a mammogram if you have breast cancer symptoms, such as a lump but this happens outside the screening service.

How you have a mammogram

A radiographer helps you to position one breast at a time between 2 small flat plates on the X-ray machine. Your breast is pressed firmly between the plates for a few moments to take the X-ray. Each breast has 2 X-rays taken. The compression of the breast helps to give a clear picture. Having a mammogram can be uncomfortable. Some people find it painful. But the discomfort only lasts for the short time that your breast is compressed.

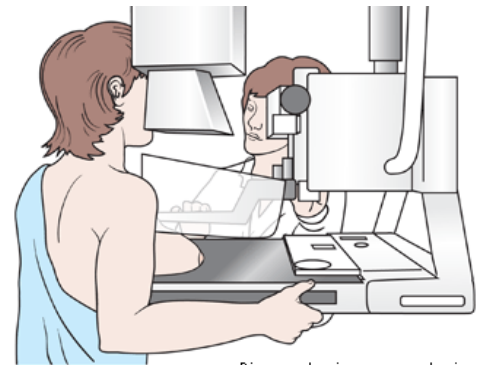


Diagram showing a woman having a mammogram
Copyright © CancerHelp UK

After the mammogram

Two radiologists will look at your mammogram and see if there are any signs of cancer. If there is any doubt at all about your mammogram, they will call you back for more tests. Some cancers do not show clear signs on the mammogram. So, if you find any suspicious lump in your breast,



always tell your doctor, even if you recently had a mammogram.

Who is screened for breast cancer?

The NHS breast screening programme uses breast X-rays (mammograms) to screen all women in the UK aged 50 and over who are registered with a GP. Women aged 50 to 70 are sent an invitation to go for screening every 3 years. The breast screening programme is expanding the screening to cover women between the ages of 47 and 73 by 2012. Women older than 70 can make their own appointment for screening at their local breast screening unit.

The older you are, the more at risk you are of getting breast cancer. So it makes sense to keep having mammograms. If you are under 50, your risk of breast cancer is very low. And mammograms are more difficult to read in younger women. There is little evidence that mammograms for most women under 47 can prevent death from breast cancer.

Women at high risk of breast cancer due to a family history of the disease can be screened from a younger age. If you think you might be at increased risk, speak to your GP. They can refer you to a genetic specialist, who will be able to tell you. Not everyone with a family history of cancer is at increased risk themselves. The National Institute for Health and Clinical Excellence (NICE) now recommend that women with a moderate or high risk because of their family history should start having mammograms in their 40's.

Breast awareness

You should still make sure you know how your breasts normally look and feel, even if you are having mammograms every 3 years. Most breast cancers are still found by women themselves. If you notice any symptoms that could be due to breast cancer, don't wait until your next mammogram. See your GP straight away.

Should I see a breast cancer specialist?

It can be very difficult for GPs to decide who may have a breast cancer and who may have a non cancerous breast condition. But there are particular symptoms that mean your GP should refer you to a specialist straight away. NICE have produced guidelines for GPs to help them decide which patients need to be seen urgently by a specialist. You should ideally get an appointment within 2 weeks for an urgent referral. The symptoms that need urgent referral for possible cancer of the breast are

- A fixed, hard lump in the breast at any age
- Women aged 30 or over with a lump that is still there after their next period
- A woman with a lump that appears after menopause
- Women under 30 with a lump that is getting bigger, is fixed and hard, or who have other reasons for concern, such as a strong family history of breast cancer
- Anyone who has had breast cancer before and has another lump or other suspicious symptoms
- A rash on one nipple or in the surrounding area (this is very rare), that has not responded to treatment



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- Nipples that have turned in (inverted) recently
 - Blood stained discharge from the nipple for no apparent reason
 - Men, aged 50 or over with a firm lump under one nipple, with or without changes in nipple shape or to the surrounding skin

Symptoms such as a distinct lump in a woman under 30, or breast pain, need referral, but not urgently.

What to ask your doctor about breast cancer

- How can I know whether the changes in my breasts are normal and are not a symptom of breast cancer?
- If I have a lump, how likely is it to be benign?
- How quickly will you know if my breast lump is cancer?
- How will you let me know - do I have a choice about how I am told?
- How quickly will my treatment begin if you diagnose cancer?
- Should I have NHS breast screening?
- How reliable is mammography at finding breast cancer for a woman my age?
- May I be screened for free if I am over 70 or under 50 if I think I need it?
- Where is my nearest breast screening centre?
- What happens - how is the breast X-ray done?



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- Is mammography painful?
 - What happens if I am called back after breast screening?
 - How can I reduce my risk of breast cancer?
 - Will changing my diet reduce my risk of breast cancer?

Notes

More information

For more information about breast cancer, visit our website
<http://cancerhelp.cancerresearchuk.org>

You will find a wide range of detailed, up to date information for people affected by cancer, including a clinical trials database that you can search for cancer trials in the UK. You can view or print the information in a larger size if you need to.

For answers to your questions about cancer call our Cancer Information Nurses on
0808 800 4040 9am till 5pm Monday to Friday

Adapted from Cancer Research UK's Patient Information Website CancerHelp UK in February 2011. CancerHelp UK is not designed to provide medical advice or professional services and is intended to be for educational use only. The information provided through CancerHelp UK and our nurse team is not a substitute for professional care and should not be used for diagnosing or treating a health problem or disease. If you have, or suspect you may have, a health problem you should consult your doctor. © Cancer Research UK 2011. Cancer Research UK is a registered charity in England and Wales (1089464) and in Scotland (SC041666).