

Treating primary breast cancer



This booklet describes the treatments you may be offered if you have been diagnosed with primary (early) breast cancer.



This information is by Breast Cancer Care.

We are the only specialist UK-wide charity that supports people affected by breast cancer. We've been supporting them, their family and friends and campaigning on their behalf since 1973.

Today, we continue to offer reliable information and personal support, over the phone and online, from nurses and people who've been there. We also offer local support across the UK.

From the moment you notice something isn't right, through to treatment and beyond, we're here to help you feel more in control.

For breast cancer care, support and information, call us free on **0808 800 6000** or visit **breastcancercare.org.uk**



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Introduction

This booklet describes the treatments you may be offered if you have been diagnosed with primary (early) breast cancer.

Your specialist team will consider many different factors when deciding the best treatment for you. These include the specific characteristics of your cancer as well as your age and your general health.

We refer to 'your doctors' or 'your specialist team' throughout this booklet. This is because it's recommended that breast cancer is treated by different specialists who work together as a multidisciplinary team (see page 17).

You should have opportunities to discuss your treatment options with the specialist team and to ask any questions.

NHS patients have access to a breast care nurse, who is a member of the specialist team. Many private hospitals also have breast care nurses.

The breast care nurse is trained to give information and support to anyone diagnosed with breast cancer, and will be one of your main contacts throughout treatment and afterwards. It's important to know who your breast care nurse is and how to contact them.

Where to find more information

This booklet gives an overview of the different treatments for breast cancer. You can find more detailed information on each of the different treatment options, including side effects, in our other publications or on our website. We refer to other relevant publications throughout this booklet, which you may find useful to read.

We recommend that you use this booklet alongside another of our booklets called **Breast cancer and you: coping with diagnosis, treatment and the future**. This looks at some of the emotional issues that can arise in the early weeks and months after a diagnosis.

You can order or download our publications on our website breastcancercare.org.uk or call our Helpline on **0808 800 6000**.

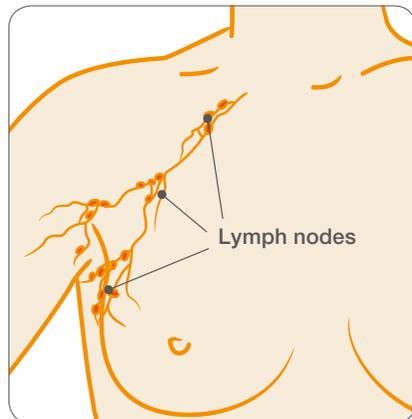
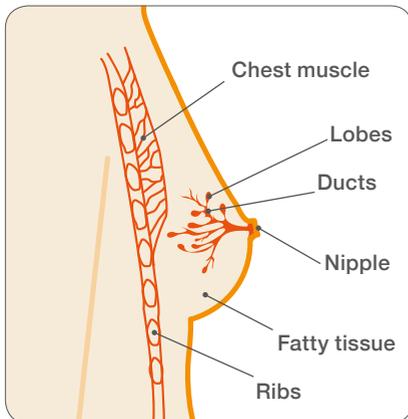
Although we sometimes refer to 'women' in this booklet, most of the information also applies to men who have been diagnosed with breast cancer.

The breasts and lymph nodes

Breast cancer starts when cells in the breast begin to divide and grow in an abnormal way.

Breasts are made up of lobules (milk-producing glands) and ducts (tubes that carry milk to the nipple). These are surrounded by glandular, fibrous and fatty tissue.

Breasts contain a network of thin tubes called lymph vessels. These are connected to the lymph nodes (glands) under the arm.



Types of primary breast cancer

There are several different types of breast cancer. It's important to have an accurate diagnosis so that your specialist team can plan the most appropriate treatment for you.

Breast cancer can be diagnosed at different stages, grow at different rates and have different characteristics. This means that people can have different treatments, depending on what will work best for them.

Primary breast cancer is breast cancer that has not spread beyond the breast or the lymph nodes (glands) under the arm.

Breast cancer can be invasive or non-invasive (also called 'in situ').

Non-invasive breast cancer

Non-invasive breast cancer has not yet developed the ability to spread either within the breast or to another part of the body.

Ductal carcinoma in situ (DCIS)

Ductal carcinoma in situ (DCIS) is an early form of breast cancer. It's sometimes called intraductal, non-invasive cancer or pre-invasive cancer. The cancer cells are inside the milk ducts (known as 'in situ') and have not yet developed the ability to spread, either through the ducts into surrounding breast tissue or to other parts of the body.

DCIS does not usually cause any symptoms, although it may sometimes be felt as a lump. It's most commonly diagnosed after a routine mammogram (breast x-ray) as part of a national breast screening programme.

There are three different grades of DCIS (see page 13). If it's not treated, DCIS may develop the ability to spread and become invasive cancer.

Low-grade DCIS is less likely to become an invasive breast cancer than high-grade DCIS.

Treatment for DCIS

Treatment for DCIS aims to remove the cancer before it develops the ability to spread. Currently, there's no single approach to treating DCIS, and the treatment you're offered will depend on factors such as the extent of the DCIS, the grade and where it is within the breast. Treatment will usually include surgery (either breast-conserving surgery or a mastectomy with or without reconstruction) to remove the affected area. Breast-conserving surgery may be followed by radiotherapy.

Sometimes, once the breast tissue has been removed and examined, an invasive cancer is found as well as the non-invasive cancer. If this is the case it may alter your recommended treatment.

For more information, see our **Ductal carcinoma in situ (DCIS)** booklet.

Invasive breast cancer

Most breast cancers are invasive. Invasive breast cancer has the potential to spread to other areas of the body. This doesn't mean the cancer has or will spread to another part of the body, just that this is a possibility. Treatments aim to reduce the risk of this happening.

Invasive ductal breast cancer (of no special type)

Most breast cancers are invasive ductal breast cancers. Breast cancer cells started in the milk ducts and have spread to the surrounding breast tissue.

It's also called breast cancer of no special type (NST) or not otherwise specified (NOS). This is because when the cancer cells are looked at under a microscope they have no distinct features that class them as a particular type.

For more information read our **Invasive ductal breast cancer** booklet.

Other types of breast cancer

Other breast cancers are known as special type. When these cancer cells are looked at under a microscope, they have distinct features that identify them as a particular type and make them different from each other. These include:

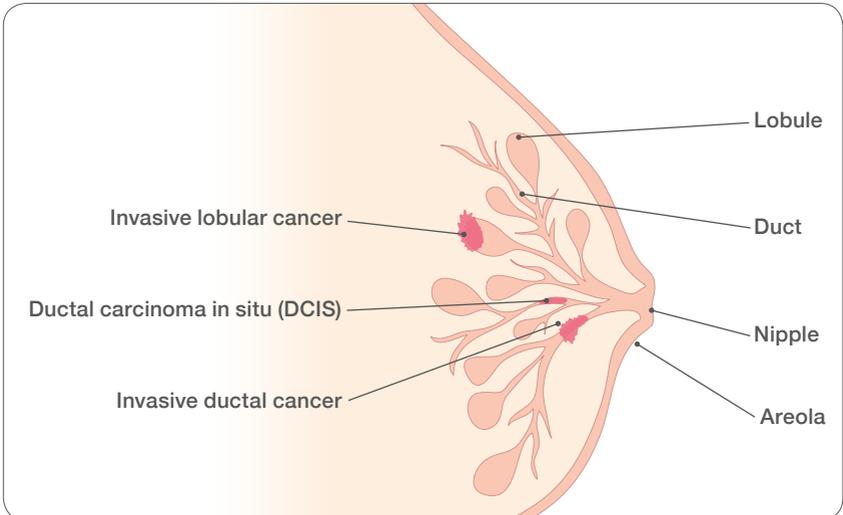
- invasive lobular breast cancer
- inflammatory breast cancer
- Paget's disease of the breast

Generally they are treated in the same way as invasive breast cancer of no special type.

There are several other rare special types of breast cancer. These include:

- tubular
- cribriform
- mucinous (also known as colloid)
- medullary
- papillary
- micropapillary
- malignant phyllodes
- metaplastic.

We have booklets and online information about all the types of invasive breast cancer listed above.



Types of breast cancer

Treatment for invasive breast cancer

Treatment for invasive breast cancer aims to remove the cancer in the breast and any affected lymph nodes under the arm. This is called local control. Surgery and radiotherapy are treatments for local control.

Treatment also aims to destroy any cancer cells that may have already spread from the breast into the body through the bloodstream or the lymphatic system, and to reduce the risk of cancer affecting other parts of the body in the future. This is called systemic treatment. Chemotherapy, hormone therapy and targeted therapy are all types of systemic treatment.

You will be recommended combinations of these treatments depending on the individual characteristics of your cancer and your general health.

Grade, size and stage of the cancer

To help decide the most appropriate treatment for you, your specialist team will look at the grade, size and stage of the cancer.

Some people find the difference between grade and stage confusing. If you're not sure which one your specialist is talking about, ask them to explain it to you.

Grade

Cancer cells are given a grade according to how different they look to normal breast cells and how quickly they are growing.

With invasive breast cancer there are three grades:

- **grade 1** looks most like normal breast cells and is usually slow-growing
- **grade 2** looks less like normal breast cells and is growing faster
- **grade 3** looks different to normal breast cells and is usually fast-growing.

With ductal carcinoma in situ (DCIS) there are also three grades. These are usually called:

- low
- intermediate
- high.

For more information see our [Understanding your pathology report](#) booklet.

Stage

The size of a cancer and how much it has spread is known as the stage of the disease. There are different ways to describe breast cancer stages. The most common way is known as the TNM cancer staging system.

This is a scoring system used to describe the size of the cancer (T stands for tumour); the number of lymph nodes affected (N stands for nodes); and whether there's any spread of the cancer to other parts of the body (M stands for metastases).

The individual scores are then grouped together to get an overall stage.

The aim of treatment for primary breast cancer is to remove the cancer and reduce the risk of it returning in the breast or spreading to other parts of the body. Generally, if the cancer is high grade, large or if it has affected the lymph nodes under the arm, there's a higher risk of the breast cancer spreading to other parts of the body.

Breast cancer can spread when cancer cells are carried away from the breast through the lymphatic system or the bloodstream. These cancer cells can then form secondary cancers (also called metastases) in other parts of the body. You may hear this called distant recurrence or secondary, metastatic or advanced breast cancer.

Sometimes your specialist team will recommend other tests if they need more information about the stage of the cancer. This can help them decide the best treatment for you.

Your doctor or breast care nurse will explain what these tests are for, what they involve and when you can expect the results. They may include:

- a bone scan
- a chest x-ray
- an abdominal and liver ultrasound scan
- a CT (computerised tomography) scan
- an MRI (magnetic resonance imaging) scan
- a PET (positron emission tomography) scan.

If you want to know more about the staging system your team uses, or the stage of your cancer, ask your specialist or breast care nurse to explain it to you.

Other tests to help decisions about your treatment

Further tests will be done to find out more about your cancer so you're offered the most appropriate and effective treatment.

Hormone receptor test

The hormone oestrogen can play a part in stimulating some breast cancers to grow.

If your breast cancer has receptors within the cell that bind to the hormone oestrogen, it's known as oestrogen receptor positive or ER+ breast cancer. Sometimes it's referred to as hormone sensitive breast cancer. When oestrogen binds to these receptors, it can stimulate the cancer to grow. All breast cancers are tested for oestrogen receptors using tissue from a biopsy or after surgery.

A number of hormone therapies work in different ways to block the effect of oestrogen on cancer cells. If your cancer is oestrogen receptor positive, your specialist will discuss with you which hormone therapy they think is most appropriate.

When oestrogen receptors are not found (oestrogen receptor negative or ER-) tests may be done for progesterone (another hormone) receptors. The benefits of hormone therapy are less clear for people whose breast cancer is only progesterone receptor positive (PR+ and ER-). Very few breast cancers fall into this category. However, if this is the case, your specialist will discuss with you whether hormone therapy is appropriate.

If your cancer is found to be hormone receptor negative then hormone therapy will not be of any benefit to you so will not be recommended.

HER2 test

Around one in five breast cancers has a higher than normal level of a protein called HER2 on the cell surface, which stimulates them to grow. These cancers are called HER2 positive or HER2+.

Testing for HER2 is done using tissue removed during a biopsy or surgery. It's normally only done on invasive breast cancer, so is not usually mentioned if you have ductal carcinoma in situ (DCIS).

If your breast cancer is HER2 positive you will usually be advised to have chemotherapy and a drug from a group known as targeted (or biological) therapies. The most widely used one is trastuzumab (Herceptin).

If your cancer is HER2 negative, then targeted therapies will not be of any benefit to you so will not be recommended.

Triple negative breast cancer

When breast cancer tests negative for oestrogen, progesterone and HER2 receptors, it's known as triple negative breast cancer. This means hormone therapy and most targeted therapy drugs will not be recommended. But triple negative breast cancers can be treated with surgery, radiotherapy and chemotherapy. Research is being done to find out more about triple negative breast cancer and which treatments work best. Around 15% of people with invasive breast cancer have triple negative breast cancer.

If you're diagnosed with triple negative breast cancer under the age of 50, your doctor will talk to you about being referred to a family history clinic or regional genetics centre. This is because evidence shows a small number of people with triple negative breast cancer also have an altered BRCA1 or BRCA2 gene. People who've inherited an altered BRCA1 or BRCA2 gene have a higher risk of developing breast cancer and some other cancers.

For more information on oestrogen receptor tests and HER2 testing see our **Understanding your pathology report** booklet.

Your specialist team and discussing treatment options

People with breast cancer are cared for by a team of healthcare professionals, each with their own expertise. This is known as the multi-disciplinary team (MDT).

These are some of the people who will be involved in your care:

- breast care nurse
- surgeon
- radiologist (a doctor who specialises in the use of x-rays, ultrasound and scans to diagnose and treat disease)
- pathologist (a doctor who examines the tissue and cells removed during a biopsy or surgery)
- medical oncologist (a doctor who specialises in cancer drugs)
- clinical oncologist (a doctor who specialises in treating cancer with radiotherapy and/or cancer drugs)
- chemotherapy nurse (trained to give chemotherapy drugs)
- therapeutic radiographer (trained to give radiotherapy)
- research nurse (who can discuss the option of taking part in clinical trials).

It's recommended that all NHS breast cancer patients have their own breast care nurse if they want one. Many private hospitals also have breast cancer nurses. Your nurse will try to answer any questions you have and will offer support during and after your hospital treatment. This role is sometimes called a 'key worker'.

You may also have treatment or care from:

- an oncoplastic surgeon (a breast cancer surgeon with specific training in plastic surgery)
- a plastic surgeon
- a physiotherapist
- a prosthesis (artificial breast form) fitter, sometimes called an appliance officer
- a pharmacist
- a fertility specialist
- a wig fitter or hair loss adviser.

A range of support services may also be available. This varies from area to area. You may be interested in finding out more about:

- counselling
- complementary therapies
- local support groups
- a dietitian.

Your breast cancer nurse can tell you what's available to you.

Discussing treatment options

When your specialist team has all the information from the tests, they will discuss your treatment options with you and prepare a treatment plan. Your treatment plan may change as more information about your breast cancer becomes available (such as the results of tests done on the breast tissue removed during an operation).

You can decide how much, or how little, involvement you want in decisions about your treatment.

Some people want to know everything they can about their disease to be fully involved in making choices about their treatment. Others may want to be well informed about what's going on, but prefer to leave the treatment decisions to their specialist team. Some people may want to know as little as possible. You can change your mind about how much involvement you want at any stage of your treatment.

Whatever level of involvement you want, you don't have to be rushed into treatment. You can spend a few days thinking about any treatment options you've been offered before you decide what you want to do.

Taking a little time to think about your treatment is very unlikely to make a difference to the outcome. But you may feel more in control of what's happening if you've had a chance to think things through.

Questions you may want to ask

You'll probably have some questions and you should feel free to ask for as much information as you need. Your specialist team will be able to explain anything you don't understand.

Questions might include:

- Why is this the best treatment for me?
- Are there any other options?
- When will treatment start?
- How long will my treatment take?
- What are the possible side effects?
- Are there any long-term implications for me?
- How will the treatment affect my everyday life?
- Will the treatment affect my fertility?
- Where will I need to go for treatment? Will I have to travel far?

Asking for a second opinion

Some people consider asking for a second opinion. This can be done through your GP, or sometimes your specialist may refer you to someone else within the same hospital or elsewhere. A second opinion may not be different from the one you have already had. The time taken to get a second opinion may delay your treatment for a few weeks, but there's no evidence that this will make a difference to the outcome of treatment.

Declining treatment

Very occasionally people decide not to have some or all of the recommended treatments. There may be a variety of reasons for this. Some people may have very strong personal or religious beliefs that lead them to decline conventional medical treatment. Others may be influenced by a family member or friend's experience. However, people's experiences of cancer and its treatments will vary hugely and will also be affected by where the cancer is in their body and how long ago they were treated.

People may be afraid of the treatments or doubtful that a particular treatment will be of benefit. Some may feel that certain treatments will affect their quality of life or be unwilling to accept the potential disruption to their own lives or those of their families.

Choosing not to have treatment is a very personal and sometimes difficult decision to make. Those around you are also likely to have opinions about your decision. Even if you think you don't want to accept one or more of the treatments being offered, consider this carefully, and gather as much information as possible, before making a final decision. Also think about staying in touch with your specialist team for continuing support. You may also want to discuss your decision with your GP.

Decision-making

You may have different treatment options, and your doctor may ask you to make a decision about your treatment. Some people find this straightforward, while for others it can be very difficult or worrying. If you're asked to make a decision about your treatment, it's important to understand why you're being asked to decide and to have the opportunity to ask questions about your options.

Your specialist team and you may use some of the following to help make a decision.

Adjuvant! [Online adjuvantonline.com](http://adjuvantonline.com)

Adjuvant! Online is an online decision-making tool. It estimates the benefit you might expect to receive from treatments such as chemotherapy and hormone therapy after surgery. It can only be accessed by your specialist team, but they can print out a copy of the results and discuss them with you.

PREDICT predict.nhs.uk

PREDICT is an online decision-making tool. It makes estimates about the benefits of chemotherapy, hormone therapy and targeted therapies after surgery based on information about you and your breast cancer.

Nottingham Prognostic Index (NPI)

The Nottingham Prognostic Index (NPI) is a scoring system that is used with the TNM cancer staging system and the grade of the cancer (see page 13). You're given a score which puts you into a prognosis (the likely

outlook) category of good, moderate or poor. Five-year survival is then estimated depending on which category you're placed in.

Oncotype DX test oncotypedx.com

You may hear about tests that can help identify people who are most likely to benefit from chemotherapy. These are called gene expression profiling tests, gene expression analysis tests, or gene assays. They are only suitable for some women. The most widely used test is Oncotype DX.

The Oncotype DX test can help your specialist team decide if you would benefit from having chemotherapy and how likely it is that the cancer will return in the future. The test is carried out on breast tissue removed during surgery. It's not suitable for all types of breast cancer and your specialist team can tell you if it could help you.

Other tests

Other tests you may hear about include Prosigna, MammaPrint and EndoPredict. More research is needed before these tests are widely used.

Treatment decisions for younger women

Women who have not reached the menopause when they are diagnosed with breast cancer often face additional concerns when making decisions about their treatment. Uncertainty over the impact of treatments on fertility, new relationships, family life and career opportunities may all affect treatment decisions.

Take the time to think about what you want, both now and in the future. Only you can decide the treatment that's right for you. You can find more information for younger women in our **Younger women with breast cancer** and **Fertility issues and breast cancer treatment** booklets.

Breast care units now have access to the Breast Cancer Care fertility toolkit. This has been developed to help ensure that all young women are offered the opportunity to discuss options for preserving their fertility with specialists before starting breast cancer treatment.

Treatment for primary breast cancer

Treatment for primary breast cancer aims to remove the cancer and reduce the risk of it coming back or spreading to other parts of the body.

Treatment for primary breast cancer can include:

- surgery
- chemotherapy
- radiotherapy
- hormone therapy
- bisphosphonates
- targeted (biological) therapy.

These treatments can be given alone or in any combination or order.

You may need to attend different hospitals for different treatments. For example, radiotherapy services are not available at all hospitals, so you may need to have this in a different hospital to where you have surgery. For some people this may involve travelling.

Surgery

Surgery is the first treatment for most people with breast cancer. It aims to remove the cancer with a margin (border) of normal breast tissue. This is done to reduce the risk of the cancer coming back in the breast – known as local recurrence – and to try to stop it spreading elsewhere in the body.

National guidance states that you should have your planned surgery within 31 days of you agreeing to have treatment.

Sometimes people with invasive breast cancer may be offered chemotherapy or hormone therapy before they have surgery. This may mean surgery is less extensive.

There are two main types of breast surgery:

- **breast-conserving surgery:** the cancer is removed along with a margin (border) of normal breast tissue
- **mastectomy:** all the breast tissue is removed.

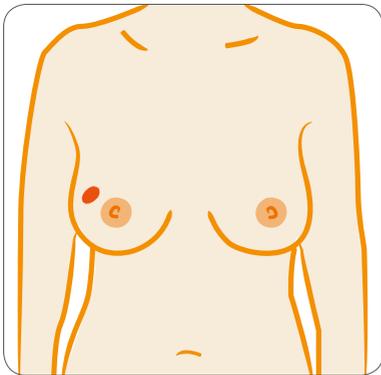
The type of breast surgery recommended for you depends on the type and size of the cancer, where it is in the breast, whether more than one area of the breast is affected and how much surrounding tissue needs to be removed. It will also depend on the size of your breasts.

The surgeon will aim to ensure the most effective surgery for the cancer as well as the best cosmetic result.

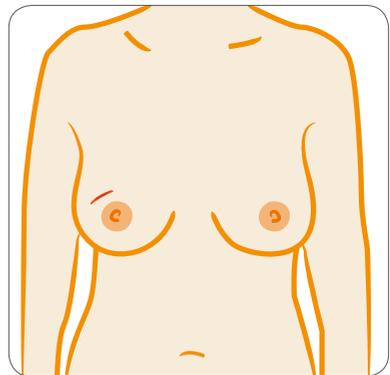
You may also have some or all of the lymph nodes removed with the breast tissue (see page 26).

Breast-conserving surgery

Usually referred to as wide local excision or lumpectomy, this is where the cancer is removed with a margin (border) of normal healthy breast tissue. The aim is to keep as much of your breast as possible while ensuring the cancer has been completely removed.



Position of cancer in breast



Example of position of scar after wide local excision

A far less common operation is a quadrantectomy, where around a quarter of the breast is removed. This is sometimes called a segmental excision. After a quadrantectomy the treated breast will usually be smaller due to the amount of tissue removed and it may also be misshapen. However, oncoplastic surgical techniques, which combine breast cancer surgery with plastic surgery, are increasingly used. This means it's less likely you'll notice a dent or a great difference between the breasts. For more information see our **Breast reconstruction** booklet.

It's important that the cancer is removed with an area (margin) of healthy breast tissue around it to make sure no cancer cells have been left behind. The breast tissue removed during surgery will be tested to check the margin around the cancer. If there are cancer cells at the edges of the margin, you may need further surgery to remove more tissue. Some people may need a mastectomy to ensure all the cancer has been removed.

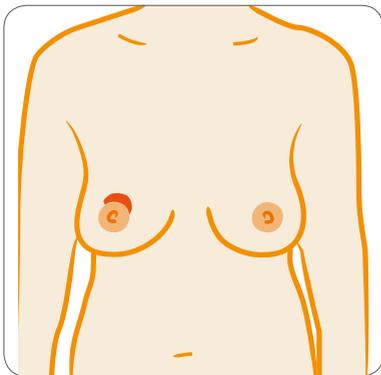
Mastectomy

A simple mastectomy is the removal of all the breast tissue including the skin and nipple area. This is also called a simple mastectomy.

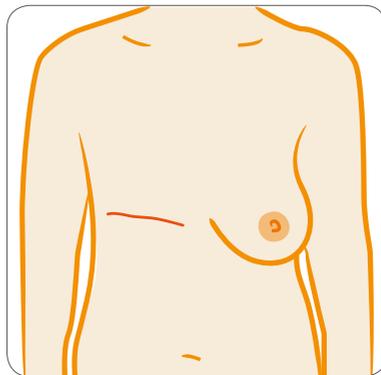
Examples of when a mastectomy may be recommended include:

- the cancer takes up a large area of the breast
- there's more than one area of cancer in the breast.

If your surgeon recommends a mastectomy they should explain why. It may also be your personal preference to have a mastectomy.



Position of cancer in breast



Example of position of scar after a mastectomy

If you're going to have a mastectomy, your breast surgeon will discuss breast reconstruction with you (see page 28).

If you're going to have a breast reconstruction at the same time as the mastectomy (immediate breast reconstruction), your breast surgeon may discuss other types of mastectomy. A skin sparing mastectomy is removal of the breast and nipple area without removing much of the overlying skin of the breast. A nipple-sparing mastectomy is removal of all the breast tissue, without removing much of the overlying skin and the nipple area of the breast.

Which operation?

Some people will be offered a choice between breast-conserving surgery and a mastectomy.

Long-term survival is the same for breast-conserving surgery followed by radiotherapy as for mastectomy. Studies show that women who have a wide local excision and radiotherapy may be slightly more likely to have a local recurrence (when breast cancer returns in the same breast), which can be treated again. However, most people don't have a recurrence.

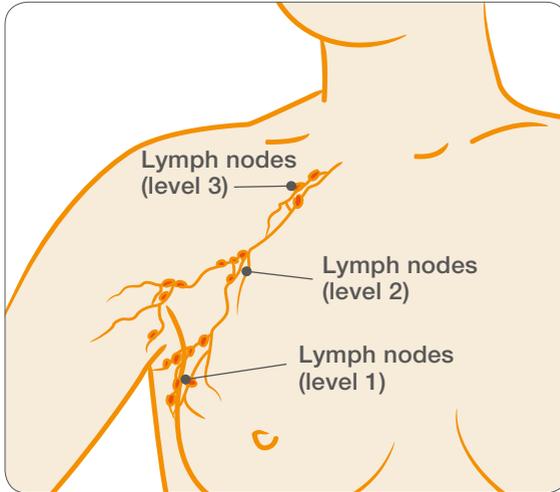
You may find it helpful to talk through your choices with your breast care nurse.

Some women who are having a mastectomy wonder whether they should have their unaffected breast removed as well. Research shows this is not usually necessary or recommended, unless someone has a higher risk of developing primary breast cancer in the other side. This might be the case if they have inherited an altered gene or have a strong family history of breast cancer. Many women overestimate their risk of developing a new primary cancer in the other breast or mistakenly believe breast cancer can spread from one breast to the other, so it's important to discuss your individual situation with your surgeon.

Our booklet **Your operation and recovery** has information about what to expect before your admission to hospital, during your stay, when you return home and during your recovery from surgery.

Surgery to the lymph nodes

Breasts contain a network of lymph vessels that drain into the lymph nodes (lymph glands) under the arm (axilla). Lymph nodes are arranged in three levels (1, 2 and 3 – as illustrated below) and the exact number of nodes in each level will vary from person to person.



The above is a basic illustration of the different levels of lymph nodes. Where the lymph nodes are situated and how many lymph nodes you have will vary according to each person.

If you have invasive breast cancer, your specialist team will want to check if any of the lymph nodes under the arm contain cancer cells. This helps them decide whether you will benefit from any additional treatment after surgery.

Usually an ultrasound scan of the underarm is done before surgery to assess the lymph nodes.

If this appears abnormal, you'll have a fine needle aspiration (FNA) or a core biopsy to see if the cancer has spread to the lymph nodes. An FNA uses a fine needle and syringe to take a sample of cells to be looked at under a microscope. A core biopsy uses a hollow needle to take a sample of tissue for analysis under a microscope. If the FNA or core biopsy shows cancer has spread to the lymph nodes you'll usually be recommended to have all or most of your lymph nodes removed at the same time as your breast surgery (known as an axillary clearance).

Sentinel lymph node biopsy

If the tests before surgery show no evidence of the lymph nodes containing cancer cells, you usually still need to have a sample of the lymph nodes from level one removed to confirm this. This is known as axillary sampling.

Sentinel lymph node biopsy is widely used for axillary sampling. It identifies whether or not the first, or sentinel, lymph node (or nodes) is clear of cancer cells. The sentinel node is usually in level one.

Sentinel lymph node biopsy is usually carried out at the same time as your cancer surgery but may be done before your surgery. A small amount of radioactive material (radioisotope) and a dye is injected into the area around the cancer to identify the sentinel lymph node(s). Once removed, the sentinel node(s) is examined under a microscope to see if it contains any cancer cells.

As the dye leaves your body, you may notice a bluish-green discolouration of your urine and other body fluids for one or two days after the procedure. The skin around the biopsy site may also be stained a blue-green colour. Some people may have a reaction to the dye but this is rare.

If the sentinel node(s) does not contain cancer cells, this usually means the other nodes are clear too, so no more will need to be removed.

If the results show there are cancer cells in the sentinel node(s) you may be recommended to have further surgery to remove some or all of the remaining lymph nodes, or radiotherapy to the underarm.

If you are having chemotherapy before your surgery, your specialist may want you to have a sentinel lymph node biopsy before starting chemotherapy. This can help with planning any further treatment to the underarm after chemotherapy.

Assessing lymph nodes during surgery

Some hospitals can assess the lymph nodes during breast surgery. The removed nodes will be looked at by a pathologist, who will tell the surgeon the result during the operation.

If the sentinel node(s) contains cancer cells, the surgeon will then remove more or all of the lymph nodes. Having lymph nodes assessed during surgery avoids a second operation. The most common test used is called One Step Nucleic Acid Amplification (OSNA).

Breast reconstruction

Breast reconstruction is the creation of a new breast shape (mound) using surgery. It may be done after removal of a whole breast (mastectomy) or part of the breast.

You can have reconstruction either at the same time as the breast cancer surgery (immediate reconstruction) or months or years later (delayed reconstruction). Breast reconstruction often involves several operations to give you the best result possible.

The new breast shape can be created using an implant and/or your own tissue from another part of the body, usually the back or lower abdomen. Reconstructed breasts don't usually have a nipple but one can be created with surgery. Otherwise prosthetic stick-on nipples can be used.

There are usually different options available for breast reconstruction and your breast surgeon will explain which one is likely to suit you.

Most women having a whole or partial mastectomy can have immediate or delayed breast reconstruction. Some people are advised not to have a breast reconstruction because of other existing medical conditions that might increase the risk of problems and complications following surgery. If it's likely you'll need radiotherapy this often influences the choice and timing of breast reconstruction.

Not everyone who's had breast surgery has reconstruction. Women may decide not to have a breast reconstruction for a number of different reasons. Any decision you make about having a reconstruction should be based on whether it's right for you.

Our **Breast reconstruction** booklet is for women considering breast reconstruction after breast surgery. It explains the different types of reconstruction, and gives some of the reasons why women may or may not want to have reconstruction. You may also like to read our booklet **Breast prostheses, bras and clothes after surgery**.

Chemotherapy

Chemotherapy is treatment using anti-cancer (also called cytotoxic) drugs to try to destroy cancer cells. It's known as a systemic treatment, which means the whole body is exposed to the drugs.

Your specialist team will decide whether to recommend chemotherapy depending on the type of breast cancer you have, whether the lymph nodes contain cancer cells, the size and grade of the cancer, and whether it is HER2 positive. Following surgery, your doctors may use one of the decision-making tools described on page 21 to decide if chemotherapy is suitable for you.

When is it given?

Chemotherapy is usually given after surgery and before radiotherapy if you're having it. This is known as adjuvant chemotherapy. The aim is to destroy any cancer cells that may have spread from the breast to other parts of your body.

If you're having chemotherapy after surgery, it will usually start a few weeks after surgery to give your body time to recover.

National guidance states that treatment should begin within 31 days of you agreeing to it, unless there is a medical reason for a delay, for example because you have a wound infection.

Sometimes chemotherapy is given before surgery. This is called primary or neo-adjuvant chemotherapy. Chemotherapy before surgery may reduce the size of the breast cancer. This means some women can avoid having a mastectomy.

How is it given?

There are many different types of chemotherapy drugs and they can be used in different combinations.

Chemotherapy drugs are usually given into a vein (intravenously) for primary breast cancer.

Side effects

Chemotherapy drugs can cause side effects and many people worry about this part of their treatment. Side effects vary between people.

Some of the most common side effects of chemotherapy are:

- nausea (feeling sick) and vomiting
- hair loss or thinning
- sore mouth
- mouth ulcers
- fatigue (extreme tiredness).

Chemotherapy can temporarily affect the number of healthy blood cells in the body. This can have a number of effects including:

- an increased risk of infection (because there are too few white blood cells)
- anaemia (having too few red blood cells)
- bruising and bleeding more easily.

Side effects will vary according to the drugs you're given. Your specialist team will prescribe other drugs to help you cope with them.

Having chemotherapy may affect your fertility. It's important to discuss this with your team before you start treatment. You can read more in our **Fertility and breast cancer treatment** booklet.

You can read more detailed information in our **Chemotherapy for breast cancer** booklet. Once you know which chemotherapy you are going to have, you can also read our booklets on specific chemotherapy drugs.

Radiotherapy

Radiotherapy uses carefully measured and controlled high energy x-rays to destroy any cancer cells left behind in the breast area after surgery. It's given to reduce the risk of the cancer returning in the breast.

Which areas are treated?

If you've had breast-conserving surgery, you will usually have radiotherapy to the remaining breast tissue on that side.

Radiotherapy to the chest wall may be recommended after a mastectomy. This is more likely if cancer cells are found in the lymph nodes under the arm.

Radiotherapy is sometimes given to the lymph nodes under the arm instead of surgery or after sentinel lymph node biopsy (see page 27).

Radiotherapy may also be recommended to the lymph nodes on the lower part of your neck, around your collarbone (called supraclavicular fossa or SCF nodes), on the side you have had your surgery. This depends on the grade and size of your cancer, and whether the lymph nodes under the arm contained cancer cells.

When is it given?

Radiotherapy for primary breast cancer is given after surgery.

If you're having chemotherapy, radiotherapy is usually given after chemotherapy has finished. You'll be given radiotherapy over a few weeks as an outpatient, which means you don't have to stay in hospital overnight.

National guidance recommends you shouldn't have to wait more than 31 days in England and Scotland or 28 days in Wales between surgery or finishing chemotherapy and the start of radiotherapy. However, some people wait a bit longer because of medical reasons or waiting for an appointment.

Ongoing research is looking at different or newer ways of giving radiotherapy. This includes intraoperative radiotherapy, where radiotherapy is given in one dose during surgery, and giving the radiotherapy over a shorter timeframe.

For more detailed information see our [Radiotherapy for primary breast cancer](#) booklet.

Hormone (endocrine) therapy

As the hormone oestrogen can play a part in stimulating some breast cancers to grow, there are a number of hormone therapies that work in different ways to block the effect of oestrogen on cancer cells.

You may be advised to have hormone therapy if tests show your breast cancer is hormone receptor positive (see page 15). Your specialist team will discuss with you which hormone therapy they think is most appropriate.

Women can have hormone receptor positive breast cancer whether or not they've been through the menopause.

If your cancer is hormone receptor negative, then hormone therapy will not be of any benefit to you.

Types of hormone therapy

Examples of breast cancer hormone therapies include:

- tamoxifen
- anastrozole (well-known brand name is Arimidex)
- letrozole (well-known brand name is Femara)
- exemestane (well-known brand name is Aromasin)
- goserelin (well-known brand name is Zoladex).

The type of hormone therapy given will depend on a number of factors such as whether you have been through the menopause, or if you have an increased risk of, or have, osteoporosis (thinning of the bones). Some hormone therapies increase the risk of developing osteoporosis in the future. For more information see our **Osteoporosis and breast cancer treatment** booklet.

When is it given?

Hormone therapy is usually started after surgery and chemotherapy (if you're having it) to reduce the risk of the breast cancer coming back or spreading elsewhere in the body.

Hormone therapy is taken for several years. Some people have the same drug throughout, while others may be advised to take one type for the first few years and then switch to another type.

Sometimes hormone therapy is given before surgery (called primary or neo-adjuvant hormone therapy). This may be done to reduce the size of the cancer before surgery, or if someone isn't able to have surgery for some reason.

We have individual booklets on all the different hormone therapies used in primary breast cancer.

Targeted (biological) therapies

Targeted therapies are a group of drugs that block the growth and spread of cancer. They target and interfere with processes in the cells that cause cancer to grow.

The most widely used targeted therapy is trastuzumab (Herceptin). Only people whose cancer has high levels of HER2 (called HER2 positive) will benefit from having trastuzumab. HER2 is a protein that makes cancer cells grow. For more information see our [Trastuzumab \(Herceptin\)](#) booklet.

Pertuzumab (Perjeta) is another targeted therapy for women with HER2 positive breast cancer. This may be given before surgery in combination with trastuzumab and chemotherapy.

There are various tests to measure HER2 levels, which are done on breast tissue removed during a biopsy or surgery. If your cancer is found to be HER2 negative, then trastuzumab and pertuzumab will not be of benefit to you.

Other targeted treatments for different types of breast cancer are being looked at in clinical trials, so it's likely that more targeted therapies will become available for primary breast cancer in the future.

Bisphosphonates

Bisphosphonates are drugs used to slow down or prevent bone damage. They're often prescribed for people who are at risk of, or have, osteoporosis.

Osteoporosis is a condition that affects the bones. Some treatments for breast cancer can increase your risk of getting it.

You may hear bisphosphonates called bone-hardening or bone-strengthening treatment.

Recent research has demonstrated they may also play a role in reducing the risk of breast cancer spreading to the bones and elsewhere in the body in post-menopausal women. Talk to your doctors about whether bisphosphonate treatment would be suitable for you.

Clinical trials

You may be asked to take part in a clinical trial.

Clinical trials are research studies that aim to improve the treatment and care for patients. They may be used to test new drugs or other treatments such as types of surgery, varying doses of radiotherapy and differences between treatments – for example giving combinations of drugs every two weeks rather than every three weeks.

You will not be entered into a trial without your knowledge and without giving your informed consent. This means fully understanding the purpose of the trial, why you are considered suitable for it and what it will mean for you. You should be given detailed written information and plenty of time to discuss your options with a research nurse and/or your specialist team.

If you have been asked to take part in a clinical trial and you decide not to, you will continue to have treatment and care as before.

To find out what clinical trials are currently being carried out in the UK, visit Cancer Research UK's website: cancerresearchuk.org

Complementary therapies

Some people with breast cancer use complementary therapies alongside their conventional medical treatments. They are different from 'alternative' therapies, which are used instead of conventional treatments.

Complementary therapies include:

- acupuncture
- aromatherapy
- healing and energy therapies
- herbal medicine
- homeopathy
- hypnotherapy
- massage
- mindfulness
- reflexology
- shiatsu and acupressure
- yoga, Tai Chi and Chi Gung.

Tell your breast care nurse or doctor about any complementary therapies you're thinking of using to check they won't affect any other treatment you're having. This includes herb and vitamin supplements.

Herbal treatments don't have to comply with the same regulations or rigorous testing that conventional medicines do. For many products, there is a lack of research to support their use and some can affect conventional treatments.

For more information see our [Complementary therapies](#) booklet.

Finishing treatment

Everyone's experience of moving on after breast cancer is different. How you feel, both physically and emotionally, may be very different to someone else who has had a similar diagnosis and treatment.

Many people are surprised at how emotional they feel when they finish treatment and for many people, the need for support and information doesn't end when treatment finishes.

Moving Forward

Breast Cancer Care's Moving Forward courses provide information, support and professional guidance on how to cope with and adjust to life after breast cancer treatment. The courses are run in partnership with NHS hospitals, and usually take place over half a day for three or four weeks. Topics covered may include healthy eating, exercise, managing menopausal symptoms, lymphoedema, cancer fatigue, emotional wellbeing and intimacy and relationships.

You can also order Breast Cancer Care's **Moving Forward** pack which also looks at the subjects covered by the course.

Follow-up

At the end of your hospital-based treatment, you may continue to be monitored to check how you are recovering. This is known as follow-up. How you are followed up will depend on your individual needs and on the arrangements at the hospital you have been treated in. You'll probably find your contact is likely be more frequent at first, becoming less so as time goes on.

Whichever way you are followed up you will be given a name and contact number to ring (usually the breast care nurse) if you have any questions or concerns between appointments. And you can always talk to your GP about any concerns you have.

For more information about follow-up, see our **Moving Forward** pack or our booklet **After breast cancer treatment: what now?**



4 ways to get support

We hope this information was helpful, but if you have questions, want to talk to someone who knows what it's like or want to read more about breast cancer, here's how you can.



Speak to trained experts, nurses or someone who's had breast cancer and been in your shoes. Call free on **0808 800 6000** (Monday to Friday 9am–5pm and Saturday 9am–1pm).



Chat to other women who understand what you're going through in our friendly community, for support day and night. Look around, share, ask a question or support others at forum.breastcancercare.org.uk



Find trusted information you might need to understand your situation and take control of your diagnosis or order information booklets at breastcancercare.org.uk



See what support we have in your local area. We'll give you the chance to find out more about treatments and side effects as well as meet other people like you. Visit breastcancercare.org.uk/in-your-area

We're here for you: help us to be there for other people too

If you found this booklet helpful, please use this form to send us a donation. Our information resources and other services are only free because of support from people such as you.

We want to be there for every person facing the emotional and physical trauma of a breast cancer diagnosis. Donate today and together we can ensure that everyone affected by breast cancer has someone to turn to.

Donate by post

Please accept my donation of **£10/£20/my own choice of £**

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Name _____

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We might occasionally want to send you more information about our services and activities

- Please tick if you're happy to receive email from us
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We won't pass on your details to any other organisation or third parties.

Please return this form to Breast Cancer Care, Freepost RRRKZ-ARZY-YCKG,
5-13 Great Suffolk Street, London SE1 0NS



About this booklet

Treating primary breast cancer was written by Breast Cancer Care's clinical specialists, and reviewed by healthcare professionals and people affected by breast cancer.



For a full list of the sources we used to research it:

Phone 0345 092 0808

Email publications@breastcancercare.org.uk



You can order or download more copies from www.breastcancercare.org.uk/publications



For a large print, Braille, DAISY format or audio CD version:

Phone 0345 092 0808

Email publications@breastcancercare.org.uk



When you have breast cancer, everything changes. At Breast Cancer Care, we understand the emotions, challenges and decisions you face every day, and we know that everyone's experience is different.

For breast cancer care, support and information, call us free on **0808 800 6000** or visit **breastcancercare.org.uk**

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