Patient information from BMJ

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Breast cancer: breast-conserving surgery

Breast-conserving surgery is an operation to remove breast cancer without removing the whole breast. You might also hear it called a “lumpectomy”.

This operation isn’t suitable for everyone with breast cancer. But where it is suitable, it’s just as successful as removing the whole breast.

Here, we look at how this operation is done, how it might help you, and what the risks might be. You can use our information to talk with your doctor about the best treatment for you.

What is breast-conserving surgery?

Many women with breast cancer need to have their entire breast removed. This is called a **mastectomy**. But if you have a small tumour, or cancer that has not spread far, you might be able to have **breast-conserving surgery** instead.

This means that the tissue that is affected by cancer, but not the whole breast, is removed. The aim is to change the appearance of the breast as little as possible.

Who can have breast-conserving surgery?

You might be able to have breast-conserving surgery instead of a mastectomy if:

- you have **early breast cancer**. This means that the cancer hasn't spread outside your breast, or has spread only as far as the nearest lymph nodes. Lymph nodes are small round or oval lumps. They help fight infections in your body. Breast cancer usually spreads to the lymph nodes in your armpit before it spreads anywhere else.
- you have **only one lump** in your breast. If you have more than one lump, or several small patches of cancer cells, breast-conserving surgery might not be suitable.
- your **lump is small** compared with the size of your breast. If you have a small lump, you'll only have a small scar, and the shape of your breast might not change much.
- you can have **radiotherapy**. You might need radiotherapy after breast-conserving surgery. Doctors try to avoid giving radiotherapy to the same area twice, so you might not

be able to have breast-conserving surgery if you've had radiotherapy before. If you are pregnant, you might want to avoid radiotherapy, as it could harm your baby.

But breast-conserving surgery isn't suitable for everyone. If you have a large lump and a small breast, or if you have cancer under your nipple, it can be difficult to remove the cancer without changing the way your breast looks. You might get a better result with a mastectomy and breast reconstruction.

There are several kinds of breast reconstruction available, including surgery to put in implants. And you might be able to have your breast removed and reconstructed during the same operation.

Your doctor will be able to give you advice about all the kinds of surgery that are available. But it might be that only one type is suitable for you.

What will happen during the surgery?

Before the operation

You might have chemotherapy or hormone therapy before your operation to shrink the cancer. Having these medications can make your lump easier to remove, but they have side effects. Your doctor should discuss these with you, so that you know what to expect.

If your surgeon can't feel the lump in your breast, you might need to have a mammogram (an x-ray of your breast). The surgeon will then use the mammogram to guide a thin wire through your skin to mark the cancer.

The wire is left in place during surgery to show the surgeon which part of your breast to remove.

Most women have a general anaesthetic for this operation. But if your general health isn't good, your surgeon might recommend a local anaesthetic. You still won’t feel anything, but you’ll be awake.

If you have a general anaesthetic, you won't be able to eat anything for eight hours before the operation or drink anything for up to two hours before.

During the operation

Breast-conserving surgery usually takes between 15 and 40 minutes.You should be able to go home the same day, although some women stay in hospital overnight.

During the operation your surgeon will:

- make a small cut across your breast above the cancer. He or she will try to make the cut as small as possible. Your surgeon shouldn't need to cut away any skin unless the cancer is just under the skin's surface
- cut away the cancer along with a small amount (about 2 millimetres, or one-twelfth of an inch) of healthy-looking tissue. Removing tissue around the cancer or lump is called taking a margin. It's done to reduce the chance of leaving any cancer cells behind

- move some of your breast tissue around to fill the hole left by the cancer and keep your breast as close as possible to its original shape
- sew up the cut on your breast with one long stitch that will dissolve later.

If your surgeon had to remove more than a small amount of your breast, the hole left behind can be filled with a piece of muscle from your back.

Removing lymph nodes

For some types of breast cancer, your surgeon might need to remove some or all of the lymph nodes in your armpit. When breast cancer spreads, it usually reaches these nodes first.

If you have a type of early breast cancer called ductal carcinoma in situ (DCIS), you won't need any lymph nodes removed.

Depending on exactly where your cancer is, your surgeon might be able to reach your lymph nodes through the cut in your breast, so that you don’t need two cuts.

You may only need some of the nodes removed, depending on how far your cancer is likely to have spread. For example, your surgeon might:

- remove all 20 or so lymph nodes from your armpit
- remove several lymph nodes from the lowest part of your armpit and test them for cancer cells. If these are clear of cancer, the ones higher up are unlikely to be affected, and they won’t be removed
- inject radioactive dye into your breast to find the lymph node, or nodes, that fluid from your breast drains into first. These nodes are then tested. If they are cancer free, the other lymph nodes will be too.

Radiotherapy after your operation

Radiotherapy is used after surgery to kill any cancer cells that may have been left behind. It uses x-rays to destroy cancer cells in your breast.

You'll need to have radiotherapy five days a week for between four weeks and six weeks. Each session only takes a few minutes. Radiotherapy doesn't hurt, but it has side effects. Your doctor should discuss these with you in detail.

If your doctor thinks that there’s an above-average chance that your cancer will return, or if you haven't had all your lymph nodes removed, you might need radiotherapy directed at the lymph nodes in your armpit.

What are the advantages of this type of breast surgery?

If breast-conserving surgery is suitable for you, it means that:

- you'll be able to keep your breast, although it won't look the same as it did before
- your scar will be small compared with a mastectomy scar. The exact size of your scar will depend on how much breast tissue is removed

- you are likely to feel better about how your body looks, compared with having a mastectomy
- you won't need to wear a false breast or have surgery to reconstruct your breast.

Can the cancer return after this surgery?

As long as this type of surgery is suitable for you, it's just as successful as a mastectomy at curing breast cancer.

There is a chance that cancer can return after breast-conserving surgery. This seems to be more likely the younger you are.

Having radiotherapy as well as surgery greatly reduces the chance of the cancer returning. The vast majority of women who have both treatments don't get breast cancer again. But if the cancer returns you will probably need to have the whole breast removed.

What are the risks of this surgery?

All operations have risks, especially if you have other existing health problems. Your surgeon should discuss these risks with you before the operation.

This might look like a long list of possible risks and complications. But these are just things that might happen. You aren't likely to be affected by all of them, and you might not be affected by any.

The risks of breast-conserving surgery include:

- problems with the anaesthetic. Some people are allergic to the anaesthetic, which can be serious. But you will be closely monitored for any problems
- not enough tissue being removed along with the lump. This can happen if the cancer has spread further than your surgeon expected. The tissue removed during the operation will be checked, and if your surgeon thinks some cancer could have been left behind, you might need a second operation
- your scar being bigger than you had expected, or your breast shape changing more than you hoped. If you are unhappy with how your breast looks, you might be able to have more surgery to improve the appearance of your breast
- infection. This is a risk with any kind of operation. It can usually be treated easily with antibiotics
- fluid collecting under the scar. This is fairly common. The fluid can be drained with a needle by a doctor or nurse
- bleeding under the cut that the surgeon made, that happens some time after the operation. If the blood builds up and clots, it can cause a large bruise called a haematoma. If this happens, you might need surgery to remove the blood clot or to stop any bleeding.

Having the lymph nodes removed can also lead to complications in some people, including:

- pain and discomfort under your arm, which can last for a few weeks

- a stiff shoulder. This is fairly common. Painkillers and gentle stretching can help
- numbness or tingling in your arm, shoulder, or breast. This can happen when nerves near the lymph nodes are damaged during surgery. It usually gets better after a few months
- swelling of the arm and armpit (called lymphoedema). This can start right away or later - sometimes years later. It might only last a few weeks, but it can become an ongoing problem. Your arm can feel heavy and sore. Wearing a close-fitting elastic sleeve can help prevent the swelling. Gentle massage and physiotherapy can also help
- fluid collecting under the scar in your armpit. This is part of the normal healing process and should get better by itself.

Radiotherapy can also sometimes lead to complications, including:

- itchy, tender or painful skin. This can last for several months
- feeling more tired than usual. This usually gets better after a few weeks
- some of the breast tissue feeling hard and changing shape slightly. This is called fibrosis
- nerve and lung damage. These problems usually start some time after the operation. These are rare complications and can be treated
- the hair in your armpit might stop growing.

What can I expect afterwards?

Immediately after the operation

When you leave the operating theatre, you'll go to the recovery area until you are fully awake. You'll probably have a thin tube (a cannula) in the vein in the back of your hand where you were given the anaesthetic.

If you had a local anaesthetic, the parts of your breast and armpit where the cuts were made will feel numb for several hours.

You'll have a bandage over your wound, and possibly a plastic tube running from your wounds to drain away the blood and lymph fluid that builds up during the healing process.

Your nurse will give you painkillers if you need them. If the first ones you try don't work, tell your nurse or doctor. You might need a stronger dose or another type of drug. Don't try to put up with pain, as this can slow your recovery.

The sooner you get up and move about, the better you'll feel. You will be shown arm exercises you can do to stop your arm getting stiff.

Going home

You might feel anxious about seeing your breast for the first time after the operation. Remember that it takes a while for your breast to settle down after surgery, and that your scar will fade over time.

You can wash your breast after a few days, but dry it carefully. Wear a comfortable bra as soon as you can, to help support your breasts.

Avoid strenuous activities such as lifting or sport until your wounds have healed and there's no swelling in your arm. You can go back to work as soon as you feel ready.

Your breast might have changed in shape and size, depending on how much tissue was removed. This can affect how you feel about your body. Give yourself time to adjust. You can talk through your feelings and worries with those close to you or your breast cancer nurse.