DUCTAL CARCINOMA IN SITU (DCIS)

BREAST CANCER NOW
The research & support charity

We're here

About this booklet

If you've been diagnosed with ductal carcinoma in situ (DCIS), it's normal to have lots of questions.

This booklet explains what DCIS is, the symptoms, how it's diagnosed and available treatment options. It will help you discuss any questions you may have with your treatment team.

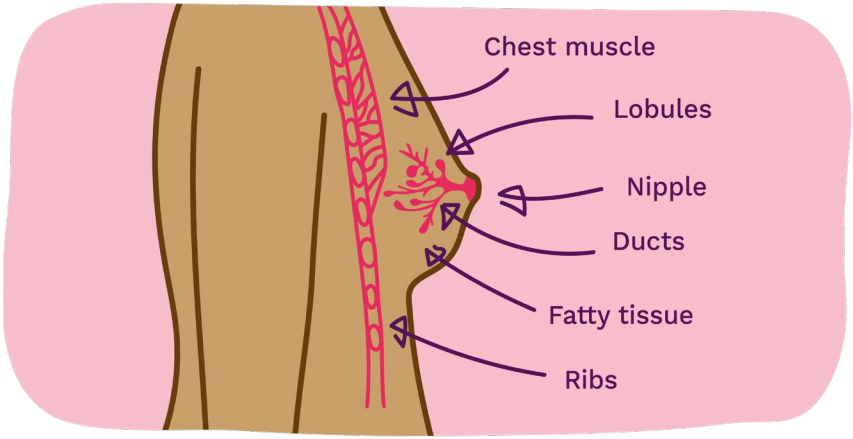
Our **Treating primary breast cancer** booklet also covers some of the treatments for DCIS, so you may find it helpful to read too.

What is DCIS?

DCIS is an early form of breast cancer.

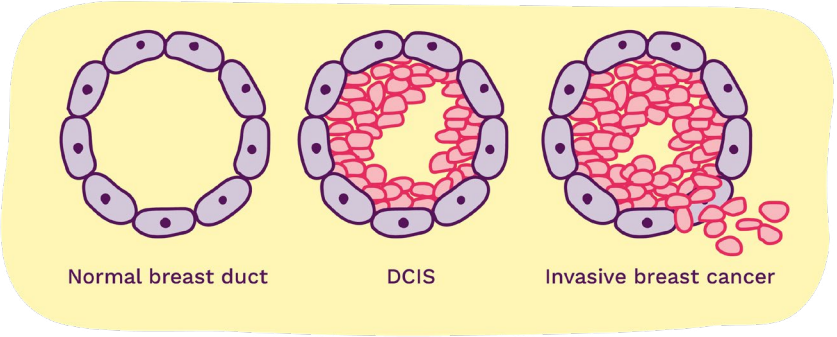
Breast cancer starts when cells in the breast begin to divide and grow in an unusual and uncontrolled way.

Breasts are made up of milk-producing glands (lobules) and tubes that carry milk to the nipple (ducts). These are surrounded by tissue that gives the breasts their size and shape.



An illustration of the breast

When cancer cells have developed in the ducts and stay in the ducts (in situ), it's called DCIS. The cancer cells aren't yet able to spread outside these ducts into the surrounding breast tissue or to other parts of the body. As a result, DCIS has a very good prognosis (outlook).



An illustration of DCIS showing a normal breast duct, DCIS and invasive breast cancer

You may hear DCIS described in different ways, such as:

- Preinvasive
- Intraductal
- Non-invasive
- In situ cancer
- Stage 0 breast cancer

Symptoms of DCIS

DCIS usually has no symptoms.

Most cases of DCIS are found during routine breast screening or if you have a mammogram (breast x-ray) for another reason.

Sometimes DCIS is found if you have a breast change, such as a lump or discharge (liquid) from the nipple. However, if you're diagnosed with DCIS after noticing a breast change, it's more likely you will also have an invasive breast cancer (see page 7).

Some people with DCIS also have a rash involving the nipple known as Paget's disease of the breast, although this is rare.

You can find out more information about Paget's disease of the breast on our website at **breastcancernow.org**

Diagnosis

DCIS is diagnosed using a range of tests. These may include:

- A mammogram (breast x-ray)
- An ultrasound scan (using sound waves to produce an image)
- A core biopsy of the breast and sometimes lymph nodes (using a hollow needle to take a small sample of tissue to be looked at under a microscope – several tissue samples may be taken at the same time)
- A vacuum assisted biopsy (a special needle connected to a vacuum is used to take a sample of breast tissue, under local anaesthetic, to be looked at under a microscope)

Our booklet **Your breast clinic appointment** has more information about these tests.

Diagnosing calcifications

If you have no symptoms but are asked to come back to the breast clinic after you've had a mammogram, it may be because some tiny white dots were seen on the mammogram.

These white dots are spots of calcium salts called calcifications. Calcifications can sometimes be due to DCIS, but this is not always the case. Many women develop benign (not cancer) calcifications in their breasts as they get older.

If you have calcifications, you'll have more mammograms to see the calcifications in more detail. Sometimes you'll also have an ultrasound.

If it's not clear whether the calcifications are benign, you'll have an image-guided biopsy to help make a diagnosis. This is where a mammogram or ultrasound is used to help locate the area that needs to be sampled.

The biopsy samples will be x-rayed to check if they contain calcifications before being sent to the laboratory to be examined under a microscope.

You'll have an image-guided biopsy as an outpatient, so you'll be able to leave soon after.

Inserting a metal marker

If you have a biopsy, a small metal clip called a marker may be placed in the breast where the biopsy samples were taken. This is so the area can be found again if another biopsy or surgery is needed. The marker can safely be left in the breast and does not need to be removed, even if you don't need any more procedures.

Grades of DCIS

DCIS is graded based on what the cells look like under the microscope. They're given a grade according to how different they are to normal breast cells and how quickly they are growing.

DCIS is graded as:

- Low grade – the cancer cells look most like normal breast cells and are slower growing
- Intermediate grade – the cancer cells look less like normal breast cells and are growing faster than low grade
- High grade – the cancer cells look different to normal breast cells and may be fast growing

In some cases, DCIS will never develop further or grows so slowly it would never cause harm during a person's lifetime.

Can DCIS develop into invasive breast cancer?

If DCIS is not treated, the cancer cells may develop the ability to spread outside the ducts into the surrounding breast tissue. This is known as invasive breast cancer. Invasive breast cancer also has the potential to spread to other parts of the body.

Our booklet **Invasive ductal breast cancer** has more information on this.

Although the size and grade of DCIS can help guide if it will become invasive, there is currently no way of knowing if this will happen.

Getting your results

The staff at the breast clinic will tell you how and when you'll get your biopsy results. You'll usually be given an appointment to return to the clinic for your results.

Treatment

Treatment is usually recommended if you have DCIS. This is because there's no way of knowing if DCIS will become invasive.

It's possible this may lead to unnecessary treatment for some people. Your treatment team will discuss the benefits and possible risks of treatment with you.

The aim of treatment is to remove all the DCIS from the breast to reduce the chance of it becoming an invasive cancer.

If you have any questions or concerns about your diagnosis and treatment, talk to your treatment team.

Surgery

Surgery is usually the first treatment for DCIS. This may be breast-conserving surgery or a mastectomy.

You may be offered a choice between these types of surgery, depending on the size of the DCIS and where it is in your breast. Your treatment team will discuss this with you.

The breast tissue removed during your surgery will be looked at under a microscope by a doctor called a pathologist. You may need more surgery if DCIS cells are seen at, or close to, the margin (border) of normal breast tissue.

Occasionally, an area of invasive breast cancer may also be found with the DCIS. If this is the case, your treatment team will discuss further treatment options with you.

Breast-conserving surgery

Breast-conserving surgery is the removal of the DCIS with a margin of normal breast tissue around it. It's also known as wide local excision or lumpectomy.

Mastectomy

A mastectomy is the removal of all the breast tissue, usually including the nipple area.

You're more likely to be recommended a mastectomy if:

- The DCIS affects a large area of the breast
- The DCIS is in more than 1 part of the breast (although if the areas are small, it may be possible to have 2 lumpectomies instead of a mastectomy)
- The area has been removed but it hasn't been possible to get a clear margin of normal tissue around the DCIS using a lumpectomy

A nipple-sparing mastectomy may be possible in some cases. You can ask your treatment team whether this is an option for you.

If you're not recommended a mastectomy but you would prefer to have one, you can discuss this with your treatment team.

You can find out more about the different types of surgery and recovery after surgery on our website at **breastcancernow.org**

Breast reconstruction

If you have a mastectomy, you'll usually be able to have breast reconstruction. This can be done at the same time as your mastectomy (immediate reconstruction) or months or years later (delayed reconstruction).

For more information, see our **Breast reconstruction** booklet.

Some women choose not to have, or cannot have, breast reconstruction. They may use a breast prosthesis (an artificial breast form) to restore the shape when part or all of the breast has been removed. Or they may prefer not to use anything.

See our **Breast prostheses, bras and clothes after surgery** booklet for more information about this.

Marking the area of DCIS

As most cases of DCIS can't be felt, the exact position is usually "marked" for the surgeon so they can remove the right area.

The area may be marked by:

- A fine wire (called wire localisation)
- A small low-dose radioactive seed
- A small radiation-free magnetic marker

If the wire, seed or magnet feels uncomfortable while it's in place, you can have mild pain relief like paracetamol.

Wire localisation

Using a mammogram or ultrasound scan as a guide, a fine wire will be inserted into the breast under local anaesthetic (medication to numb the area). The wire is then carefully secured under a small dressing and left in place until the operation to remove the area of DCIS.

You may have the wire inserted on the same day as the surgery to remove the DCIS. Or you may have the wire inserted as an outpatient the day before the surgery to remove the DCIS.

The wire will be removed during the surgery to remove the DCIS.

After your operation you may have some soreness and discomfort, but this can be managed with pain relief. There will be a scar, but this should fade in time.

Seed or magnet

You may have a low-dose radioactive seed or a radiation-free magnet inserted into the breast tissue. This can be done several weeks before the surgery to remove the DCIS.

During surgery, a special probe is used to locate the seed or magnet and guide the surgeon to the tissue that needs to be removed.

The seed or magnet will be removed during the operation.

After your operation you may have some soreness and discomfort, but this can be managed with pain relief. There will be a scar, but this should fade in time.

Surgery to the lymph nodes under the arm

Lymph node (gland) removal is not usually recommended for people with DCIS. This is because the cancer cells haven't developed the ability to spread outside the ducts into the surrounding breast tissue, so would not have spread to the lymph nodes.

Sentinel lymph node biopsy

If you're having a mastectomy, your treatment team will discuss having a sentinel lymph node biopsy at the same time.

If you have breast-conserving surgery for DCIS, you will not usually be offered sentinel lymph node biopsy unless you have a high risk of invasive disease, for example if you have a lump or a large area of calcifications on the mammogram. Your treatment team will discuss with you whether you need sentinel lymph node biopsy.

The sentinel lymph node is the first lymph node cancer cells are likely to spread to. There may be more than 1 sentinel lymph node.

If the results show the sentinel lymph node is clear of cancer cells, the other nodes are usually clear too, and no more will need to be removed.

If the results show the first node or nodes contain cancer cells, this may mean you have an invasive breast cancer as well as DCIS. Occasionally, small areas of invasive cancer may be missed during the initial biopsy.

If an area of invasive breast cancer is found as well as DCIS, this will affect the treatment you're offered.

Our **Treating primary breast cancer** booklet has more information on this.

Other treatments

After surgery, you may need other treatments. These are called adjuvant treatments and can include radiotherapy and, in some cases, hormone (endocrine) therapy.

The aim of these treatments is to reduce the risk of DCIS coming back or an invasive cancer developing.

Chemotherapy and targeted therapy are not used as treatment for DCIS.

Radiotherapy

Radiotherapy uses high energy x-rays to destroy cancer cells.

If you have breast-conserving surgery, you'll usually be offered radiotherapy to the breast.

You'll have radiotherapy as an outpatient about 4 to 6 weeks after your surgery. You'll usually have between 5 and 15 sessions of radiotherapy over 1 to 3 weeks.

Treatment is usually given every day from Monday to Friday, with a break at the weekend.

Your treatment team will let you know how long your radiotherapy will last. They will explain the benefits of radiotherapy for you and discuss any possible side effects.

Our **Radiotherapy for primary breast cancer** booklet has more information on this.

You won't usually need radiotherapy after a mastectomy for DCIS.

Hormone (endocrine) therapy

Some breast cancers use oestrogen in the body to help them to grow. These are known as oestrogen receptor positive or ER-positive breast cancers. DCIS may be tested to see if it's ER-positive.

Hormone therapies block or stop the effect of oestrogen on breast cancer cells. Different hormone therapy drugs do this in different ways.

Some studies have found taking hormone therapy after surgery reduces the risk of DCIS coming back (recurrence) and the risk of invasive breast cancer developing.

The benefits of hormone therapy for people with ER-positive DCIS depend on what other treatment you have. It's not recommended for everyone. If your DCIS is ER-positive, your treatment team will discuss the benefits, risks and possible side effects of hormone therapy with you.

If oestrogen is not helping your DCIS grow, it's ER-negative and hormone therapy will not be of benefit.

See our **Treating primary breast cancer** booklet or our individual hormone drug booklets for more information.

After treatment

Follow-up

You will continue to be monitored after your hospital-based treatments finish. This is known as follow-up.

If you had breast-conserving surgery, follow-up will include regular mammograms to both breasts.

If you had a mastectomy, you'll have a mammogram on your other breast.

How you're followed up after treatment will also depend on your age and the arrangements at the hospital where you've been treated.

Our booklet **After breast cancer treatment: what now?** has more information about what happens after your hospital-based treatments end.

Checking for changes

It's important to be aware of any changes to the breast, chest or surrounding area, whether you had breast-conserving surgery or a mastectomy (with or without reconstruction).

It can be difficult to know how your breast or scar area should feel. The area around the scar may feel lumpy, numb or sensitive.

This means you'll need to get to know how it looks and feels so you know what's normal for you. This will help you to feel more confident about noticing changes and reporting them early to your GP or treatment team.

It's also important to be aware of any new changes in your other breast and report them as soon as possible.

See our booklet **After breast cancer treatment: what now?** for more information on this.

If you have any concerns, speak with your GP or treatment team.

Further support

Being told you have DCIS can be a worrying time. Everyone reacts differently to their diagnosis and has their own way of coping.

Although DCIS has a very good prognosis, it's normal to feel anxious. Because DCIS is an early form of breast cancer, some people feel less able to ask for help with their worries.

But there are people who can support you, so don't be afraid to ask for help if you need it. By letting other people know how you feel, particularly your family and friends, they can be more supportive.

Some people find it helpful to discuss their feelings and concerns with their treatment team. If you'd like to talk it through in more depth, a counsellor or psychologist may be more appropriate. Your treatment team or GP can arrange this.

You can also call our helpline on **0808 800 6000**. Or join our forum at **forum.breastcancernow.org** to speak to others going through a similar situation.

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BREAST CANCER NOW The research & support charity

We're Breast Cancer Now, the research and support charity. However you're experiencing breast cancer, we're here.

Life-changing support

Whoever you are, and whatever your experience of breast cancer, our free services are here. Whether you're worried about breast cancer, dealing with a diagnosis, working out life with or beyond treatment – or someone you love is.

World-class research

We support over 290 of the brightest minds in breast cancer research. They're discovering how to prevent breast cancer, live well with the disease, and save lives. Every day, they get closer to the next breakthrough.

Change-making campaigns

We fight for the best possible treatment, services and care for everyone affected by breast cancer, alongside thousands of dedicated campaigners.

Could you help?

We don't get any government or NHS funding for our support services or health information. So, we rely on donations and gifts in wills to make our vital work happen. If you'd like to support us, go to **breastcancernow.org/give**

ABOUT THIS BOOKLET

Ductal carcinoma in situ (DCIS) was written by Breast Cancer Now'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:
Email **health-info@breastcancernow.org**

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BREAST CANCER NOW The research & support charity

We're here

Information you can trust, support you can count on

Whatever breast cancer brings, we're here for you.

Whether you're looking for information about breast cancer or want to speak to someone who understands, you can rely on us.

Call **0808 800 6000** to talk things through with our helpline nurses.

Visit **breastcancernow.org** for reliable breast cancer information.

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