breast cancer care
the breast cancer support charity

Ductal carcinoma in situ (DCIS)

This booklet is for people who would like more information about ductal carcinoma in situ (DCIS). It describes what DCIS is, the possible symptoms, how it is diagnosed and how it may be treated.

Diagnosed with breast cancer

We hope this information helps you discuss any questions you have with your specialist or breast care nurse and feel involved in any decisions about your treatment. You may also find it useful to read our **Treating breast cancer** booklet.

What is DCIS?

Breasts are made up of lobules (milk-producing glands) and ducts (tubes that carry milk to the nipple), which are surrounded by glandular, fibrous and fatty tissue. Breast cancer starts when cells in the breast begin to divide and grow in an abnormal way.

DCIS is an early form of breast cancer. The cancer cells have developed within the ducts of the breast but remain 'in situ'. They have not yet developed the ability to spread outside these ducts into the surrounding breast tissue or to other parts of the body. As a result of being confined to the breast ducts, DCIS has a very good prognosis (outlook).

You may hear DCIS described in different ways such as a pre-invasive, intraductal or non-invasive cancer, which can be confusing. Occasionally you may also hear it incorrectly described as pre-cancerous.

What are the symptoms?

Most people with DCIS have no symptoms. They only find out they have it when it's seen on a mammogram (breast x-ray). This is why more cases of DCIS have been diagnosed since routine breast screening was introduced.

If someone with DCIS does have breast changes (such as a lump or discharge from the nipple) it's likely they will also have an invasive breast cancer. More rarely, some women with DCIS also have a type of rash involving the nipple known as Paget's disease of the breast. For more information see our **Paget's disease of the breast** booklet.

Diagnosis

DCIS may be in the breast if small white dots are seen on a mammogram. These white dots are spots of calcium salts called microcalcifications. Not all areas of microcalcification are found to be DCIS. Many women develop benign (not cancer) calcifications in their breasts as they get older.

If you have symptoms such as a lump or nipple discharge you may have some or all of the following tests:

- a clinical (breast) examination
- a mammogram and/or ultrasound scan
- a core biopsy and/or fine needle aspiration (FNA).

If you don't have any symptoms, but calcifications are seen on your screening mammogram, you may have an image-guided biopsy. This uses a mammogram or ultrasound to help locate the exact position of the microcalcifications. It's done as an outpatient. You'll be in a sitting position or lying down on your back or your front. Images of the breast are taken from different angles to help guide a needle to the precise location. Local anaesthetic is given and samples of tissue are taken. Although the area is numb, it may feel uncomfortable as the breast is compressed throughout the procedure.

Sometimes a small metal clip (or marker) is 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. It can safely be left in the breast.

The biopsy samples taken are x-rayed to ensure they contain the microcalcifications before being sent to the laboratory where they are examined under a microscope to make a diagnosis.

See our booklet **Your breast clinic appointment** for more information about breast investigations.

DCIS is graded based on what the cells look like under the microscope. A system is used to classify cancer cells according to how different they are to normal breast cells and how quickly they are growing. DCIS is graded as high, intermediate or low grade.

For more information see our booklet **Understanding your pathology report**.

If DCIS is left untreated, the cancer cells may develop the ability to spread outside the ducts, into the surrounding breast tissue. This is known as invasive ductal breast cancer. Invasive cancer has the potential to also spread to other parts of the body.

High-grade DCIS is more likely to become an invasive breast cancer than low-grade DCIS.

What are the treatments?

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

In some cases DCIS will never develop further or grows so slowly that it would never cause harm during that person's lifetime. Although the size and grade of the DCIS can help predict if it will become invasive, there's currently no way of knowing in any individual case. For this reason, treatment is usually recommended even though it may be unnecessary or over-treatment for some people.

Research is ongoing to identify which cases of DCIS will go on to become invasive and which might be safe to leave untreated. For example a clinical trial called LORIS (The LOw RISk DCIS trial) is comparing the outcomes with surgery versus no treatment (but careful monitoring) for people with low risk DCIS.

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

Surgery

Surgery is nearly always the first treatment for DCIS. This may be breast-conserving surgery, usually referred to as a wide local excision or lumpectomy, which is the removal of the DCIS with a margin (border) of normal breast tissue around it. Or it may be a mastectomy (removal of all of the breast tissue). It might be possible to preserve the nipple if you're having breast reconstruction (creation of a new breast shape using surgery), but usually a mastectomy will mean removal of the whole breast including the nipple. You may be offered a choice between these two types of surgery, depending on the size and location of the area affected. Your breast surgeon will discuss this with you.

A mastectomy is more likely to be recommended if:

- the DCIS affects a large area of the breast
- the DCIS is in more than one part of the breast (although if the areas are small, it may be possible to have two wide local excisions instead of a mastectomy)
- it hasn't been possible to get a clear margin of normal tissue around the DCIS using breast-conserving surgery.

If a mastectomy is not recommended but you would prefer to have one, you can discuss this with your surgeon.

As most cases of DCIS can't be felt, a procedure called localisation is often used on the day before or the day of breast-conserving surgery. This takes about 30 minutes and helps mark the exact area to be removed during surgery. A very fine wire is inserted into the area of concern using a mammogram (or in some cases an ultrasound) as a guide. You'll be given a local anaesthetic to numb the area but may still feel some discomfort as the breast is compressed throughout the procedure. Once the wire is in the correct place, it's secured with a padded dressing and left there until surgery when it's removed.

If you are having a mastectomy you will usually be able to consider breast reconstruction. This can be done at the same time as your mastectomy (immediate reconstruction) or months or years later (delayed reconstruction). If you'd like more information please see our **Breast reconstruction** booklet.

Some women choose not to or cannot have a breast reconstruction. They may use a breast prosthesis to give them the shape of a breast or may prefer not to use anything. See out booklet **Breast prostheses, bras and clothes after surgery** for more information about this.

If you're having breast-conserving surgery, the lymph nodes (glands) under the arm (the axilla) don't need to be sampled (tested). This is because the cancer cells haven't developed the ability to spread outside the ducts into the surrounding breast tissue. However, if you're having a mastectomy your specialist may discuss sampling the lymph nodes at the same time as it can be more difficult to assess them if invasive breast cancer is ever found.

The breast tissue removed during surgery is examined by a pathologist (a doctor who analyses tissue and cells). Sometimes an area of invasive breast cancer is found as well as DCIS. If so, it will affect the treatment(s) you're offered and you may need surgery to remove lymph nodes from under the arm to check if they contain cancer cells. For more information see our booklets **Treating breast cancer** and **Breast cancer and you: diagnosis, treatment and the future**.

Additional (adjuvant) treatments

After surgery you may need further treatment. This is called adjuvant (additional) treatment. It may include radiotherapy and, in some cases, hormone therapy.

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

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

Radiotherapy

Radiotherapy uses carefully measured and controlled high energy x-rays and is generally recommended after breast-conserving surgery. It's usually given daily (Monday to Friday) for three weeks, or every other day for five weeks, with a rest at the weekend.

Your specialist will explain the likely benefits of radiotherapy for you and also tell you about any possible side effects. For more information see our **Radiotherapy for primary (early) breast cancer** booklet.

Hormone (endocrine) therapy

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

Hormone therapy will only be prescribed if your breast cancer has receptors within the cell that bind to the hormone oestrogen and stimulate the cancer to grow (known as oestrogen receptor positive or ER+ breast cancer).

All invasive breast cancers are tested for oestrogen receptors using tissue from a biopsy or after surgery. DCIS may be tested but this is not done in all hospitals.

If the DCIS is found to be ER+, a hormone therapy drug called tamoxifen may be recommended. There are ongoing clinical trials finding out more about the use of tamoxifen for treating DCIS.

You may also hear about another type of hormone therapy called aromatase inhibitors used in the treatment of breast cancer. These are not currently recommended to treat DCIS but research is looking into this. Your specialist will discuss whether or not they feel it would be of benefit to you.

If you would like more information, please see our **Tamoxifen** and **Treating breast cancer** booklets.

Further support

Being told you have DCIS can leave you feeling different emotions. Fear, shock, sadness and anger are all common at this time. Although DCIS is an early form of breast cancer with a very good prognosis, some people understandably feel very anxious and frightened by the diagnosis. People can often struggle to come to terms with being offered treatments such as mastectomy, at the same time as being told their DCIS may never do them any harm.

Some people are reluctant to say they're anxious about a diagnosis of DCIS because they worry others will see it as less important than other types of breast cancer, or that they shouldn't complain because they're not having chemotherapy. Because of this they might feel less able to ask for support. But there are people who can support you so don't be afraid to ask for help. Letting other people know how you're feeling, particularly your family and friends, can help them to be more supportive.

It can also help to discuss your feelings or worries with your breast care nurse or specialist. Talking with a counsellor or therapist might be useful if you want to explore your feelings in more depth. Your breast care nurse, specialist or GP (local doctor) can usually help you with this.

You might find it helpful to share your feelings with someone who's had a similar experience to you. You can do this either one to one or in a support group. For more information on individual support or support groups in your area call our Helpline on **0808 800 6000** (Text Relay 18001).

Notes

Helping you face breast cancer

If you've been diagnosed with breast cancer there's a lot to take in. It can be an emotional time for you, your family and friends. Our free information and support services are here to help – on the phone, or online 24 hours a day.

Ask us

Calls to our free Helpline are answered by specialist nurses and trained staff with personal experience of breast cancer. They'll understand the issues you're facing and can answer your questions. Or you can Ask the Nurse by email instead via our website.

Free Helpline **0808 800 6000** (Text Relay 18001)
Monday–Friday 9am–5pm, Saturday 10am–2pm
www.breastcancercare.org.uk/ATN

Expert information

Written and reviewed by healthcare professionals and people affected by breast cancer, our free booklets and other information resources cover all aspects of living with breast cancer. Download or order booklets from our website or call the Helpline.

Talk to someone who understands

Our Someone Like Me service puts you in contact with someone else who's had breast cancer and who's been fully trained to help. This can be over the phone or by email.

You can also chat to other people going through breast cancer on our online discussion Forum. It's easy to use, professionally moderated and available to read any time of day.

Find out more about all of our services for people with breast cancer at **www.breastcancercare.org.uk/services** or phone the Helpline.

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.

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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 RRKZ-ARZY-YCKG, 5–13 Great Suffolk Street, London SE1 0NS

About this booklet

Ductal carcinoma in situ (DCIS) 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:

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Breast Cancer Care is the only UK-wide charity providing specialist support and tailored information for anyone affected by breast cancer.

Our clinical expertise and emotional support network help thousands of people find a way to live with, through and beyond breast cancer.

Visit **www.breastcancercare.org.uk** or call us free on **0808 800 6000** (Text Relay 18001).

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