

DUCTAL CARCINOMA IN SITU

What is ductal carcinoma in situ?

Ductal carcinoma in situ (DCIS) is a very early form of breast cancer that affects the breast ducts, which carry milk to the nipple. It is a growth that is cancerous but non-invasive. This means that it has not spread into the surrounding breast tissue and/or other areas of the body, but is contained within a breast duct.

If left untreated, most cases of DCIS (but not all) may spread into the surrounding tissue and if this occurs it is termed invasive. Treatment of the DCIS is almost always recommended because at present there is no reliable way to predict which cases will not become invasive.

Invasive cancer has the potential to spread to other parts of the body and become life-threatening.

How is DCIS detected?

The majority of women do not experience symptoms. A small number of women are diagnosed with DCIS after finding a lump or experiencing nipple discharge or occasionally a change in the nipple itself.

Most cases of ductal carcinoma in situ are detected by screening with mammography.

The DCIS usually shows on the mammogram as small clusters or specks of calcium in the breast ducts. These specks are termed microcalcifications. Most microcalcifications on a mammogram are not cancerous. Women who have microcalcifications that could indicate a cancer need further tests for diagnosis.

What happens after the mammogram?

When a suspicious area of microcalcification has been seen, the doctor needs to obtain tissue from the area to send to the laboratory to confirm that it is DCIS. This is done by core biopsy, which involves inserting a special biopsy needle into the affected area in the breast. Mammography or ultrasound is used to guide the needle into the correct spot and then several fine slivers of tissue are taken.

Occasionally, the diagnosis cannot be made from needle samples. The tissue will then have to be obtained surgically. This is called an open biopsy. The affected area may need to be identified and marked by inserting a small, very fine wire (called a hook wire) into the breast

under local anaesthetic. The affected area, including the hook wire, is then surgically removed under general anaesthetic and sent to the laboratory for testing.

Is there more than one type of DCIS?

DCIS is often split into three groups: high grade, intermediate grade and low grade. The grading of DCIS (ie, high, intermediate or low) indicates how actively the abnormal cells are multiplying. Therefore, high-grade DCIS is when the cells are dividing more rapidly than low grade. High-grade DCIS is more likely to progress to high-grade aggressive invasive cancer. Intermediate grade represents DCIS that lies between low and high grade. Some low-grade DCIS either does not progress or takes many years to progress to invasive cancer. At present it is not known which low-grade DCIS is safe to leave in the breast, so treatment is almost always necessary.

How is ductal carcinoma in situ treated?

Surgical treatment is necessary (unless you have some other illness that prevents it). It is particularly important to have the area of DCIS removed surgically because in up to 25 percent of cases there may already be invasive cancer in that area.

Your surgeon's recommendation will depend on a range of factors, including the size and grade of the area of DCIS.

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- Your surgeon may recommend local excision or removal of the DCIS (breast-conserving surgery) along with some surrounding tissue. This is most commonly used for small areas of DCIS. Mammograms can sometimes underestimate the size and extent of the DCIS, particularly if it is low grade. This sometimes means that further surgery (another operation) needs to occur to remove all of the DCIS.
- After breast-conserving surgery, radiation therapy may be recommended.
- Mastectomy is recommended for women who have a large area of DCIS or several separate areas of DCIS within the breast.

DCIS alone does not spread to the lymph nodes in the armpit (axillary nodes), so it is not usual to remove them. Lymph node surgery on the armpit may be advised in the following situations:

- If you have a large area of DCIS, especially if this is high grade, you may have a sentinel node biopsy at the time of removal of the DCIS.
- If invasive cancer is found after removal of the DCIS, your surgeon may then advise removal of lymph nodes from your armpit.
- If you choose to have a mastectomy with immediate reconstruction, it is common to take some of the axillary nodes for testing.

Recurrence after local excision (the return of cancer at the site of surgery) is relatively uncommon. Recurrence after mastectomy is rare. The recurrence rate is less than 1 percent per year.

Hormone therapy (anti-oestrogen treatment) such as tamoxifen is sometimes recommended as an additional form of treatment to prevent recurrence or reduce the risk of a new cancer or DCIS in the other breast.

Follow-up treatment

All women treated for DCIS should have long-term, regular clinical examinations and annual mammograms to detect recurrence or a new cancer in the other breast. Most recurrences of DCIS are picked up by mammography. Free annual mammograms are available through your DHB on referral by a GP or hospital specialist. After five years, if still in the eligible age range, you may have two-yearly mammograms with BreastScreen Aotearoa.

Glossary

Biopsy – removing a sample of tissue from the body and examining it under a microscope to help diagnose a disease.

Hook wire – a small, very fine wire that is inserted into the breast to mark the area that is to be surgically removed for testing or treatment.

Invasive breast cancer – cancer that has spread into neighbouring normal tissue.

Local excision or breast-conserving surgery – surgical removal of the affected area of the breast with some surrounding tissue but not total removal of the breast.

Low/high-grade DCIS – the grade indicates how actively the abnormal cells are dividing. High-grade DCIS is when the cells are dividing more rapidly than low-grade DCIS. Intermediate grade represents DCIS that lies between low and high grade.

Lymph nodes – glands in the body's lymphatic system.

Mammogram – an X-ray of the soft tissue of the breast.

Mammography – the process of taking a mammogram.

Mastectomy – surgical removal of the breast.

Microcalcifications – tiny deposits of calcium in the breast tissue, usually only seen on a mammogram.

Radiation therapy – the use of high-energy X-ray beams to kill cancer cells or prevent them from reproducing.

Sentinel node biopsy – a technique involving the removal of one, two or a few lymph nodes to which breast cancer cells are likely to have spread. This procedure has less pain and fewer complications than removing a number of the lymph nodes in the armpit.

Ultrasound – a test using sound waves to produce a picture of tissues inside the body.