



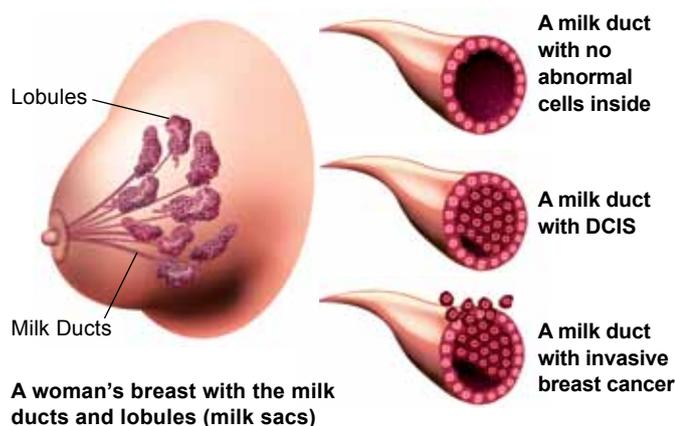
This Information Sheet explains what Ductal Carcinoma In Situ (DCIS) is, and how it is diagnosed and treated. This Sheet also recommends other sources of information.

Ductal carcinoma in situ (DCIS) is an early form of breast cancer, sometimes described as pre-cancerous, non-invasive, or intraductal cancer.

This means that the cancer cells are inside the milk ducts or 'in situ' and have not developed the ability to spread to other parts of the breast or outside it. The milk ducts are channels in the breast that carry milk to the nipple.

If DCIS is left untreated, the cells may eventually develop the ability to spread from the ducts into the surrounding breast tissue and become an invasive cancer. Not every woman with DCIS will go on to develop breast cancer if it is left untreated, but it isn't possible to predict when DCIS will develop into breast cancer.

The breast



This diagram is reproduced with permission from the National Breast and Ovarian Cancer Centre.

Types of DCIS

DCIS is often split into three groups: high grade, intermediate grade and low grade.

The grading of DCIS, for example high, intermediate or low, indicates how actively the abnormal cells are dividing. The grade relates to how the cells look under the microscope after a biopsy. High grade DCIS is when the cells are dividing more rapidly than low grade. Intermediate grade represents DCIS that lies between low and high grade.

Diagnosis

The majority of women do not experience symptoms. Most cases of DCIS are detected during screening by mammography. DCIS usually shows on the mammogram as small clusters of specks of calcium in the breast ducts. These specks are termed microcalcification. It is important to understand that most microcalcification is not cancerous.

Mammograms are the most accurate way of diagnosing DCIS but the accuracy is still only about 80 percent. It can be very difficult to detect if the breast tissue is very dense and the calcium specks tiny.

Mammography is more accurate for correctly estimating the extent of high grade DCIS. Mammography may underestimate the extent of low grade DCIS.

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.

After the mammogram

When an area of abnormal microcalcification has been found, the doctor will take a **biopsy** from the area so that it can be sent to the laboratory for testing to check for DCIS. This is done by a core biopsy, which involves inserting a special biopsy needle into the affected area

in the breast. Mammography or ultrasounds are 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 have to be obtained surgically. This is called an open biopsy. The affected area may need to be identified and marked by inserting, under local anaesthetic, a small, very fine wire (called a hook-wire) into the breast. The affected area, including the hook wire, is then surgically removed under general anaesthetic and sent to the laboratory for testing.

Treatment

The treatment for DCIS depends on how much of the breast is affected and the grading.

Surgical treatment of DCIS varies from removal of the area affected by DCIS with some surrounding tissue to mastectomy, which is the complete removal of the breast.

The following describes the treatment options for DCIS:

- Wide local excision only or removal of the DCIS is more commonly used for small areas of low grade DCIS.
- Wide local excision followed by radiation treatment is recommended if you have high grade DCIS.
- Mastectomy is recommended for women who have a large area of DCIS or several separate areas of DCIS within the breast. If mastectomy is recommended you may like to discuss breast reconstruction with your surgeon.

Decision-making for intermediate grades of DCIS is more difficult, and your surgeon will need to discuss the options with you, as well as talking to other specialists such as pathologists and radiologists.

DCIS rarely spreads to the lymph nodes in the armpit (axillary nodes) so it is not usual to remove them. If, after removing microcalcification, invasive cancer is found, your surgeon may then advise removal of lymph nodes.

Recurrence or return of DCIS after local excisions is uncommon. Recurrence after mastectomy is less than 1 percent.

Hormone treatment

Sometimes, the cancer cells within the area of DCIS have oestrogen receptors on their surface. This is known as oestrogen-receptor positive DCIS. This means that the cells rely on the hormone, oestrogen, to grow. Oestrogen is a female hormone that is naturally produced in the body and it can stimulate some breast cancer cells to divide and grow. If you have oestrogen-receptor positive DCIS, you may be prescribed a drug called tamoxifen which is designed to counteract the effects of oestrogen.

Follow-up treatment

All women treated for DCIS should have long-term, regular clinical examinations and mammography. Most recurrences of DCIS are picked up by mammography.

When you are diagnosed with DCIS, you may feel a range of emotions because the treatment is often very similar to 'actual' cancer. Your friends and family will often react as if you had a cancer that could spread so first early fears for your future are significant. You may find it helpful to talk these through with friends or family or another woman who has had DCIS. The Cancer Society offers a service called Cancer Connect where you can be linked by phone to talk to a woman who has had DCIS. Call the Cancer Information Helpline on 0800 CANCER (226 237) for more information.

For more information on DCIS

Contact your local Cancer Society, telephone **0800 CANCER (226 237)** to speak confidentially with a cancer information nurse.

Suggested websites:

National Breast and Ovarian Cancer Centre (Australia)

[http://www.understanding ductal carcinoma in situ \(DCIS\) and deciding about treatment-communication aid](http://www.understandingductalcarcinoma.com.au)

BreastScreen Aotearoa www.nsu.govt.nz

The above websites are not maintained by the Cancer Society of New Zealand. While we only suggest sites we believe offer credible and responsible information, we cannot guarantee that the information on the suggested websites is correct, up-to-date or evidenced-based medical information.

We suggest that you discuss any information you find with your cancer care health professionals.

Glossary

Biopsy—the removal of a small amount of cells or tissue from your body, so that it can then be examined under a microscope.

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.

Invasive cancer—cancer cells that have spread beyond their site of origin into the surrounding tissue.

Lobule—part of the breast capable of producing milk.

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/Intermediate/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 which are found throughout the body that remove bacteria and other harmful agents from the body.

Core biopsy—a larger needle than that used for fine needle aspiration is used to obtain a sliver of tissue from the lump. This is done with a local anaesthetic.

Mammography/Mammogram—an X-ray of the breast that can be used to examine a breast lump. Mammograms are also used for women without any breast changes because they may detect areas of microcalcification (possible sites of DCIS).

Mastectomy—surgical removal of the breast.

Microcalcification—tiny deposits of calcium in the breast tissue usually only seen on a mammogram. When clustered it can be a sign of DCIS.

Radiation treatment—the use of high-energy beams to kill cancer cells or prevent them from reproducing.

Ultrasound—sound waves of a very high frequency used to examine structures within the body.