GLOSSARY OF PATHOLOGY TERMS

FACT SHEET

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This fact sheet was produced by Breast Cancer Network Australia

The doctors talk to you as if you know the terminology when they explain the results. Because they use them every day, they might not stop to think that women don't understand these terms. – Julie

Reading your pathology report can be scary and confusing, and the words can seem like a completely different language. In addition, different laboratories may use different words to describe the same thing. We have compiled a list of common terms used in pathology reporting, to make understanding your report a little easier.

Areola – the area around the nipple.

Axilla – the armpit.

Axillary lymph nodes – lymph nodes in the armpit.

Axillary dissection/clearance – removal of some or all of the lymph nodes from the armpit to see if the breast cancer has spread beyond the breast.

Basal-like – basal-like breast cancers are a subset of triple negative cancers.

Benign – not cancerous.

Biopsy – removal of cells or tissue from the body for examination by a pathologist to determine whether or not they are cancer.

Carcinoma – another word for cancer.

Clear margins – (see Margins) – when the edge of the healthy-looking tissue surrounding the tumour is free of cancer cells.

Close margins – (see Margins) – when the healthy-looking tissue surrounding the tumour has cancer cells close to the edge or within it. If the margins are close, further surgery may be required to remove more tissue.

Ductal carcinoma in situ (DCIS) – the most common type of non-invasive breast cancer. It starts in the milk ducts of the breast and is described as non-invasive because it hasn't spread into any surrounding breast tissue (see diagram on page 3). DCIS isn't life-threatening, but having DCIS can increase the risk of developing an invasive breast cancer later in life.

Early breast cancer: breast cancer that has not spread beyond the breast or lymph nodes under the arm (known as axillary lymph nodes).

EndoPredict: a test that analyses 12 genes to predict the risk that breast cancer might recur, as well as whether a person is likely to benefit from chemotherapy or hormone therapy.

Fluorescence in situ hybridisation test (FISH) – a test that is used to measure the number of HER2 genes in a cancer. A cancer with a certain amount of HER2 genes is called HER2-positive. Other methods for assessing these genes are called CISH or SISH.

Gene – a part of the body's code for making new cells and controlling the growth and repair of the cells.

HER2 – a receptor situated on the cell, which is involved in the control of the growth of the cancer cell. These receptors are present in around 15–20 per cent of breast cancers. The pathologist tests for these in the laboratory by in situ hybridisation (FISH, CISH or SISH – see Fluorescence in situ hybridisation test above) using a sample of the breast cancer. If the receptors are present (HER2-positive) it may be possible to block them in some patients using drugs such as Herceptin or Tykerb.

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HER2-positive cancers – HER2-positive breast cancers test positive for a protein called human epidermal growth factor receptor 2 (HER2). The cancer cells make an excess of HER2, which promotes the growth of cancer cells.

Hormone receptors – tiny receptors in cells that attract and bind hormones that circulate in the blood. Hormone receptors affect whether the cancer cell growth is influenced by hormones such as oestrogen and progesterone. These receptors can be blocked by specific drug therapy such as Tamoxifen. The pathologist assesses whether these receptors are present using a sample of the breast cancer in the laboratory.

Hormone receptor positive cancers – cancers that have receptors for oestrogen (ER) and/or progesterone (PR) on the surface of the cells. About two-thirds of breast cancers are hormone receptor positive, which means that they need female hormones (oestrogen and/or progesterone) to grow and reproduce. Hormone receptor positive breast cancers will be reported as ER+ or PR+. Hormone receptor negative breast cancer will be reported as ER- or PR-.

Inflammatory breast cancer – inflammatory breast cancer is a rare and aggressive form of invasive breast cancer that affects the blood vessels in the skin of the breast. It usually starts with the breast becoming red and inflamed, rather than with a lump.

Invasive/infiltrating cancer – cancer that has spread beyond the area in the breast where it started into surrounding healthy breast issue. These cells can also spread outside the breast to lymph nodes in the armpit or even further to other organs such as liver and lung.

Invasive ductal carcinoma – a type of breast cancer that has spread from the ducts of the breast into the surrounding breast tissue (see diagram on page 3).

Invasive lobular carcinoma – a type of breast cancer whose cells resemble the cells of the breast lobule (see diagram on page 3).

Ki-67 – Ki-67 is a protein in cells that increases when cells are dividing. The pathology report shows the percentage of cancer cells that contain Ki-67. The more positive cells there are, the more quickly the cancer is dividing and growing.

Lobular carcinoma in situ (LCIS) – non-invasive breast cancer that grows in the lobules (the milk-producing glands at the end of breast ducts, see diagram on page 3). It is non-invasive as it has not spread into any surrounding breast tissue. LCIS isn't life-threatening, but having LCIS can increase the risk of developing invasive breast cancer later on in life.

Luminal breast cancers (commonly called luminal A and luminal B) – start in the inner (luminal) cells lining the mammary ducts of the breast. Luminal A and B subtypes are both oestrogen receptor positive (ER+) and low-grade, with luminal A tumours growing very slowly and luminal B tumours growing more quickly. Because they are ER+, treatment for these cancers usually includes hormone therapy.

Lymphatic invasion – cancer cells that have been found in the lymph vessels.

Lymph nodes – glands in the armpit and other parts of the body that filter and drain lymph fluid, trapping bacteria, cancer cells and any other particles that could be harmful to the body.

Lymphatic vessels – tiny vessels next to blood vessels that collect fluid and waste products from the body's tissues.

Margins (also referred to as surgical margins) – a thin band of healthy-looking tissue surrounding the tumour that is removed along with the tumour during surgery. A pathologist will look at the edge of the margins to determine if all the cancerous cells have been removed. Margins that have no cancerous cells are said to be clear.

Molecular tests – tests that assess a sample of the tumour to predict the likelihood of the cancer recurring or the likely response of the cancer to treatment (chemotherapy or hormone therapy). Examples include Onctoype DX, Prosigna, Endopredict.

Oestrogen – a type of female hormone.

Oncotype DX gene assay test – a test that analyses 21 genes within a sample of tumour tissue to predict the risk that the breast cancer may recur. This test may be helpful in determining whether or not a person may benefit from chemotherapy.

Paget's disease of the nipple – a rare form of invasive breast cancer in which cancer cells grow in the nipple or the areola (the area around the nipple). The nipple and areola often become scaly, red, itchy, and irritated. Paget's disease is characterised by the presence of Paget cells in the cancer tissue or nipple discharge.

Pathological complete response (pCR) – pCR is a term used in connection with neoadjuvant treatment (i.e. treatment such as chemotherapy or hormone therapy that is given before breast cancer surgery). Having a pCR means that there is no residual disease (cancer) left after the neoadjuvant treatment.

Progesterone – a type of female hormone.

Prosigna – a test that analyses 50 genes within a tumour sample to predict the risk that breast cancer may recur. The test may also help determine whether hormone therapy is likely to be beneficial. The test was previously called PAM50.

Sentinel node/s – the first lymph node/s that cancer is likely to spread to from the place where it started.

Triple negative breast cancers – breast cancers where growth of the cancer is not supported by oestrogen and progesterone hormones or the presence of too many HER2 receptors. Triple negative cancers are reported as ER-, PR- and HER2-.