



## **GLOSSARY**

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## Glossary

### Adjuvant chemotherapy

Adjuvant chemotherapy (postoperative treatment) is used to eradicate any microscopic non-detectable cancer cells when there is little evidence of cancer presence but there is a risk of circulating microscopic cancer cells that could lead to recurrence.

### Axillary dissection

A surgical procedure to remove the lymph nodes in the armpit (axillary nodes) hidden under the pectoral major and minor muscles. It is performed when there is evidence of cancerous cells in lymph nodes with palpation or imaging, or as sentinel lymph nodes.

### Bilateral breast cancer

Bilateral breast cancer is cancer occurring in both breasts at the same time or within six months of each other (synchronous), or at different times at least six months apart (metachronous).

### Biological subtype

Breast cancer is not considered to be a single disease. It can be further classified into several biological subtypes. These subtypes are determined by immunohistochemical staining of several biological markers (estrogen receptor (ER), progesterone receptor (PR), human epidermal growth factor receptor 2 (HER2), and Ki67). By combining these biological markers in the primary tumour rather than assessing them individually, further prognostic and predictive information can be gained. The surrogate definitions of intrinsic biological subtypes of breast cancers includes luminal A (ER+ and/or PR+, Ki67 low and HER2-), luminal B (HER2 negative) (ER+ and/or PR+, HER2-, and Ki67 high), luminal B (HER2 positive) (ER+ and/or PR+, any Ki67 and HER2+), HER2-positive (ER-, PR- and HER2+) and triple negative (ER-, PR-, HER2-).

### Breast conserving surgery

This could be lumpectomy, wide local excision, partial mastectomy or segmentectomy. It is the surgical removal of a cancerous breast lump with a rim of non-cancerous tissue around the lump, without removing the entire breast.

### Breast reconstruction

This refers to a surgical treatment that rebuilds the breast contour after mastectomy. A breast implant of the woman's own tissue provides the contour. If desired, the nipple and areola may also be preserved or recreated. Reconstruction can usually be done at the time of mastectomy or any time later.

### Breast surgery

Surgery for breast cancer is a local therapy to remove the breast tumour.

## Cancer Classification

According to the latest AJCC Cancer Staging Classification 2010<sup>29</sup>, breast cancer can be classified into different stages as shown in the following table:

Stage	Tumour	Node	Metastasis
0	Tis	N0	M0
IA	T1*	N0	M0
IB	T0	N1mi	M0
	T1*	N1mi	M0
IIA	T0	N1**	M0
	T1*	N1**	M0
	T2	N0	M0
IIB	T2	N1**	M0
	T3	N0	M0
IIIA	T0	N2	M0
	T1*	N2	M0
	T2	N2	M0
	T3	N1	M0
	T3	N2	M0
IIIB	T4	N0	M0
	T4	N1	M0
	T4	N2	M0
IIIC	Any T	N3	M0
IV	Any T	Any N	M1

T0: no tumour; Tis: carcinoma in situ; T1: tumour size  $\leq$  20mm; T2: 20mm < tumour size  $\leq$  50mm; T3: tumour size > 50mm; T4: any size with direct extension to the chest wall and/or to the skin (ulceration or skin nodules)

N0: no positive nodes; N1mi: >0.2-2.0 mm or more than 200 cells; N1: 1-3 positive nodes; N2: 4-9 positive nodes; N3:  $\geq$  10 nodes

M0: no metastasis; M1: evidence of metastasis

\* T1 includes T1mi

\*\* T0 and T1 tumour with nodal micrometastases only are excluded from Stage IIA and are classified as Stage IB.

## Cancer specific death

A death with the underlying cause indicated as cancer. People with cancer who die of other causes are not counted in the death statistics of this publication.

## Chemotherapy

It is a treatment that uses one or more cytotoxic drugs to destroy cancer cells. Chemotherapy is often used in addition to surgery or radiation to treat cancer when metastasis (spread) is proven or suspected, when the cancer has come back (recurred), or when there is a strong likelihood that the cancer could recur.

## Distant recurrence

Cancer that occurs in organs or tissues distant from the original site or regional lymph nodes, such as the lungs, liver, bone marrow, or brain.

## Endocrine therapy

Treatment with hormonal drugs that interfere with hormone production or hormone action, or surgical removal of hormone-producing glands to kill cancer cells or cause programmed cell death (apoptosis).

## Estrogen receptor positive

This refers to the status of cancer cells with receptor proteins that bind the hormone estrogen. Cancer cells that are estrogen receptor positive need estrogen to grow, and may stop growing or die when treated with substances that block the binding with estrogen.

## Human epidermal growth factor receptor 2 (HER2) positive

In HER2 positive breast cancer, the cancer cells have an abnormally large number of HER2 genes per cell. When this happens, excessive HER2 protein appears on the surface of these cancer cells. This is called HER2 protein over-expression. Excessive HER2 protein is thought to cause cancer cells to grow and divide more quickly. This is why HER2 positive breast cancer is considered aggressive.

### **In situ breast cancer**

This term refers to early stage breast cancer, when it is confined to the layer of cells where it began. In breast cancer, in situ means that the cancer cells remain confined to ducts (ductal carcinoma in situ). They have not grown into deeper tissues in the breast or spread to other organs in the body, and are sometimes referred to as non-invasive or pre-invasive breast cancers.

Lobular carcinoma in situ (LCIS) is considered a precancerous lesion, a risk factor for developing invasive cancer in future, but is not classified as breast cancer.

### **Invasive breast cancer**

An invasive cancer is one that has already grown beyond the outer lining of the layer of cells where it started, for example breast ducts or lobules (as opposed to carcinoma in situ). Most breast cancers are invasive carcinomas.

### **Ki-67 proliferation index**

Ki-67 protein is a cellular marker for proliferation which is present at low levels in quiescent cells but is increased in proliferating cells. Ki-67 proliferation index, referring to the percent tumour cells staining positive as measured by immunohistochemical (IHC) staining, is a specific nuclear marker for cell proliferation. High levels of Ki-67 indicate an aggressive tumour. Currently, an index higher than 14% is regarded as high Ki-67 proliferation index.

### **Latissimus dorsi flap (LD flap)**

This refers to a method of breast reconstruction that rotates the fan-shaped flat muscle of the back to the chest area.

### **Locoregional recurrence**

Locoregional recurrence occurs when cancer returns after treatment, and occurs at the same site as the original cancer or in the lymph nodes near the site of origin.

### **Mastectomy**

A mastectomy is the surgical removal of the entire breast. It is usually used to treat serious breast disease, such as breast cancer.

### **Metastasis**

The term metastasis is used to describe a disease that has recurred at another location in the body.

### **Mortality**

Mortality is the incidence of death in a population.

### **Multicentricity**

Breast cancer occurring in multiple quadrants of a breast.

### **Multifocality**

Multifocality in breast cancer is defined as the presence of two or more tumour foci within a single quadrant of the breast with two or more foci 5mm apart in the same breast quadrant.

### **Necrosis**

A term used to describe the death of cellular tissue. Necrosis within a cancerous tumour may indicate that the tumour is growing so rapidly that blood vessels are not able to multiply fast enough to nourish some of the cancer cells. Necrosis usually indicates that the tumour is very aggressive and can spread quickly. Fat necrosis is a benign (non-cancerous) breast condition that may occur when fatty breast tissues swell or become tender spontaneously or as a result of an injury to the breast.

### **Neoadjuvant chemotherapy**

In neoadjuvant chemotherapy (preoperative treatment), initial chemotherapy is designed to shrink the primary tumour, thereby rendering local therapy (surgery or radiotherapy) less destructive or more effective.

### Progesterone receptor positive

The hormone progesterone will bind to protein in cells. Cancer cells that are progesterone receptor positive need progesterone to grow and will usually stop growing when hormonal therapy drugs block progesterone from binding.

### Radiation therapy

Radiation therapy is the use of radiation to destroy cancer cells. External sources of radiation used include linear accelerators, cobalt, and betatrons. This type of treatment may be used to reduce the size of a cancer before surgery, or to destroy any remaining cancer cells after surgery.

### Risk factors

Risk factors are associated with an increased probability of a specified outcome, for example, the occurrence of a disease. Risk factors are not necessarily the cause of a disease.

### Sentinel node biopsy

It is a surgical procedure to remove the first few nodes receiving lymphatic drainage from the breast in clinically node-negative cancers. This is to determine if breast cancer has spread to the armpit (axillary) lymph node basin.

### Survival time

The time from initial diagnosis until the occurrence of death.

### Targeted therapy

A type of medication that blocks the growth of cancer cells by interfering with specific targeted molecules needed for carcinogenesis and tumour growth.

### Time to recurrence

The time from initial diagnosis until the occurrence of recurrence.

### Transverse rectus abdominus muscle flap (TRAM flap)

A method of breast reconstruction in which tissue from the lower abdominal wall receiving its blood supply from the rectus abdominus muscle is used. The tissues from this area are moved up to the chest to create a breast mound; usually an implant is not required. Moving muscles and tissues from the lower abdomen to the chest results in flattening of the lower abdomen.

### Triple negative breast cancer

This term is used to describe breast cancers (usually invasive ductal carcinomas) in which the cells lack estrogen receptors and progesterone receptors, and do not have an excess of the HER2 protein on their surfaces.





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