Breast cancer

Breast cancer is the most common cancer in women, accounting for about 32.1 per cent of cases. Between 1 in 8 and 1 in 10 women will develop breast cancer during their lifetime.The risk of this cancer developing increases with age. Young women are only rarely affected. The risk increases only after the age of 40, and particularly after the age of 50. Men can also develop breast cancer, but this is very rare: one man will develop the disease for every 100 women.

Breast cancer is not the most dangerous form of cancer in women, although it is the most common. If the cancer is detected and treated early, most cases are curable. The number of deaths has been decreasing for some years. Between 83 and 87 per cent of patients are still alive five years after a diagnosis of breast cancer.

Breast cancer can be more successfully treated today than in the past – using treatment methods that are more targeted and less stressful.

The most common forms are invasive ductal carcinoma and invasive lobular carcinoma (see diagram). Together, these two forms account for about 85 per cent of all cases of breast cancer. Just under half of all tumours are located in the upper, outer region of the breast.

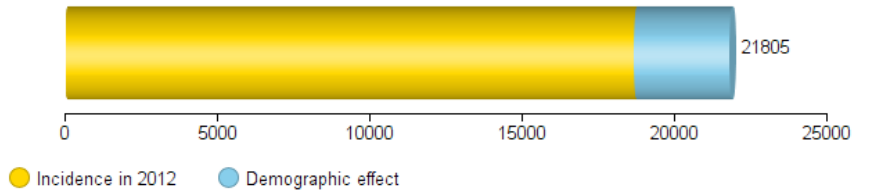**Invasive lobular breast cancer**   **Invasive ductal breast cancer**

In some cases, the woman herself will notice a hard lump in the breast. More rarely, feelings of tension or pain in the breast will lead to the diagnosis of breast cancer. Signs of advanced disease are loss of stamina, tiredness, weight loss and pain in the bones.

Egypt-Breast cancer

Year	Estimated number of new cancers (all ages)	Male	Female	Both sexes
2012		-	18660	-
	ages < 65	-	14079	-
	ages >= 65	-	4581	-
2020		-	21805	-
	ages < 65	-	15779	-
	ages >= 65	-	6026	-
Demographic change		-	3145	-
	ages < 65	-	1700	-
	ages >= 65	-	1445	-

GLOBOCAN 2012 (IARC) - 24.1.2017
Population forecasts were extracted from the *United Nations, World Population prospects, the 2012 revision*.
Numbers are computed using age-specific rates and corresponding populations for 10 age-groups.

Egypt
Breast
Number of new cancers in 2020 (all ages)

21805

| 0 | 5000 | 10000 | 15000 | 20000 | 25000 |

○ Incidence in 2012   ○ Demographic effect

GLOBOCAN 2012 (IARC) (24.1.2017)

What are the causes of and risk factors for developing breast cancer?

Various risk factors are now known to increase susceptibility to breast cancer:

- Hormonal imbalance and/or hormone therapy
- Smoking
- Poor diet
- Hereditary factors
- Being overweight

How is breast cancer diagnosed?

The following investigation options are standard procedure:

- Mammography
- Ultrasound
- MRI of the breast
- Tissue sampling (biopsy)

Regular self-examination of the breasts and mammography – sometimes in combination with an ultrasound scan of the breast – are important measures for early detection of breast cancer.

Magnetic resonance imaging (MRI) – a radiation-free procedure – is also available for diagnostic purposes. It allows radiologists to acquire information about the location and size of a tumour.

Despite mammography, ultrasound and MRI, it is often only the removal of a tissue sample (biopsy) for histology (microscopic examination of tissue) that proves conclusively whether a change in the breast is benign or malignant.

How is breast cancer treated?

The treatment given will depend on whether the tumour relies on oestrogen for its growth, how large it is and whether neighbouring lymph nodes have already been affected.

If no distant metastases are yet present, the tumour is first surgically removed from the breast, aiming to conserve the breast. In some cases, it may also be advisable to start chemotherapy before the operation (this is called neoadjuvant chemotherapy) to reduce the size of the tumour so it becomes operable.

The aim of chemotherapy is to kill cancer cells throughout the body by means of medicines that inhibit cell growth (cytostatics). Cytostatic drugs are effective against rapidly-growing cells. Cancer cells typically grow very rapidly.

If breast-conserving surgery is performed, the operation is followed by radiotherapy.

A new initiative for treating cancer, "targeted therapy", has its origins in the field of molecular biology.

The following factors are taken into account for individual treatment regimens:

- Tumour size
- Extent of lymph node involvement in the armpit region
- Age of the patient
- Menopausal status
- Hormone receptor status (percentage of cancer cells with hormone receptors)
- Grading (severity of the changes in the cells)
- HER2 (human epidermal growth factor receptor number 2)
- Invasion of the blood and blood vessels

Additional information: breast cancer – classification of tumour type and tumour stage

TNM/pTNM classification

TNM is a procedure in widespread use for classifying tumours. pTNM signifies pathologically validated data that are available after surgery. In the pTNM classification, a "y" is prefixed if chemotherapy has already been given before the surgery. The advantage of the classification is that all doctors treating a patient, and the patients themselves, have the same information about the stage of the disease. Conclusions about treatments and prognoses can also be drawn from it.

TNM stands for the English terms

T for "tumour": size of the primary tumour (T0 to T4)

N for "nodes": number of lymph node metastases (N0 to N3)

M for "metastasis": information about the presence of metastases, e.g. in bones, liver, lungs or brain

For breast cancer, this means:

T

T = Tumor size	Description
T0	No tumour detectable
Tis	Carcinoma in situ (DCIS, LCIS) – non-invasive

T = Tumor size	Description
T1mic	Smallest invasion (microinvasion) up to 0.1 cm
T1	Tumour up to 2 cm in diameter
T2	Tumour greater than 2 cm but no more than 5 cm in diameter
T3	Tumour greater than 5 cm in diameter
T4	All tumours that have grown into the chest wall or skin

N

= Lymph node involvement	Description
N0	No signs of lymph node involvement
N1	1 to 3 lymph nodes affected in the armpit
N2	4 to 9 lymph nodes affected in the armpit
N3	10 or more lymph nodes affected in the armpit and/or collarbone region

M

M = Distant metastasis (bones, lungs, liver, brain)	Description
M0	No distant metastases
M1	Distant metastases present

X = no statement possible.
The results of investigations are sometimes not yet available or the findings are still unclear. In this case, the abbreviation X is added. MX means that no statement can be made regarding distant metastases.

C1 to C5 (c = certainty)
Pathologists use this abbreviation to rate the certainty of findings. C1 stands for uncertain, C5 for very certain.

R = Residual tumour tissue after surgery.
The R is used to indicate pathological findings after surgery. It provides information as to whether the tumour was completely removed with a minimum distance between the excised tissue and healthy tissue as a safety margin, i.e. in sano.
R0 – No residual tumour.
R1-2 – Residual tumour of varying size (another operation will have to be performed in this case)

V = Blood vessel (vein) invasion.
V0 – No blood vessel invasion (no cancer cells detectable in blood vessels).
V1 – Blood vessel invasion (cancer cells detectable in blood vessels).

L = Lymphatic vessel invasion.
L0 – No lymphatic vessel invasion (no cancer cells detected in lymphatic vessels).
L1 – Lymphatic vessel invasion (cancer cells detected in lymphatic vessels).