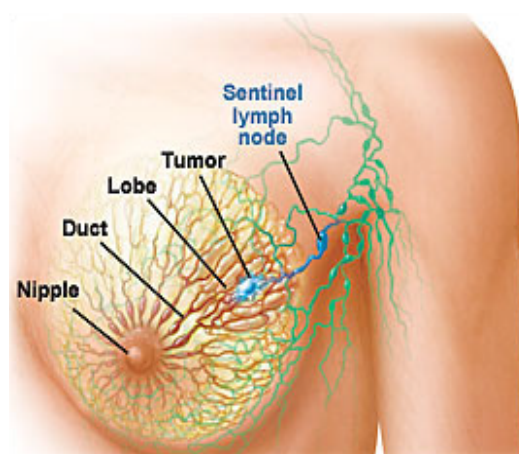


Breast cancer

What is breast cancer?

Breast cancer is characterised by the uncontrolled growth of abnormal cells in the milk producing glands of the breast or in the passages (ducts) that deliver milk to the nipples. Early stage breast cancer refers to cancer that is confined to the fatty tissue of the breast. It may then spread to underlying tissues of the chest wall (at which point it is said to be locally advanced) and then to other parts of the body (referred to as metastatic breast cancer).



Prevalence

- Worldwide, breast cancer is the leading cause of cancer death in women^{1,2} and more than one million women are diagnosed each year¹.
- More than 500,000 women every year die from the disease worldwide².

Risk factors

- Age: The majority of breast cancer cases occur in women over the age of 50³.
- A personal or family history of breast cancer¹.
- A history of benign breast diseases¹.
- A late first pregnancy¹.
- Long exposure to hormones, for example through a long menstrual life or hormone replacement therapy in postmenopausal women¹.
- Lifestyle factors including being overweight or obese after the menopause, physical inactivity, a high fat diet⁴ and high alcohol consumption¹.
- Environmental factors including radiation¹ and shiftwork⁵.

Symptoms

Early stage* breast cancer can often present without symptoms. However, symptoms of breast cancer include:

- A hard lump developing in the breast or armpit – typically painless and occurring on one side only.
- A change in the size or shape of the breast.
- Changes in the skin such as dimpling, puckering or redness.
- Changes in the nipple such as the secretion of unusual discharge or a rash around the nipple area.

Management of breast cancer

Current treatments for breast cancer include surgery, radiotherapy, chemotherapy, hormonal and biological therapies. These therapies may be used alone or in combination depending on the stage of the disease.

- **Surgery (lumpectomy** or mastectomy***):** This is the main treatment option for patients whose breast cancer has not spread to other parts of the body (e.g. to the chest wall or lungs), and may be used in combination with radiotherapy or chemotherapy. In addition, surgery may be an option for patients with cancer that has spread to other parts of the body.
- **Radiotherapy:** Therapy with radiation, or radiotherapy, is often used in addition to surgery and chemotherapy to reduce the chances of the cancer recurring. This type of treatment (i.e. after surgery) is often called adjuvant therapy. Radiotherapy is also used in advanced breast cancer to help alleviate symptoms.
- **Chemotherapy:** Chemotherapy may be given prior to surgery with the aim of reducing tumour size, so that the surgery may not need to be as extensive. Chemotherapy may also be given after surgery to reduce the chances of the cancer coming back. When the cancer has spread to other parts of the body, chemotherapy may be used to reduce symptoms, improve quality of life and extend survival for as long as possible. Chemotherapy drugs can be given intravenously (directly into the blood), or orally.
- **Hormonal therapy:** Medications that block or inhibit the actions of hormones (such as estrogen and progesterone) are often used in the treatment of patients with breast cancer.
- **New therapies:** Biological therapy is one of the newer approaches to treating cancer:
 - Avastin® (bevacizumab) in combination with chemotherapy is clinically proven to extend the time that patients with advanced breast cancer live without their tumours getting worse (known as progression free survival), without the side effects usually associated with chemotherapy such as hair loss, nausea and vomiting. Avastin is an antibody that specifically binds and blocks VEGF (vascular endothelial growth factor). VEGF is the key driver of tumour angiogenesis – an essential process of development and maintenance of blood vessels which is required for a tumour to grow and to spread to other parts of the body. Avastin's precise mode of action helps control tumour growth and metastases with only a limited impact on side effects of chemotherapy. By inhibiting angiogenesis, the outlook for patients with breast cancer can be substantially improved.

- Herceptin® (trastuzumab) is a humanised antibody, designed to target and block the function of HER2****, a protein produced by a specific gene with cancer causing potential. The mode of action of Herceptin is unique in that it activates the body's immune system and suppresses HER2 to target and destroy the tumour. Herceptin has demonstrated unprecedented efficacy in treating both early stage and advanced (metastatic) HER2-positive breast cancer. Given on its own as monotherapy as well as in combination with or following standard chemotherapy, Herceptin has been shown to improve response rates, disease free survival and overall survival while maintaining quality of life in women with HER2-positive breast cancer.

* Early stage refers to cancer that hasn't spread to the lymph nodes and / or other parts of the body.

** Lumpectomy refers to the surgical removal of a discrete lump in the breast with the aim of conserving as much of the surrounding breast tissue as possible.

*** Mastectomy refers to the surgical removal of one or both breasts.

**** HER2 stands for Human Epidermal growth factor Receptor 2, a receptor (or protein) which when over expressed on breast cancer cells indicates a distinct, fast growing form of breast cancer.

End

To download images and videos relating to breast cancer please visit: www.thenewsmarket.com

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References

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2. WHO Cancer Factsheet N°297 – updated July 2008. Last accessed 24 March 2009 at <http://www.who.int/mediacentre/factsheets/fs297/en/index.html>.
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5. WHO International Agency for Research on Cancer. Press release N° 180 December 2007. Last accessed 14 May 2009 at <http://www.iarc.fr/en/media-centre/pr/2007/pr180.html>.