



Understanding **breast cancer**

Finding out that you have breast cancer can be overwhelming. With everything that you are going through, it may be difficult to absorb all of the information from your healthcare team. It is important to understand breast cancer so that you can address the disease.

What is cancer?

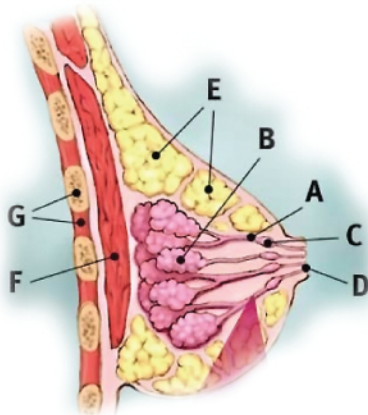
Cancer is a general term that refers to cells that grow and multiply out of control. Cancer can cause harm in different ways. Cancer cells take nutrition and space away from normal cells. A lump of cancer cells, also known as a “tumor,” can invade or destroy normal tissue.

Cancer cells can also spread from one part of the body to another. This is called **metastasis**.

What is breast cancer?

Breast cancer is a common cancer among women (second only to skin cancer), affecting about 182,460 women in 2008.

Most breast cancer begins in the milk ducts. These ducts connect the milk-making glands, or “lobules,” to the nipple. Some breast cancer begins in the lobules themselves, and the rest begins in other tissues.



- A. Ducts**
- B. Lobules**
- C. Dilated section of duct to hold milk**
- D. Nipple**
- E. Fat**
- F. Muscle**
- G. Chest wall/rib cage**

There are many types of breast cancer. Each may have different characteristics, and each may require a different treatment. Hormone-receptor status and HER2 status are 2 very important breast cancer characteristics, because they directly affect the type of treatment you are likely to receive.

What is hormone-receptor–positive breast cancer?

Hormones such as estrogen and progesterone play a role in the growth of many breast cancers, so it is important to know whether the cells in your breast cancer have “receptors” for either of these hormones. Breast cancer that has estrogen receptors is called estrogen-receptor–positive, or “ER+,” and breast cancer that has progesterone receptors is called progesterone-receptor–positive, or “PR+”. Breast cancers that are ER+ and/or PR+ may benefit from hormonal therapy.



Understanding **breast cancer** continued

What is HER2-positive breast cancer?

HER2 status is another important breast cancer characteristic. In HER2+ breast cancer, too much HER2 protein appears on the surface of the cancer cells. This is thought to cause cancer cells to grow and divide more quickly, which is why HER2+ breast cancer is aggressive. However, HER2+ breast cancers may benefit from a type of therapy, called “targeted biologic therapy,” that specifically blocks the effects of HER2.

HER2 status and hormone-receptor status are not the same thing, and being positive for one does not mean the cancer is positive for the other. Your healthcare team can give you more information about your breast cancer and help you to decide what treatments are right for you.

What are the stages of breast cancer?

A cancer’s stage refers to how much the cancer has grown and where it has spread. The most common staging method groups breast cancer into 5 stages from Stage 0 to Stage IV based on the size of the tumor and whether it has spread to the lymph nodes or other parts of the body.

Tumors can be **noninvasive** or **invasive**. In addition, you may also hear your doctor describe your breast cancer as noninvasive or invasive.

Noninvasive breast cancer, or carcinoma in situ, has not spread beyond the ducts or the lobules, depending on where it started.

Ductal carcinoma in situ (DCIS) is cancer that is confined to the ducts, whereas **lobular carcinoma in situ (LCIS)** is a condition that is confined to the lobules, or milk-making glands. Although LCIS is not considered a true cancer, having it increases the risk of getting cancer later.

Invasive breast cancer, in contrast, has spread beyond where it began. There are several degrees of invasiveness in breast cancer:

- **Localized stage** breast cancer is still only within the breast
- **Regionally advanced** breast cancer has spread to the tissue surrounding the breast or there are cancer cells within nearby lymph nodes. Lymph nodes are small masses of tissues found throughout the body that are involved in fighting infection. The more lymph nodes with cancer, the more serious the cancer may be
- **Distant (advanced/metastatic)** breast cancer has spread away from the breast to other tissues in the body, such as the lungs, liver, bone, or brain

Where can I find more information about breast cancer?

You have a dedicated team of healthcare professionals that can give you information and support throughout the course of your treatment. You should feel free to ask your doctor or nurse any questions you have about your cancer or your treatment plan. In addition, here are a few web sites where you can find additional information about breast cancer and treatment options:

www.breastcancer.org
www.cancer.gov
www.cancer.org
www.networkofstrength.com



Understanding **HER2+** breast cancer

Finding out that you have breast cancer can be overwhelming. With everything that you are going through, it may be difficult to absorb all of the information from your healthcare team. It is important to understand breast cancer so that you can address the disease.

What is breast cancer?

Cancer is a general term that refers to cells that grow and multiply out of control. Cancer cells can also spread from one part of the body to another. This is called **metastasis**.

Breast cancer is a common cancer among women (second only to skin cancer), affecting about 182,460 women in the United States in 2008.

There are many different types of breast cancer. To classify exactly what kind of breast cancer you have, your doctor may take a **biopsy**, which is a sample taken from your tumor either during surgery or using a needle. A laboratory then tests that sample tissue for different substances in the tumor. Each test result is assigned a status, such as positive or negative.

Knowing the details about the tumor helps the doctor understand how quickly the cancer might grow and what treatments may be best.

What is HER2+ breast cancer?

HER2 status is an important breast cancer characteristic. In HER2+ breast cancer, too much HER2 protein appears on the surface of the cancer cells. This is thought to cause cancer cells to grow and divide more quickly, which is why HER2+ breast cancer is aggressive.

In addition, the treatment of HER2+ breast cancer may be different from the treatment of other types of breast cancer. HER2+ breast cancers may benefit from targeted biologic therapy, a type of therapy that specifically blocks the effects of HER2. Herceptin is a targeted biologic therapy used to treat HER2+ breast cancer. See reverse for more information about targeted biologic therapy and treatment with Herceptin.

What are the potential treatment options for breast cancer?

Your doctor will consider the characteristics and stage of your breast cancer (how much the cancer has grown and how far it has spread beyond the breast) to select an appropriate treatment plan for you. This section describes some of the options that may be included in your doctor's recommended treatment plan.

Most women with breast cancer will have surgery to remove as much of the cancer as possible. The surgery will be a lumpectomy or a mastectomy. A lumpectomy, or breast-conserving surgery, is a procedure to remove only the tumor plus some normal tissue around it. A mastectomy is surgery to remove the entire breast.

In addition, your treatment may include:

- **Radiation therapy:** Treatment with high-energy rays aimed at the area around the tumor
- **Chemotherapy:** A drug that kills cancer cells
- **Hormonal therapy:** A drug used to treat **hormone-receptor-positive** breast cancer (cancer that may grow due to estrogen and/or progesterone in the body) by reducing the amount of estrogen in the body or blocking the effect of estrogen
- **Monoclonal antibodies** (sometimes called **targeted biologic therapy**): Antibodies are part of the body's normal defense against bacteria, viruses, and abnormal cells, such as cancer cells. Monoclonal antibodies are produced in a laboratory by making multiple copies of a single cell. They are designed to recognize a specific protein on certain cells and signal the body's immune system to destroy the cell. Monoclonal antibodies are generally a more targeted therapy than chemotherapy.



Understanding HER2+ breast cancer

What is Herceptin?

Herceptin is a monoclonal antibody used to treat HER2+ breast cancer. It is not a chemotherapy or a hormonal therapy. Herceptin is designed to target HER2+ cancer cells. Large clinical trials have shown that Herceptin lowered the risk of HER2+ breast cancer returning when it was given for the **adjuvant** treatment (after surgery to stop cancer from returning) of HER2+ breast cancer. In other clinical trials, Herceptin was proven to help women with HER2+ **metastatic** breast cancer (cancer that has spread elsewhere in the body) live longer.

Where can I find more information about breast cancer?

You have a dedicated team of healthcare professionals that can give you information throughout the course of your treatment. Ask your doctor or nurse any questions you have about your cancer or your treatment plan. In addition, you can find information about HER2+ breast cancer and Herceptin on www.herceptin.com.

Who is Herceptin for?

Herceptin is approved for the adjuvant treatment of HER2-overexpressing, node-positive or node-negative (ER/PR-negative or with one high-risk feature) breast cancer. Herceptin can be used several different ways:

- As part of a treatment regimen including doxorubicin, cyclophosphamide, and either paclitaxel or docetaxel
- With docetaxel and carboplatin
- As a single agent following multi-modality anthracycline-based therapy

Herceptin in combination with paclitaxel is approved for first-line treatment of HER2-overexpressing metastatic breast cancer. Herceptin as a single agent is approved for treatment of HER2-overexpressing breast cancer in patients who have received one or more chemotherapy regimens for metastatic disease.

What important safety information should I know about Herceptin?

Herceptin treatment can result in heart problems, including those without symptoms (reduced heart function) and those with symptoms (congestive heart failure). Some patients have had serious infusion reactions and lung problems; fatal infusion reactions have been reported. Worsening of low white blood cell counts associated with chemotherapy has also occurred. The most common side effects associated with Herceptin were fever, nausea, vomiting, infusion reactions, diarrhea, infections, increased cough, headache, fatigue, shortness of breath, rash, low white and red blood cells, and muscle pain.

Because everyone is different, it is not possible to predict what side effects any one person will have. If you have questions or concerns about side effects, talk to your doctor.

www.herceptin.com

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