

## Breast Cancer – Treatment by Stage

Treatment for breast cancer depends on the:

- Stage of cancer (whether it is just in the breast or has spread to other parts of the body)
- Type of breast cancer
- Characteristics of the cancer cells
- Menopause status
- General state of your health

### Stage

Once you receive a breast cancer diagnosis, more tests are done to find out if the cancer has spread to other parts of your body. This is called staging. Breast cancer stage is based on several factors, which include:

- The size and location of the main tumor
- Spread of cancer to nearby lymph nodes or other parts of the body
- Tumor grade
- The presence of certain biomarkers
- The Tumor Lymph Node Metastasis (TNM) system describes the size of the main tumor and the spread of cancer to nearby lymph nodes or other parts of the body.
- The tumor grade describes how fast a breast tumor might grow and spread.
- Biomarker testing shows whether breast cancer cells have certain receptors. These include estrogen, progesterone and HER2.
- The TNM and grading systems along with the biomarker status all determine the stage of your breast cancer.
- The stage of your breast cancer may help plan the best treatment for you. Ask your doctor about your stage.
- After surgery, your doctor receives a pathology report that describes the size and location of the main tumor, the spread of cancer to nearby lymph nodes, the tumor grade and whether certain biomarkers are present. The pathology report and other test results help determine your breast cancer stage.

Your doctor explains how staging helps to decide the best options to treat your cancer.

### Types of Staging Groups

There are 3 types of breast cancer stage groups:

- **Clinical Prognostic Stage** – Assigns a stage to all patients based on their health history, physical exam, imaging tests (if done) and biopsies. This stage is based on the TNM system, tumor grade, and biomarker status (ER, PR, HER2). In clinical staging, mammography or ultrasound is used to check the lymph nodes for signs of cancer.
- **Pathological Prognostic Stage** is for patients who have surgery as their first treatment. This stage is based on all clinical information, biomarker status and laboratory test results from breast tissue and lymph nodes removed during surgery.

- **Anatomic Stage** is based on the size and the spread of cancer. This stage is used in parts of the world where biomarker testing is not available. It is not used in the United States.

## Tumor Grades and Stage

Tumor Grades are based on the appearance of the tumor under the microscope

- **Grade 1** is low grade and look more like normal cells
- **Grade 2** is intermediate grade and looks like normal cells and cancer cells
- **Grade 3** is high grade and cells mostly resemble cancer cells

**The terms Staging and Grading are not interchangeable**

### Stage 0, Ductal Carcinoma in Situ

- Breast-conserving surgery and radiation therapy, with or without tamoxifen
- Total mastectomy with or without tamoxifen

### Stage I, stage II, stage IIIA and operable stage IIIC

- Surgery to remove the cancer and some surrounding breast tissue (lumpectomy or partial or segmental mastectomy)
- Some lymph nodes under the arm may also be removed.
- This type of breast conserving surgery is followed by radiation therapy.
- Surgery to remove the whole breast (total mastectomy) or the whole breast and some of the lymph nodes under the arm (modified radical mastectomy)
- This treatment provides identical long-term cure rates to those from a mastectomy.

Your doctor's recommendation on which procedure to have is based on tumor size and location.

### Treatment after surgery (adjuvant therapy):

- Radiation therapy
- Chemotherapy (chemo), with or without hormone therapy
- Hormone therapy
- Targeted therapy combined with chemo
- Clinical trials
- You may receive chemo before surgery (neoadjuvant therapy) depending on your breast cancer stage.

### Stage IIIB, inoperable stage IIIC and inflammatory breast cancer.

Treatment may include more than one therapy such as:

- Surgery (breast-conserving surgery or total mastectomy) with lymph node dissection
- Chemo before and/or after surgery
- Radiation therapy after surgery
- Hormone therapy after surgery for tumors that are estrogen receptor positive or estrogen receptor unknown

- Clinical trials testing new anticancer medicines, new medicine combinations and new ways of giving treatment

**Recurrent breast cancer (cancer that has come back after treatment in the breast, in the chest wall, or in nearby lymph nodes) treatment may include:**

- Chemo
- Hormone therapy for tumors that are hormone receptor positive
- Radiation therapy
- Surgery
- Targeted therapy

**Stage IV (metastatic) breast cancer**

- Hormone therapy
- Targeted therapy
- Chemo
- Chemo and immunotherapy
- Surgery
- Radiation Therapy

**Other treatment options for metastatic breast cancer include:**

- Medicine therapy with bisphosphonates or denosumab to reduce bone disease and pain when cancer has spread to the bone
- A high-dose chemotherapy clinical trial
- A clinical trial of an antibody-medicine conjugate
- Clinical trials testing new anticancer medicines, new medicine combinations and new ways of giving treatment
- Radiation therapy and/or surgery to reduce your pain or symptoms

## Treatment

The treatment of breast cancer depends partly on the stage of the disease. You may need genetic testing which may also influence your treatment.

## Breast Cancer Terms

### Breast Reconstruction

If your whole breast is being removed, you may want to think about breast reconstruction. Breast reconstruction is often part of your cancer treatment plan. Reconstruction can be done at the time of surgery or at a later date.

The breast can be made with your own tissue. It can also be made with implants filled with saline or silicone. If radiation is needed, a tissue expander may be put in temporarily. After you complete and recover from radiation, the expander is replaced with an implant.

Breast reconstruction is not considered cosmetic surgery, so it is often covered by health insurance plans. In some cases, reconstructive surgery may also be performed for patients that have a lumpectomy or partial mastectomy.

## **Chemotherapy**

Chemotherapy is special medicines that damage or kill cancer cells. Chemo may be taken by mouth or put into the body by a needle in a vein. These medicines enter the bloodstream and travel through the body. They can also kill cancer cells outside the breast area.

## **Hormone Therapy**

If tests show that the breast cancer cells have estrogen or progesterone receptors, you may need hormone therapy (HT). It is used to block hormones in the body that might help cancers grow.

This may be done with medicines that block the action of hormones or by surgery to remove organs that make hormones, such as the ovaries.

Hormone therapy with tamoxifen can act on cells all over the body and may increase your chance of getting cancer of the uterus. Therefore, you should be checked often for this type of cancer. Report any vaginal bleeding other than your menstrual period to your doctor right away.

For women who have gone through menopause, an aromatase inhibitor may be used instead of tamoxifen. Talk about potential side effects of Tamoxifen and aromatase inhibitors with your health care provider.

Therapy is considered **neoadjuvant** when it is given before surgery. The purpose is to shrink the tumor and make it easier to remove. It also serves to assess the response of the tumor to a specific type of treatment.

Therapy is considered **adjuvant** when it is given after surgery, when no cancer cells can be seen, to prevent cancer from recurring.

## **Immunotherapy**

Immunotherapy uses your immune system to fight cancer. Substances made by the body or made in a laboratory are used to boost, direct or restore your body's natural defenses against cancer. This type of cancer treatment is also called biotherapy or biologic therapy. There are other types of immunotherapy. You can discuss these with your health care provider.

## **Inflammatory Breast Cancer**

Inflammatory breast cancer is a rare type of breast cancer. The breast is inflamed because of its swollen and red appearance. Your breast may feel warm. Your skin may have ridges and raised areas or it may look pitted like the skin of an orange. **This type of cancer is aggressive.**

**Inflammatory breast cancer may be stage IIIB, IIIC or IV.**

## Radiation Therapy

This treatment uses high-energy rays (similar to x-rays) to kill cancer cells and shrink tumors. Radiation for breast cancer usually comes from a machine. This is called external beam radiation.

## Recurrence

Recurrence means that the cancer has come back after being treated. It may come back in the breast, lymph nodes, soft tissues of the chest wall or in another part of the body.

## Targeted Therapy

Targeted therapy uses medicines to find and attack specific markers on cancer cells. Some types of targeted therapy kill cancer cells directly by affecting how the cells grow and survive. Others help the body's immune system, its natural defense, attack and fight the cancer.

Two types of targeted therapies used to treat breast cancer are:

1. Monoclonal antibodies
2. Tyrosine kinase inhibitors

## Types of Therapy

### Surgery

Surgery can be part of your breast cancer treatment. It removes the cancer from the breast. Lymph nodes under the arm may be taken out and looked at to see if cancer cells are present.

### Breast Conservation Surgery

Lumpectomy (sometimes called segmental mastectomy, partial mastectomy or wide local excision) takes out the lump in the breast and some of the nearby tissue. It may be followed by radiation therapy to the part of the breast that remains or to a portion of the breast around the surgical site. Some of the lymph nodes under the arm may be removed.

## Other Types of Surgery

- **Modified radical mastectomy** removes the breast and some of the lymph nodes under the arm.
- **Sentinel Lymph Node Biopsy (SLNB)** is surgery to remove the sentinel lymph node. This lymph node is the first to receive lymphatic drainage from a tumor. It is the first lymph node the cancer is likely to spread to from a tumor in the breast.
  - A SLNB determines if your cancer has spread to your lymph system. It requires more extensive lymph node surgery. **If the SLNB reveals cancer cells in the sentinel node, a full axillary lymph node dissection may be needed.** SLNB is preferred as the first step since it removes fewer lymph nodes than a formal axillary dissection. It also has fewer long-term side effects. This procedure may provide your doctor with information to make treatment decisions.

- **Total or simple mastectomy** removes the whole breast. Sometimes lymph nodes under the arm are removed.

## Treatment Summary

Treatment is different for each breast cancer patient. It depends on the stage and type.

### The main types of treatment are:

- Surgery -to remove the cancer
- Radiation therapy - rays to kill cancer cells
- Chemotherapy - medicines to kill cancer cells
- Hormone therapy - to stop cell growth
- Targeted therapy - medicines target a unique marker on the breast cancer cells
- Immunotherapy - uses your immune system to fight the cancer

New types of treatment are being tested in clinical trials.

## Resources

National Cancer Institute's Cancer Information Service  
800-422-6237

By dialing this toll-free number, you can speak with someone who can answer your questions.

You can also visit [www.baptistmdanderson.com](http://www.baptistmdanderson.com) for more information or by calling us at 904-202-7300 and speaking with your Breast Oncology Team