Male Breast Cancer: Staging and Treatment

What is staging for cancer?

Staging is the process of learning how much cancer is in your body and where it is. Tests like biopsies, CTs, and MRIs are done to help stage your cancer. Your providers need to know about your cancer and your health so that they can plan the best treatment for you.

Staging looks at the size of the tumor and where it is, and if it has spread to other organs. The staging system for breast cancer is called the “TNM system," as described by the American Joint Committee on Cancer. It has three parts:

- **T**-describes the size/location/extent of the "primary" tumor in the breast.
- **N**-describes if the cancer has spread to the lymph nodes.
- **M**-describes if the cancer has spread to other organs (called metastases).

Your healthcare provider will use the results of the tests you had to determine your TNM result and combine these to get a stage from 0 to IV.

How is male breast cancer staged?

Breast cancer in men and women is staged the same, into five groups. Staging is based on:

- The size of your tumor on the mammogram and what is found after surgery.
- Any evidence of spread to other organs (metastasis).
- Surgery done to test if your lymph nodes have cancer cells.

Staging is important because it helps guide your treatment options. Stages 0, I, and II are early or moderate stages. Stages III and IV are considered more advanced.

The staging system is very complex. Below is a summary of the staging system. Talk to your provider about the stage of your cancer.

- **Stage 0** (called carcinoma in situ/non-invasive breast cancer):
  - *Lobular carcinoma in situ (LCIS):* abnormal cells line a gland in the breast. This is a risk factor for future cancer, but this is not thought to be cancer itself.
  - *Ductal carcinoma in situ (DCIS):* abnormal cells line a duct in the breast. Women with DCIS have a higher risk of getting invasive breast cancer in that breast. Treatment options are similar to patients with Stage I breast cancers.
- **Stage I:** early-stage breast cancer where the tumor is less than 2 cm and hasn't spread to lymph nodes or other parts of the body.
- **Stage II:** early-stage breast cancer where the tumor is either less than 2 cm and has spread to 1-3 lymph nodes under the arm, or the tumor is between 2 and 5 cm (with or without spread to the lymph nodes under the arm), or the tumor is greater than 5 cm and hasn't spread outside the breast.
- **Stage III:** this is called locally advanced breast cancer. The tumor is greater than 5 cm and has spread to the lymph nodes under the arm; or the cancer is found in more than 3 underarm lymph nodes; or cancer has spread to lymph nodes near the breastbone or to other tissues near the breast.
- **Stage IV:** metastatic breast cancer in which cancer has spread outside the breast to other organs in the body.

Depending on the stage of your cancer, your provider may want more tests to see if the cancer has spread to any other organs.
or nearby lymph nodes. Your providers will talk with you about what is needed to stage your cancer.

**How is breast cancer treated in men?**

Treatment for breast cancer depends on many factors, like your cancer stage, age, overall health, and testing results. Your treatment may include some or all of the following:

- Surgery
- Chemotherapy
- Radiation Therapy
- Hormone Therapy
- Targeted Therapy
- Clinical Trials

**Treatment for Early/Moderate Stage Breast Cancer**

Early/moderate-stage breast cancer refers to breast cancer that is stage 0-II. These cancers are less than 5 centimeters, can be removed with surgery, and have not spread beyond the breast and regional lymph nodes.

**Surgery**

There are two commonly used surgeries:

- **Mastectomy**: Total removal of the breast.
- **Breast-conserving surgery (partial mastectomy/lumpectomy)**: May be an option for older men with other health issues or those who want their nipple preserved. You may also need radiation therapy (discussed below). Radiation after BCS helps prevent the cancer from coming back in that breast (recurrence).

Many patients will also have lymph nodes removed from the axilla (armpit):

- **Lymph Node Removal and Testing**: If you have invasive breast cancer (any stage except stage 0), you should have lymph nodes removed and tested. This may be done with:
  - **Sentinel lymph node biopsy**: 1-3 lymph nodes are removed.
  - **Axillary dissection**: Many lymph nodes are removed.

The breast tissue and any lymph nodes that are removed will be looked at by a pathologist under a microscope. A report will be written that has:

- The type of cancer cells that are seen.
- The size of the cancer.
- The number of lymph nodes that have cancer in them.
- Information about the cancer such as “grade” (how aggressive the cells look), if it has receptors for estrogen, progesterone (ER, PR), and HER2.

These findings will help decide what treatment will work best for you.

**Chemotherapy**

Even when tumors are removed by surgery, tiny cancer cells can still be left behind. These cancer cells can spread to other parts of the body. Chemotherapy helps rid your body of these cancer cells and can help prevent the cancer from coming back (recurring). Chemotherapy is the use of anti-cancer medicines that go through your whole body.

Chemotherapy can be beneficial if you have early or moderate-stage disease. Your age and overall health, as well as the biological makeup of your breast tumor help your team decide whether you should have chemotherapy. In most cases, the genetic makeup of your tumor (tested with OncoType Dx and MammaPrint) may be used to see if you will benefit from chemotherapy.

There are many chemotherapy medicines. They are often given in combinations (called a regimen) for 3 to 6 months after surgery for early/moderate stage breast cancer. Most chemotherapies for breast cancer are given through a vein, so they need
to be given in an oncology clinic or infusion center.

Medications that are commonly used in early/moderate stage breast cancer treatment are adriamycin (doxorubicin), cyclophosphamide, taxanes (taxol and taxotere), methotrexate, and 5-FU. Your oncology team will go over the best regimen for your cancer. You can work with your providers to choose the best regimen for you.

Radiation
You may need radiation therapy. Radiation therapy uses high-energy x-rays to kill cancer cells. Radiation therapy is recommended for nearly all early-stage breast cancer patients who have breast-conserving surgery. Radiation helps lower the risk of the cancer coming back in the same breast (local recurrence). Your radiation oncologist can answer questions about the benefits, process, and side effects of radiation therapy. In general:

- You will need to go to a radiation therapy treatment center 5 days a week for up to 6 weeks to receive treatment.
- For early/moderate stage breast cancer, you will receive treatment to the whole breast for 4-5 weeks. The final 1-2 weeks of treatment often involve a "boost" of radiation that is only delivered to the area in the breast where the tumor was.
- The treatment is painless and takes just a few minutes.

Some other ways to deliver radiation for early/moderate-stage breast cancers are:

- More radiation is given per day to the whole breast so that the treatment takes only 4 weeks (called hypofractionation).
- Brachytherapy or Mammosite. This reduces the treatment time to 1 week but is not an option for many patients.

These techniques are only helpful for some patients. Your radiation oncologist will talk with you about the best course of treatment for your cancer.

Treatment for Advanced Breast Cancer
Advanced cancers are treated differently than early-stage cancers. Your treatment will depend on the type of tumor you have, your age, other health issues, and your goals for treatment. Both local and systemic treatments may be used.

Local Treatments
Local treatments are those that only treat a certain part of the body. Both surgery and radiation are local treatments that can be used to treat advanced breast cancer.

Surgery
Locally advanced (stage III) breast cancers are often treated with a modified radical mastectomy and dissection of the lymph nodes under the arm. You may be given chemotherapy before surgery to shrink the tumor making it easier to remove. Stage IV tumors are not often treated with surgery.

Radiation Therapy
Radiation therapy uses high-energy x-rays to kill cancer cells. There are many ways that radiation therapy may be used if you have advanced breast cancer. You may have radiation therapy to the breast or the chest wall after a modified radical mastectomy. Some patients also need radiation to the axilla (armpit) or supraclavicular (lower neck) regions. This radiation can be given at the same time as radiation to the breast or chest wall. The goal is to kill any cancer cells that may be in your lymph nodes. You will often have radiation treatments 5 days a week for 5-6 weeks. The radiation itself is painless, but skin irritation and fatigue can happen during treatment and last for a few weeks after treatment is done.

Radiation in patients with advanced/metastatic breast cancer may also be palliative. This means the treatment is used to relieve symptoms and improve quality of life but not cure the cancer. Palliative radiation therapy often targets an area where the cancer has metastasized such as the brain, bones, or spine.

Systemic Treatments
Advanced breast cancer means that the cancer cells have spread beyond the original tumor into lymph nodes, the tissue near the tumor, or other areas of the body. In some cases, the cancer cells cannot be seen on imaging tests because they are in the blood and lymphatic systems. In stage IV (metastatic) disease, these cells often form tumors that can be seen on imaging tests, or they can cause symptoms. For this reason, treatment for advanced breast cancer must be “systemic” — meaning it travels throughout the whole body. Systemic treatments include chemotherapy, hormone therapy and targeted therapies. Surgery and
radiation are local treatments and only treat a specific area.

Treatment of advanced breast cancer is different for each patient. You will need to talk to your oncologist about issues like your hormone receptor and HER2 status, prior treatments, health conditions, goals of treatment, and balancing quality of life with side effects.

Chemotherapy
You may be given one chemotherapy or a few. This is called your regimen. If they don’t work or stop working, you may be given different chemotherapies. Your provider may give you a chemotherapy break if you have serious side effects from the medications. Many chemotherapies are given through a vein, but some are taken by mouth.

Some used to treat advanced breast cancer are adriamycin (doxorubicin), cyclophosphamide, methotrexate, taxanes (taxol and taxotere), capecitabine, fluorouracil, vinorelbine, eribulin, carboplatin, epirubicin, and ixabepilone.

If you have bone metastases, you may also need medications to prevent more damage to the bones and help relieve bone pain. These medications include denosumab (Xgeva®), pamidronate (Aredia), and zoledronic acid (Zometa).

Hormonal and Targeted Therapy in Early and Advanced Breast Cancer

Hormonal Therapy
Your tumor may express (give off) estrogen and/ or progesterone receptors. Patients whose tumors express estrogen receptors may benefit from estrogen-blocking drugs. Estrogen-blocking medications include tamoxifen and medications called aromatase inhibitors (AI), like anastrozole, letrozole, and exemestane. If you cannot take tamoxifen, you may be given an AI with another medication called a GnRH analog. These are taken for 5 to 10 years after breast cancer surgery. Hormone therapy has been shown to lessen your risk of recurrence if your tumor expresses estrogen receptors. They may cause side effects. Tamoxifen may cause weight gain, hot flashes, and mood swings. Taking tamoxifen may also increase the risk of serious medical issues, such as blood clots and stroke.

Men taking aromatase inhibitors may have bone or joint pain and are at higher risk for thinning of the bones (osteopenia or osteoporosis). Men taking AIs should have bone density tests before starting treatment and as needed based on results. You may need treatment for bone thinning.

Targeted Therapy
HER-2 is a receptor that is over-expressed in some breast cancers. These are called HER2-positive breast cancers. These tumors may grow faster and are more likely to spread, but there are also medications that target the HER2 protein, giving these tumors an extra treatment option. The most common treatment for HER2-positive cancers is trastuzumab (Herceptin®), which may be given to treat the cancer or to prevent it from recurring. Other medications that treat HER2-positive cancers are lapatinib (Tykerb®), pertuzumab (Perjeta®), neratinib (Nerlynx), ado-trastuzumab emtansine (Kadcyla), and fam-trastuzumab deruxtecan-nxki.

Male breast cancers are more likely to be hormone receptor-positive (HR+). Treatments used in the treatment of HR+ male breast cancers include abemaciclib (Verzenio ®), palbociclib (Ibrance®), and ribociclib (Kisqali®).

Olaparib (Lynparza®) is another targeted therapy, called a PARP inhibitor, that can be used in men with breast cancer who also have a BRCA mutation. Alpelisib (Piqray®) is a PI3K inhibitor, another type of targeted therapy. About 30-40% of all breast cancers have a mutation of the PIK3CA gene, but this mutation is less common in men. Your care team will test you for this mutation.

Clinical Trials
You may be offered a clinical trial as part of your treatment plan. To find out more about current clinical trials, visit the OncoLink Clinical Trials Matching Service.

Making Treatment Decisions
Your care team will make sure you are included in choosing your treatment plan. This can be overwhelming as you may be given a few options to choose from. It feels like an emergency, but you can take a few weeks to meet with different providers and think about your options and what is best for you. This is a personal decision. Friends and family can help you talk through
the options and the pros and cons of each, but they cannot make the decision for you. You need to be comfortable with your decision – this will help you move on to the next steps. If you ever have any questions or concerns, be sure to call your team.

You can learn more about breast cancer at OncoLink.org.