

what is **breast cancer**?



Department of Surgical Oncology



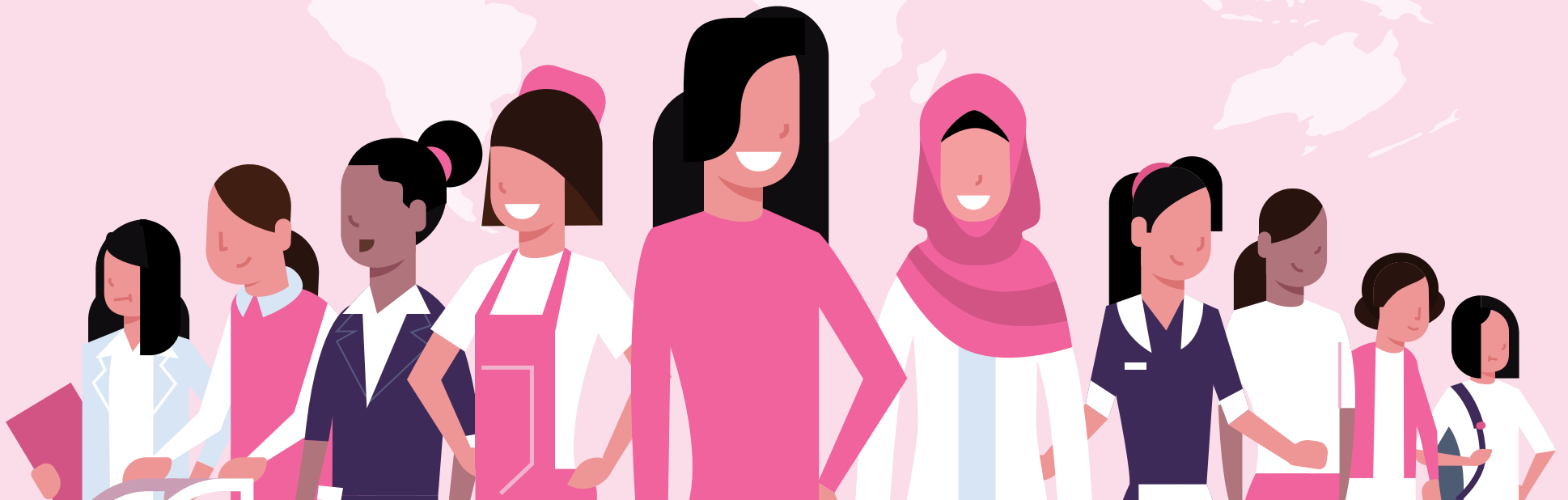
Breast cancer is the development of abnormal cells in the breast. They begin to grow out of control and produce more cells that grow into tumors, or growths. When breast cancer spreads, cancer cells are often found in the underarm lymph nodes (axillary lymph nodes). Breast cancer cells can spread from the breast to almost any other part of the body, such as the lungs, liver, bones, or brain.

why some women are more likely to have breast cancer than others?

Breast cancer can occur at any age but is more likely to occur after age 40.

Certain factors may cause some women to have a greater chance of having breast cancer than other women. Those factors include:

- A personal history of breast cancer
- Two or more close relatives with breast or ovarian cancer
- A relative (mother, sister, grandmother, or aunt) on either side of the family with breast cancer before age 50
- A close male relative with breast cancer
- Inherited changes in breast cancer-related genes (called BRCA1 and BRCA2 genes)
- Previous radiation to the chest area



Some factors may increase the chance of breast cancer by only a small amount, such as:

- Older age
- Starting your menstrual period at an early age
- Going through menopause at a late age
- Having no children
- Having your first pregnancy after age 30
- Not breast-feeding
- Taking postmenopausal hormone replacement therapy
- Gaining weight
- Lack of exercise
- Drinking alcohol (even in small to moderate amounts)

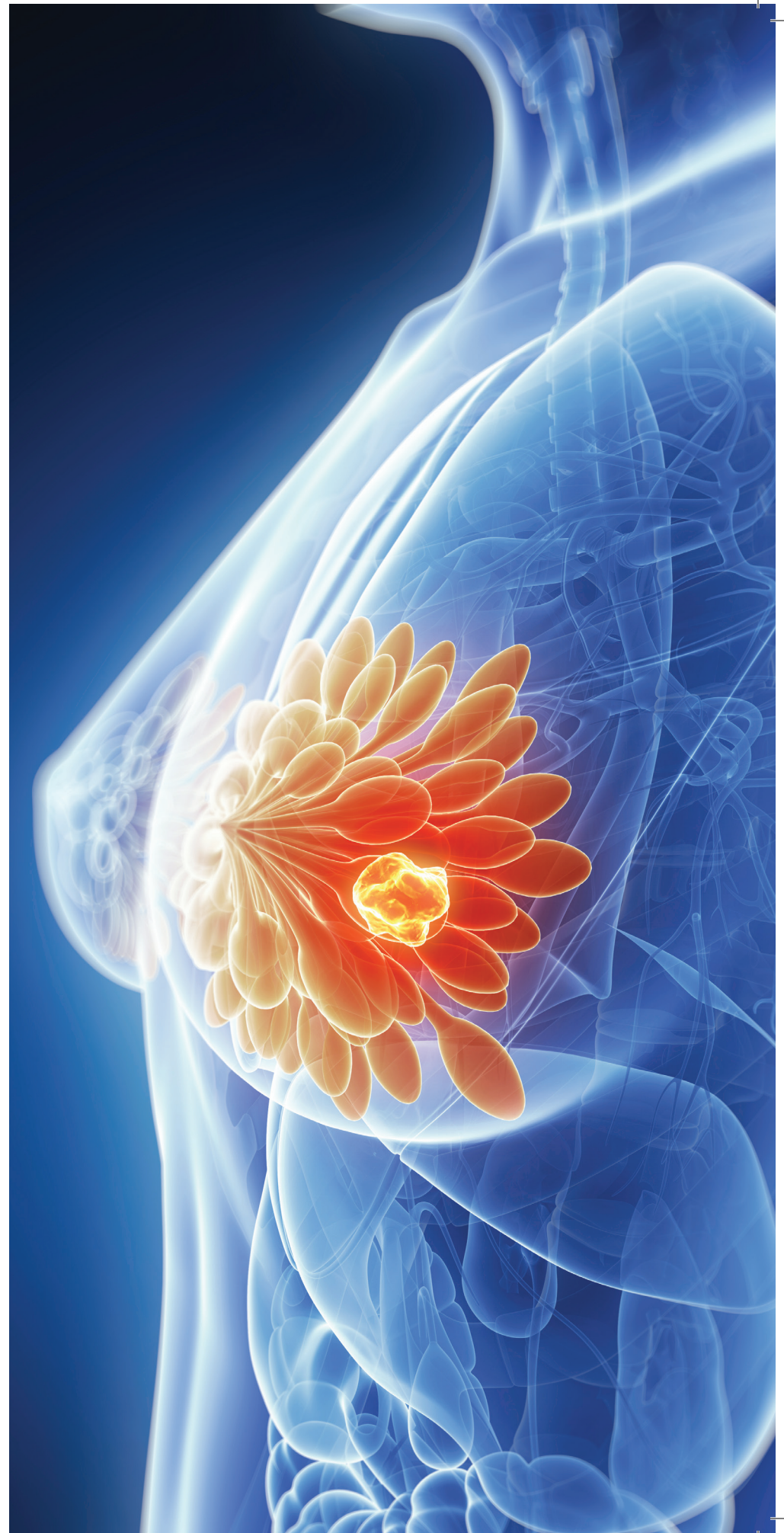
Early breast cancer is usually-but not always- painless. In its very early stages, it's too small to find by feeling the breast. As it grows larger it feels like a lump or thickening.

Remember: Most breast lumps are not cancer. There's only one way to know for sure. See a doctor about any changes in your breasts.

Breast cancer can occur anywhere in the breast. Some signs to watch for are:

- A lump or thickening anywhere in the breast
- Skin dimpling or puckering of the breast
- A nipple that is pushed in (inverted) and hasn't always been that way
- Discharge from the nipples that comes out by itself, staining your clothing
- Any change in the shape, texture (raised, thickened or scaly skin, for example) or color of the skin.
- Enlarging lymph glands

All women should practice breast awareness and report any lumps or abnormalities to their doctors.



the mammogram: what it is and how it's done?

While breast exams are very important, breast tumors can often be found with a mammogram before any of these signs appear. That is why mammograms are very important.

A mammogram is a special x-ray of the breast in which each breast is examined separately by gently compressing it between two flat plates while the pictures are taken. Only very low doses of radiation are used. They can be uncomfortable, but mammograms are a woman's most important protection against breast cancer. The most important thing a woman aged 40 or older can do to find breast cancer early is to have a mammogram every 2 year.

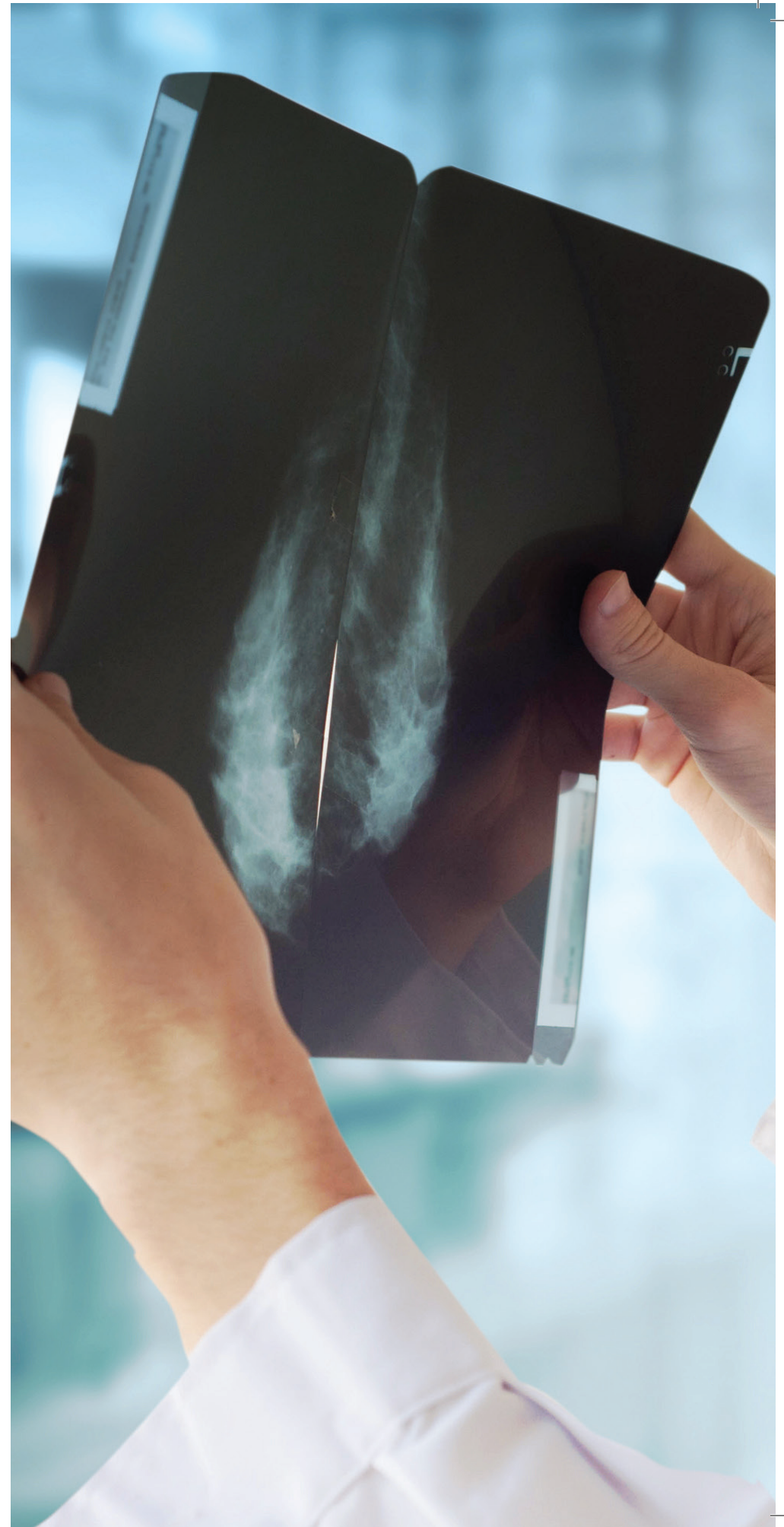
Mammograms are usually not done in women younger than 40 because breast tissue in younger women is too dense to give a good x-ray image. A mammogram makes it possible to see tumors long before they can be felt by you or even a skilled doctor or nurse. Sometimes the x-ray will show tiny pieces of calcium in the breast called microcalcifications. Most are harmless but in some cases they can be a sign of cancer or a precancerous condition.

Other imaging techniques, such as ultrasounds and MRI's, can also help.

If problems are detected, a woman will be called back for additional screening or a biopsy. It is important to have these tests, but not to panic, since the results often don't show cancer.

Breast biopsies

May be recommended because of an abnormal mammogram or because of an abnormal exam, even if the mammogram looks ok. Biopsies are usually done under local anesthesia on an outpatient basis.

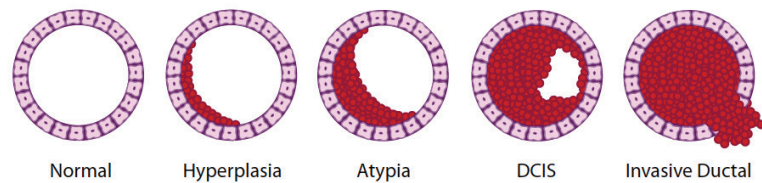


genetic tests

Cannot detect cancer, but they can find two genes (called BRCA1 and BRCA2) that greatly increase the risk of breast and ovarian cancer. These genes are rare in the general population, but women with strong family histories of breast cancer should discuss testing and counseling with their doctor.

how bad is it?

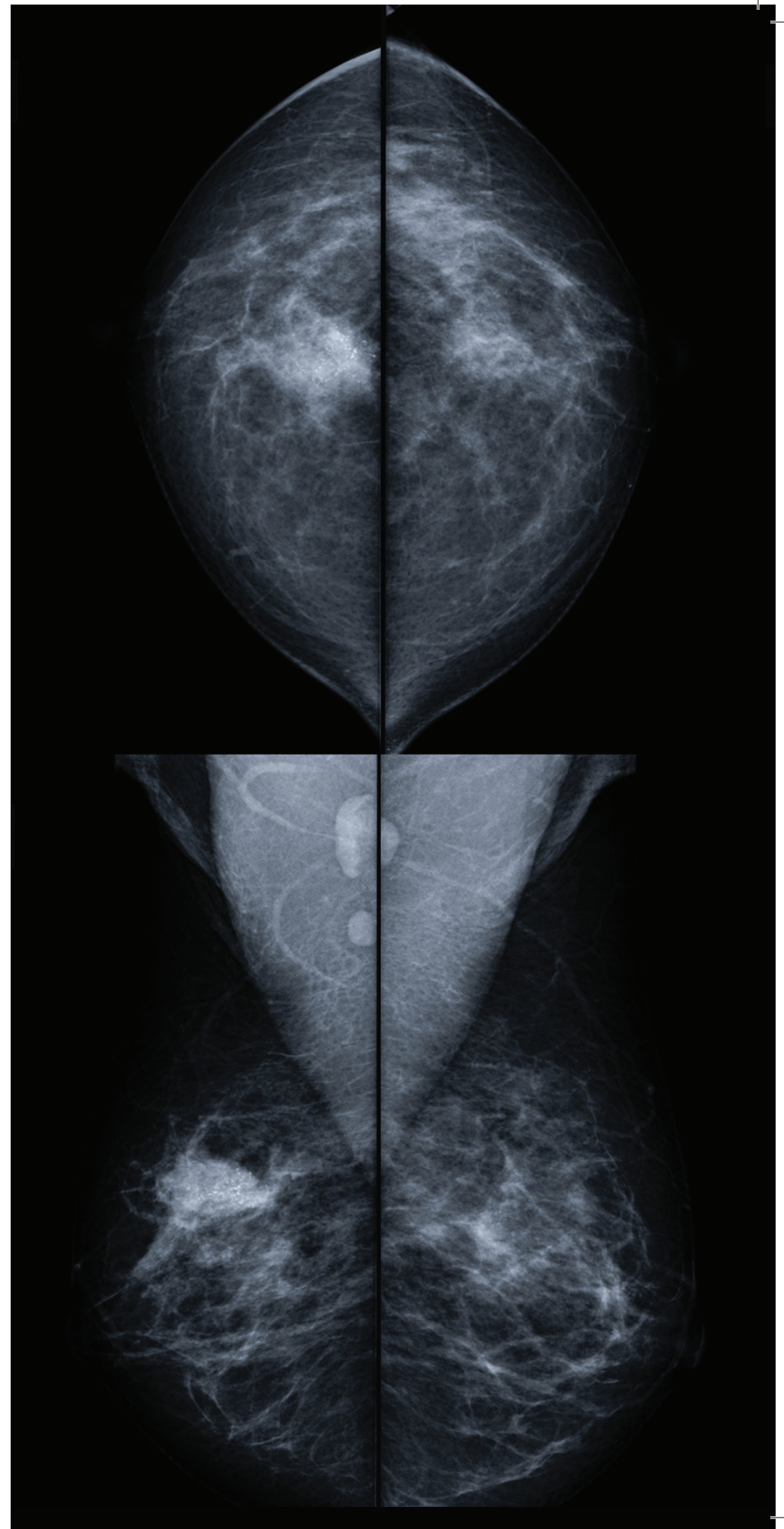
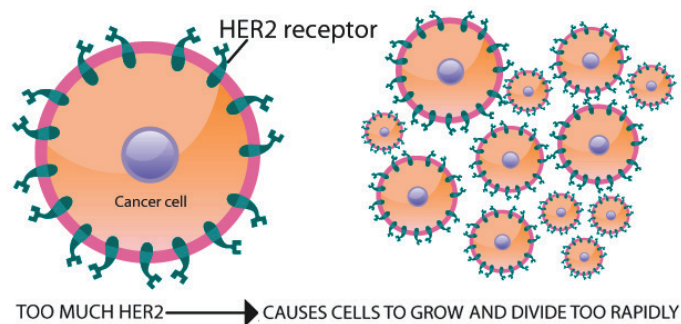
There are two main types of breast cancer. Carcinoma in situ (DCIS) is the mildest form. Most women will be cured simply by surgery to remove the small tumor (lumpectomy) and getting radiation therapy. But they must be monitored for new tumors. Invasive breast cancer is more serious.



Doctors base treatment on several factors:

- **Tumor size. Small cancers have the best outlook.**
- **Cell receptors. Cancer cells that bind to the female hormones estrogen (ER-positive cells) or progesterone (PR-positive cells) can respond well to hormone therapy and are easier to treat than cancers that lack hormone receptors.**

Cells that show high levels of a protein called HER2/neu tend to develop much more aggressive breast cancers. A test will determine your level of HER2/neu and help your oncologist decide if you are a good candidate for treatment with drugs such as Herceptin.



lymph gland spread

When breast cancer spreads, it reaches lymph glands in the armpit (axillary nodes) first. Doctors check for this by removing some glands to look for cancer. This technique is called sentinel lymph node biopsy. This procedure begins with the injection of a blue dye and/or a small amount of radioactive material into the area near the tumor. The lymphatic fluid carries the dye to the first node in its path - the sentinel node. This is identified and removed and examined.

Distant spread. A cure is unlikely if breast cancer spreads to other organs but treatment can still be very helpful.

In addition, your treatment plan depends on:

- The size of the tumor in relation to the size of your breast.
- Whether you have gone through menopause

At any stage of disease, care is available to control pain and other symptoms, to relieve side effects of treatment, and to ease emotional concerns.

Doctors describe the stages of breast cancer using the Roman numerals 0, I, II, III, and IV.

A cancer that is Stage I is early-stage breast cancer, and a cancer that is Stage IV is advanced cancer that has spread to other parts of the body, such as the liver.

STAGE 0

- Abnormal cells in the lining of the ducts or sections of the breast
- Results in increased risk of developing cancer in both breasts

STAGE I

- Cancer in breast tissue tumor less than 1 inch (2.5 cm) across

STAGE II

- Cancer in breast tissue tumor less than 2 inch (5 cm) across
- Cancer may also spread to axillary (armpit) lymph nodes

STAGE III

- Tumor is larger than 2 inches (5 cm) across with extensive spread to axillary or other nearby lymph nodes
- Possible inflammation of breast tissue, dimpling, thickening, and change in color of the skin due to blocked lymphatic drainage

STAGE IV

- Spread of cancer beyond the immediate region of the breast

The stage often is not known until after surgery to remove the tumor in the breast and one or more underarm lymph nodes.





surgery

Surgery is the most common treatment for breast cancer. There are several kinds of surgery.

Your surgeon can describe each kind of surgery, compare the benefits and risks, and help you decide which kind might be best for you:

Removing part of the breast: Breast-sparing surgery is an operation to remove the cancer and a small amount of tissue that surrounds it. This is also called breast-conserving surgery. It can be a lumpectomy or partial mastectomy. The surgeon will also remove one or more lymph nodes under the arm to check for cancer cells. If cancer cells are found in the lymph nodes, other cancer treatments will be needed.

A woman usually has radiation therapy after breast-sparing surgery to kill cancer cells that may remain in the breast area.

Removing the whole breast: Surgery to remove the whole breast is a mastectomy. In some cases, a skin-sparing mastectomy may be an option. For this approach the surgeon removes as little skin as possible.

In modified radical mastectomy the surgeon removes the whole breast and most of the lymph nodes under the arm (Axillary lymph node dissection). This procedure is extremely important for deciding whether you will need additional therapy.

the choice between breast-conserving surgery and mastectomy depends on many factors:

- The size, location and stage of the tumor
- The size of your breast
- Certain features of the cancer
- How you feel about how surgery will change your breast
- How you feel about radiation therapy
- Your ability to travel to a radiation treatment center for daily treatment sessions

After mastectomy, you may choose to have breast reconstruction. This is plastic surgery to rebuild the shape of your breast. If you are considering reconstruction, talk with a plastic surgeon before having cancer surgery. A surgeon can reconstruct the breast in many ways. Some women choose to have breast implants which are filled with saline or silicone gel. Another method of breast reconstruction is to create a breast shape using tissue taken from another part of your body.

after axillary lymph node dissection

One complication of extensive surgery in the armpit is damage to one or more of the nerves, either accidentally or because the injury was unavoidable. This may result in long term numbness in the armpit area, or weakness in some of the shoulder muscles. Often the numbness will improve over several years, but sensitivity will never be normal. The weakness can generally be overcome with time. A more serious problem is a condition called lymphedema. It is caused by scarring of lymph nodes in the underarm area after removal of the lymph causing swelling of the arm, limiting its function, and making the arm more prone to infection. As many as 20-10% of women undergoing axillary lymph node dissection will develop lymphedema of the arm. It can develop soon after surgery or even years later. In most cases it will be mild- you will notice some swelling in your fingers. In women who are older or overweight or had radiation therapy, lymphedema is more likely to be more severe. Always protect the arm and hand on the treated side of your body from cuts, burns or other injuries. Remind nurses not to measure your blood pressure or give you injections on the treated side of your body. The physical therapist can suggest exercises to help you regain movement and strength in your arm and shoulder. Exercise can also reduce stiffness and pain. You may be able to begin gentle exercises within days of surgery.





radiation

Radiation therapy may be used after surgery to destroy breast cancer cells that remain in the chest area. Women usually have radiation after breast-sparing surgery but it's sometimes used after mastectomy too. Radiation comes from a large machine outside the body. Usually women get treatment once a day, 5 days a week for up to 6 weeks. Each treatment session lasts only a few minutes. It is common for the skin in the treated area to become red, dry, tender and itchy. After treatment is over, the skin will slowly heal.



hormone therapy

Drugs like tamoxifen (for pre or post-menopausal women) or one of the aromatase inhibitors (for post-menopausal women) protect breast cells from estrogen. This reduces the risk of recurrent cancer in women with ER and PR positive tumors.



chemotherapy

For women with advanced breast cancers (stages III and IV), chemotherapy is needed. But since some women with early disease (stages I and II) may have microscopic spread, chemotherapy might be recommended, especially if the original cancer is ER negative and PR negative.



follow-up care

You will need regular checkups (such as every 3 to 6 months) after treatment for breast cancer. Check-ups help ensure that any changes in your health are noted and treated if needed.

check-ups help detect

- Breast cancer that comes back after treatment. Breast cancer may return in the breast or chest wall. Or it may return in any other part of the body, such as the bones, liver, lungs or brain.
- Health problems that can result from cancer treatment.
- A new breast cancer

complicated and simple

Treating breast cancer is complex. The best results come from expert evaluations of each patient's medical situation and personal preferences. But you don't have to be an expert to take action against breast cancer. In fact, simple things can help the most: lead a healthy lifestyle, get regular breast exams and practice breast awareness. Above all get your mammograms.







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