



Lake Charles
Memorial
BREAST HEALTH



BREAST DISEASES

Hyperplasia

Hyperplasia is an overgrowth of cells that most often occurs on the inside of the lobules or milk ducts in the breast. There are two main types of hyperplasia—usual and atypical. Both increase the risk of breast cancer, though atypical hyperplasia does so to a greater degree.

Cysts

Cysts are fluid-filled sacs that are almost always benign and more common in premenopausal women. After menopause, cysts occur less often. Cysts do not increase the risk of breast cancer. Although most cysts are too small to feel, some are large enough that they may feel like lumps in the breast and may cause breast pain.

Fibroadenomas

Fibroadenomas are solid benign tumors most common in younger women, between the ages of 15 and 35. Most fibroadenomas do not increase the risk of breast cancer. Often, they do not need treatment. However, if a fibroadenoma is large or causes discomfort or worry, it may be removed.

Intraductal papillomas

Intraductal papillomas are small growths that occur in the milk ducts of the breasts and can cause nipple discharge. A lump may be felt, may be painful and are removed with surgery with need no further treatment. They do not increase the risk of breast cancer unless they have abnormal cells or there is ductal carcinoma in situ (DCIS) in the nearby tissue.

Sclerosing adenosis

Sclerosing adenosis are small breast lumps caused by enlarged lobules. A lump may be felt and may be painful. Sclerosing adenosis may be found on a mammogram. Because it has a distorted shape, it may be mistaken for breast cancer. A biopsy may be needed to rule out breast cancer. Sclerosing adenosis does not need treatment.

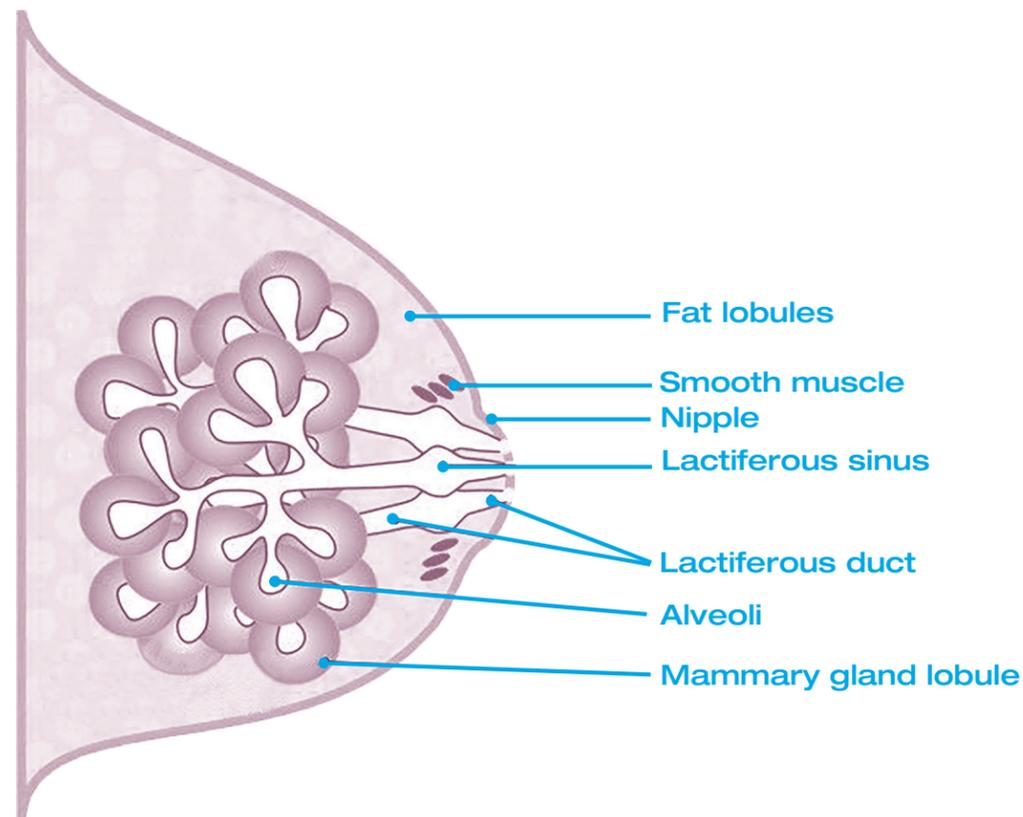
Radial scars

Radial scars are a core of connective tissue fibers. Milk ducts and lobules grow out from this core. Radial scars can look like breast cancer on a mammogram, but they are not cancer. They are found most often during a biopsy removed for other reasons. After they are removed, they need no further treatment

Breast cancer

Breast cancer is an uncontrolled growth of abnormal breast cells. The term “breast cancer” refers to a malignant tumor that has developed from these cells in the breast. Breast cancer is caused by a genetic abnormality (a “mistake” in the genetic material). However, only 5-10% of cancers are due to an inherited abnormality. Instead, 85-90% of breast cancers are due to genetic abnormalities that happen as a result of the aging process and the “wear and tear” of life in general.

PARTS OF THE BREAST



How does breast cancer begin?

Breast cancer begins when healthy cells in the breast change and grow uncontrollably, forming a mass called a tumor. Most breast cancers start in the ducts, but some begin in the lobules. Almost 75% of all breast cancers begin in the cells lining the milk ducts and are called ductal carcinomas. Cancer that begins in the lobules is called lobular carcinoma. The difference between ductal and lobular cancer is determined by a pathologist (a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease) after examining a piece of the tumor removed during a biopsy.

If the disease has spread outside the duct or lobule and into the surrounding tissue, it is called invasive or infiltrating ductal or lobular carcinoma.

A tumor can be benign (noncancerous) or malignant (cancerous). A benign tumor does not spread to other parts of the body. A malignant tumor, on the other hand, can spread beyond where it began to other parts of the body.

How does breast cancer spread?

As a cancerous breast tumor grows, cancer cells may break away and be carried to other parts of the body by the bloodstream or lymphatic system. During this process known as metastasis, the cancer cells grow and develop into new tumors. One of the first places breast cancer usually spreads is to the regional lymph nodes.

Breast cancer can also spread farther away from the breast to other parts of the body, such as the bones, lungs, and liver. Less commonly, breast cancer may spread to the brain. However, even if the cancer has spread, it is still named for the area where it began.

What are the breast cancer stages?

Stage 0

DCIS (ductal carcinoma in situ) is a non-invasive breast cancer. In DCIS, the abnormal cells are contained in the milk ducts. It is called “in situ” (which means “in place”) because the cells have not left the milk ducts to invade nearby breast tissue. DCIS is also called intraductal (within the milk ducts) carcinoma. You may also hear the terms “pre-invasive” or “pre-cancerous” to describe DCIS. Although exact treatment varies from person to person, surgery (with or without radiation therapy) is generally recommended. After surgery and radiation therapy, some women may take hormone therapy.

Stage I or II

Early stage breast cancer is the most common invasive breast cancer. Stage I breast cancers are smaller than two centimeters and have not spread to the lymph nodes in the armpit (axillary

nodes). Stage II breast cancers are either larger than two centimeters or have spread to the axillary nodes. Treatment for early breast cancer usually involves some combination of surgery, radiation therapy, chemotherapy, hormone therapy and/or targeted therapy.

👑 **Stage II or III**

Locally advanced breast cancer has spread beyond the breast to the chest wall or the skin of the breast, or to many lymph nodes in the underarm area (axillary nodes), but not to other organs. It is treated with a combination of surgery, radiation therapy and chemotherapy. Depending on certain tumor characteristics, treatment may also include hormone therapy and/or targeted therapy. Treatment usually begins with neoadjuvant (before surgery) therapy to help shrink the tumor(s) in the breast and lymph nodes so that surgery can better remove all of the cancer. If the tumor does not get smaller with one combination of chemotherapy drugs, other combinations can be tried.

👑 **Stage IV**

Metastatic breast cancer or advanced breast cancer has spread beyond the breast to other organs in the body (most often the bones, lungs, liver or brain). More commonly, metastatic breast cancer arises months or years after a person has completed treatment for early or locally advanced (stage I, II or III) breast cancer. This is sometimes called distant recurrence. The risk of breast cancer returning and metastasizing varies from person to person and depends greatly on the biology of the tumor and the stage at the time original diagnosis. Metastatic breast cancer cannot be cured, however, it can be treated. Treatment focuses on length and quality of life and course of action depends on characteristics of the cancer cells, where the cancer has spread to, symptoms and past breast cancer treatments.

Who will help me through the treatment process?

During treatment, our Cancer Patient Navigator will help coordinate care and resources, gathering key documentation, answering questions and ensuring you have all the information needed to begin the journey back to health. Patients may, at some point, consult with our entire team of breast cancer specialists, which includes radiation oncologists, medical oncologists, radiologists, pathologists, surgeons, nurses and other diagnostic and treatment professionals.

Our goal, for the first visit and every visit, is to have the facts, figures, action plan and support needed to make decisions and take the next steps.

Our professionals will provide unhurried consultations and take the time to explain processes and treatment options—and discuss potential advantages and disadvantages of therapies—so you can make the most informed treatment choice.

What breast cancer diagnostics are available?

👑 **3D Mammography**

Mammograms can find small tumors or irregularities in the breast. The latest 3D mammography provides more accurate breast cancer screenings for dense and non-dense breasts. A Genius™ 3D exam allows the doctor to view each layer of the breast like the pages of a book with fine details more visible and no longer hidden by tissue above or below.

There is no defined upper age limit at which mammography may not be beneficial. Screening with mammography should be considered as long as the patient is in good health and is willing to undergo additional testing, including biopsy, if an abnormality is detected.

👑 **High resolution sonography**

Sonography is an imaging method that uses sound waves to look inside a part of the body. In the most common version of this test, a small, microphone-like instrument called a transducer is placed on the skin, emits sound waves and picks up the echoes as they bounce off body tissues. The echoes are converted into an image on a computer screen. A sonogram helps distinguish normal findings like cysts or fat lobules from suspicious breast changes that need biopsy.

👑 **3D Magnetic resonance imaging**

3D magnetic resonance imaging of the breast provides excellent information about lesions, normal and malignant tissues. An MRI uses magnetic fields, not x-rays, to produce detailed images of the body. A contrast medium (a special dye) is injected into a patient's vein or given orally (by mouth) to create a clearer picture of the breast. A breast MRI may be used once a woman has been diagnosed with cancer to check the other breast for cancer or to find out how much the disease has grown throughout the breast.

👑 **Image-guided stereotactic biopsy**

A needle biopsy removes several large cores of sample tissue. Local anesthesia is used to reduce discomfort. This biopsy is done when a distinct lump can't be felt, but an abnormality is seen with an imaging test, such as on a mammogram. During this procedure, a needle is guided to the best location with the help of 3D stereotactic imaging technology. A small metal clip may be put into the breast to mark where the biopsy sample was taken in case the tissue is cancerous and more surgery is needed. An image-guided biopsy can be done using a fine needle, core needle, or vacuum-assisted biopsy, depending on the amount of tissue that needs to be removed.

A surgical biopsy removes the largest amount of tissue. A surgical biopsy may be incisional (removes part of the lump) or excisional (removes the entire lump). Usually only one surgical procedure is needed to remove the tumor and to take samples of the lymph nodes.

A pathologist studies the removed tissue and can tell which area of the breast the cancer started in (ductal or lobular), whether the tumor has spread outside the area (invasive or in situ), and how different the cancer cells look from healthy breast cells (the grade). If the tumor was removed,

the margins (edges of the tumor) will also be examined to see if cancer cells are present and to measure their distance from the tumor. Laboratory tests on the tumor sample help identify specific genes, proteins, and other factors unique to the tumor and determine the most effective treatment options.

👑 Genetic & molecular testing

Genetic and molecular tests have the potential to not only provide patients with personalized diagnostic information, but also allow for specifically tailored treatment plans, thus limiting resistance and toxicity. They also supply prognostic information about cancer in its early stages, thereby determining whether aggressive, early management is necessary.

BRCA

There are several genes linked to an increased risk of breast cancer, but two of the most common are *breast cancer genes 1 and 2 (BRCA1 and BRCA2)*. A mutation in either of these genes gives an increased risk of developing breast cancer and ovarian cancer. Blood tests (genetic tests) check for known mutations in these genes.

Mammoprint

This test uses information about 70 genes to predict the risk of the cancer coming back for early-stage, low-risk breast cancer.

Oncotype

This test evaluates 16 cancer-related genes and five reference genes to produce a number called the Recurrence Score. This score estimates the risk of recurrence (return of the cancer in a place other than the breast) within 10 years after diagnosis for women with stage I or stage II, node-negative, ER-positive breast cancer treated with hormonal therapy alone. It is mainly used to help make decisions about whether chemotherapy should be added to a person's treatment.

ER/PR

Breast cancer cells depend on the hormones estrogen and/or progesterone to grow. The presence of these receptors helps determine both the risk of recurrence (cancer coming back after treatment) and the type of treatment most likely to prevent recurrence. Generally, hormonal therapy works well for ER-positive or PR-positive tumors, but chemotherapy is also used in specific situations. About 75% to 80% of breast cancers have estrogen and/or progesterone receptors.

Her2

About 20% to 25% of breast cancers have more copies of a gene called the *human epidermal growth factor receptor 2 (HER2)* than normal. Because this gene makes a protein that fuels tumor cell growth, HER2-positive cancers usually grow more quickly. The tumor's HER2 status also helps determine whether a certain type of drug might help treat the cancer.

Is breast surgery needed?

In cancer care, different types of doctors often work together to create an overall treatment plan that combines different types of treatments. The treatment options and recommendations will depend on several factors, including the stage and grade of the tumor, whether the cancer has spread, your menopausal status, your age and overall health, the tumor's hormone receptor (ER, PR) and HER2 status, and the presence of known mutations in inherited breast cancer genes (*BRCA1 or BRCA2*).

In many cases, surgery may be the first therapy for breast cancer. Our breast cancer surgeons work closely with their colleagues in radiology, pathology, radiation oncology, plastic surgery and medical oncology to customize treatment that includes these surgical techniques.

👑 Breast-sparing lumpectomy

This breast conservation surgery removes the tumor as well as a small, clear (cancer-free) margin of healthy tissue around it. Most of the breast remains. For invasive cancer, follow-up radiation therapy to the remaining breast tissue is generally recommended. A lumpectomy may also be called a partial mastectomy.

👑 Skin-preserving mastectomy

This surgery removes the entire breast and breast tissue. Newer mastectomy techniques can preserve breast skin and allow for a more natural breast appearance following the procedure. Surgery to restore shape to your breast — called breast reconstruction — may be done at the same time as your mastectomy or during a second operation at a later date.

👑 Sentinel lymph node biopsy

This surgery evaluates nearby lymph nodes for cancer cells by injecting a dye and/or a radioactive tracer into the area of the cancer which travels to the lymph nodes, arriving at the sentinel nodes first. The surgeon removes the sentinel lymph nodes (usually about one to three nodes). The pathologist examines them for cancer cells. If the sentinel lymph nodes are cancer-free, there is a good possibility that the remaining lymph nodes will also be free of cancer and no further surgery will be needed. If the sentinel lymph nodes show evidence of cancer, then the surgeon may perform an axillary lymph node dissection.

👑 Axillary lymph node dissection

This surgery removes lymph nodes from under the arm, which are then examined by a pathologist for cancer cells. Some women have more nodes than others. For example, you might be told that there were 17 nodes examined. Or, you might be told that there were 7 or even 40. However, the total number of nodes is less important than the number that is positive.

Is chemotherapy needed?

Our medical oncology team customizes chemotherapies based on the patient and the specifics



WHAT IS TRILOGY™?

The Trilogy may be used to provide intensity modulated radiation therapy (IMRT), 4D image-guided radiation therapy (IGRT), and stereotactic radiosurgery — all from one machine. This type of treatment is not right for everyone or for all tumors. However, your team of specialists will determine if this treatment and technology are appropriate for the breast tumor.

Benefits

- It delivers sculpted radiation beams to tumors, while protecting the surrounding healthy tissue and shortening treatment times
- Patients can breathe normally during treatment because advanced imaging allows clinicians to easily track the tumor's movements during treatment
- Radiation is so precise that clinicians can treat tumors in hard-to-reach areas and “shapes” a dose of radiation to match the contours of a specific tumor
- It offers shorter treatment times, fewer complications and side effects

of the cancer. Chemotherapy uses drugs to destroy cancer cells, usually by stopping their ability to grow and divide. Chemotherapy is generally given after surgery to lower the risk of recurrence or sometimes before surgery to shrink the tumor. It is also used to treat metastatic or recurrent breast cancer.

Systemic chemotherapy is delivered through the bloodstream to reach cancer cells throughout the body. Chemotherapy for breast cancer may be given intravenously or by mouth. The type of chemotherapy a person receives, how long and how often, depends on what worked best in clinical trials for that type and stage of cancer. A person may take one drug at a time or a combination of different drugs. The side effects depend on the individual, the drug, and the dose used.

Is radiation therapy needed?

Our radiation oncology specialists tailor treatments that offer superior therapeutic results—often in half the time. Treatment may be complicated by the structure of the breast and breast tissue's irregular shape and contours. That's why it is important to have a radiation oncologist experienced in:

- Managing care for women with complex breast disease
- Utilizing the latest technology and tissue-sparing therapies comparable to those found in large metropolitan cancer centers.
- CT planning that increases the precision of image guidance and spares exposure of healthy chest, heart and lung tissue
- Partial breast irradiation capabilities—using pinpointed external beam which cuts treatment time in half
- Intensity-modulated radiation therapy (IMRT), image-guided radiation therapy and stereotactic radiosurgery, which includes Vision RT. Vision RT takes scans of your body while you inhale and exhale, and stops the beams of radiation when you're breathing if your body moves from the correct position, protecting your heart.

Hormone Therapy for Breast Cancer

After treatment for breast cancer ends, your healthcare team will develop a follow-up care plan, which may include regular physical examinations and medical tests, like mammography, to monitor your recovery for the coming months and years. It will also involve managing any ongoing or late effects of treatment.

When might hormone therapy be used?

Hormone therapy is often used after surgery (as adjuvant therapy) to help reduce the risk of the cancer coming back. Sometimes it is started before surgery (as neoadjuvant therapy) as well. It is usually used for at least 5 years.

Hormone therapy can also be used to treat cancer that has come back after treatment or that has spread to other parts of the body.

How does hormone therapy work?

About 2 out of 3 breast cancers are hormone receptor-positive. Their cells have receptors that attach to the hormones estrogen (ER-positive cancers) and/or progesterone (PR-positive cancers). For these cancers, high estrogen levels help the cancer cells grow and spread.

There are several different types of hormone therapy, which use different ways to keep estrogen from helping the cancer grow. Most types of hormone therapy for breast cancer either lower estrogen levels or stop estrogen from acting on breast cancer cells.

What happens once treatment is finished?

After treatment for breast cancer ends, your healthcare team will develop a follow-up care plan which may include regular physical examinations and medical tests, like mammography, to monitor your recovery for the coming months and years. It will also involve managing any ongoing or late effects of treatment.

It is also very important for you to keep an eye out for signs that the cancer has come back—even if this thought is scary. The symptoms of a breast cancer recurrence include:

- A new lump in the breast, under the arm, or along the chest wall
- Pain that is long lasting and not relieved by over-the-counter medication
- Bone pain or fractures
- Headaches or seizures
- Chronic coughing or trouble breathing
- Abdominal pain or jaundice (yellow skin or eyes)
- Extreme fatigue
- Feeling ill or generally unwell

Remember, worrying about cancer coming back is normal, especially during the first year after treatment. And even many years after treatment, this fear may still be in the back of your mind. As time goes by, many people say that their fear of cancer returning decreases and they find

themselves thinking less often about cancer. But even years after treatment, some events can make you worry about your health.

For others, the cancer may never go away completely. You may get regular treatments with chemotherapy, radiation therapy, or other treatments to try to help keep the cancer in check. Learning to live with cancer that does not go away can be difficult and very stressful.

Your new “normal” may include making changes in the way you eat, the things you do, and your sources of support. It may mean fitting cancer treatments into your work and vacation schedule. It will mean making treatment part of your everyday life – treatments that you may be getting for the rest of your life.

Living with cancer is not so much about “getting back to normal” as it is learning what’s normal for you now. People often say that life has new meaning or that they look at things differently now.

LYMPHEDEMA AND ITS MANAGEMENT

What is lymphedema?

Lymphedema is a collection of protein-rich lymphatic fluid, usually in the arm or leg. It is caused by interruption of normal lymphatic flow often due to surgery, radiation, infection or trauma. It is the protein in the fluid that makes it difficult to treat. The protein acts as a magnet for more swelling and serves as a food source for infections.

What causes it?

With normal lymphatic flow, the amount of fluid going into the arm or leg is equal to the fluid that is going out. In lymphedema, the amount of fluid going in is greater than the amount that can go out because of the damage to the “transport system”. It is sort of like the plumbing in an old house where the pipes are narrow. As long as the water is just a trickle, the plumbing can handle it. But when there is a lot of water, it goes out too slowly and backs up until it overflows.

When can it start?

Lymphedema occurs most commonly in women who have had breast surgery with removal of lymph nodes, followed by radiation therapy. It can appear weeks, months or even years after the initial surgery. It may also occur following injury or infection. In each case, normal drainage of the lymphatic fluid is interrupted.

Will it go away by itself?

Although there are cases when lymphedema has spontaneously resolved and never recurred, for

most patients it is a chronic problem requiring an ongoing effort to control. This is why it is so important to be aware of this condition and what you can do to prevent it.

If you notice any swelling in your arm, hand, upper back or chest, call your doctor or primary care center as soon as possible. You may be referred to Occupational Therapy for help managing lymphedema. Early treatment can help prevent complications.

Steps to Help Lymph Drainage

Follow these guidelines to promote lymph drainage

- Maintain full active range of motion in the arm on the side of your surgery. Doing the exercises you received may help drainage. These exercises are designed to help you achieve full range of motion of your shoulder.
- Prevent trapping more fluid in the arm on the side of your surgery
 - When having your blood pressure taken, use the opposite arm. If both sides have been treated, ask your doctor for advice
 - Wear loose-fitting jewelry or watches with adjustable bands on the affected arm
 - Wear properly fitted bras to avoid trapping fluid in the chest wall and arm
 - Do not wear tight or elastic shirt sleeves
- Prevent tiring the arm. Avoid carrying heavy objects, moving heavy furniture or doing activities that cause excessive force or strain on the affected side.
- To prevent lymphedema during long car trips or airplane flights:
 - Drink plenty of water
 - Stand and/or stretch when it is safe to do so
 - Do arm and breathing exercises every two hours
 - Elevate the arm with pillows

Infections and Injury Precautions

Infection or injuries may trigger the onset of lymphedema. Lymphedema may become more severe if your hand or arm is infected or injured. Follow these precautions:

- Avoid needle insertions in your affected arm. Use your healthy arm for blood draws, and when receiving vaccinations or injections. If you need a medical procedure on your affected arm, such as removing skin growths, ask your cancer doctor first
- Avoid excessive heat, such as saunas, whirlpool spas or extremely hot showers. Keep the arm cool in hot weather
 - Do not sunbathe

