Your Breast Health Center
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Breast Health Center
3294 Ashley Phosphate Road
North Charleston, SC 29418
843.760.6064

Ductal Carcinoma In Situ

Definition of terms:

Benign — Not cancerous; no threat to the body

Carcinoma — Cancer cells that start in surface layers or lining of the ducts

Malignant — Cancerous; threat to the body

Mastectomy — Removal of a breast by surgery

Metastasis — Spread of cancer to other parts of the body

Microcalcifications — Small areas of calcium deposits seen on mammography; may be related to a malignant or benign condition

Ductal Carcinoma In Situ (DCIS)

In situ — In one contained area

Lumpectomy — Removal of a lump and some surrounding tissues in the breast

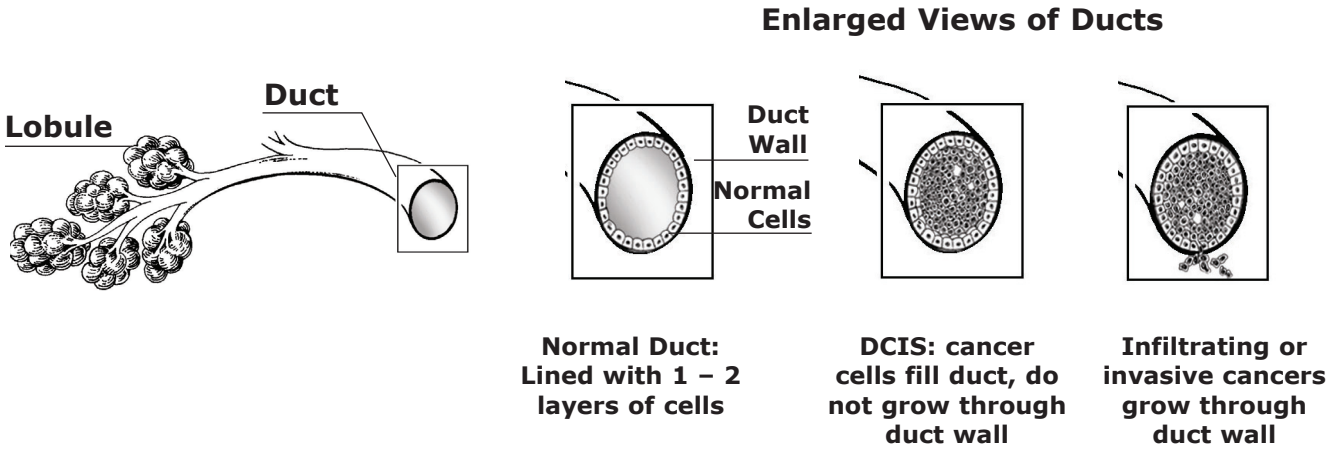
Lymph nodes — Pea-like areas in the lymphatic system that act as filters of the body's cellular waste; lymph nodes under the arms filter waste from breast tissues

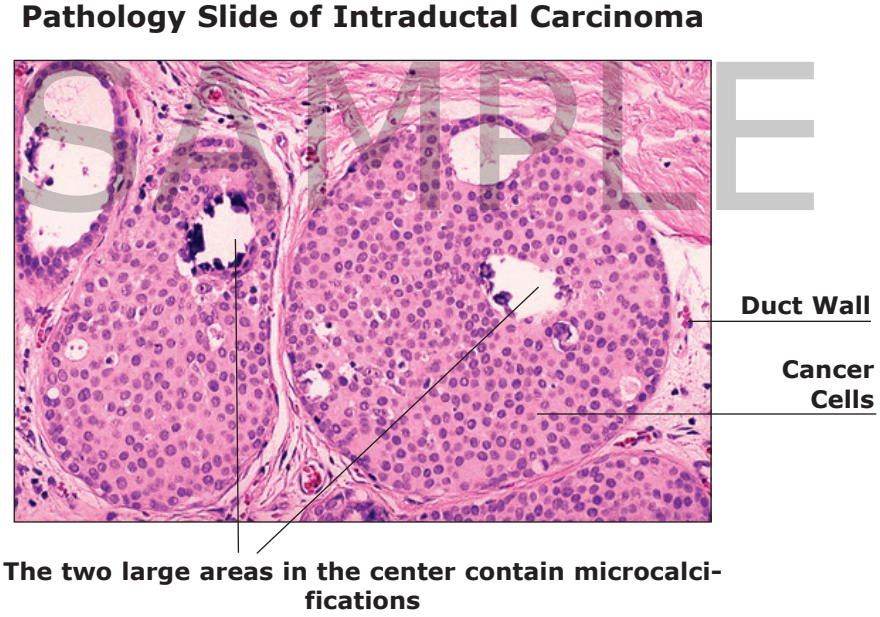
Radiation Therapy — Treatment with X-rays to kill cancer cells

Ductal carcinoma in situ is a pre-invasive cancer. This condition may have a potential for continuing to proliferate (grow) into an invasive (grows through the duct walls) cancer. Excessive overgrowth of abnormal cells has filled the ducts in which the disease is located. Some authorities refer to the condition as "non-invasive cancer" and others as "pre-cancer."

Most ductal carcinomas in situ are found by mammography when microcalcifications are observed in a clustered pattern. Usually, five or more calcifications in a very close area will be cause for the radiologist to study carefully the shape of the calcifications. If the shapes are suspicious, a biopsy, using needle localization or stereotactic technique, will be used to locate the findings and a biopsy will be performed. Sometimes a thickening or a soft mass will be found in the area of the breast. Occasionally, a nipple discharge will be a symptom of ductal carcinoma in situ.

When a biopsy of the area confirms ductal carcinoma in situ, you have a pre-invasive cancer that has potential to spread and threaten your life. Your physician will offer you several treatment options for carcinoma in situ, including: mastectomy, which offers a nearly 100% cure rate; lumpectomy with radiation therapy; lumpectomy without radiation therapy; or, rarely, continued observation. A careful look at the extent of the disease, your age, family history and other factors will be considered in selecting the treatments appropriate for you.





Cancer cells are still within the ducts and have not broken through the duct wall into surrounding tissues. The two large white areas in the center contain microcalcifications that can appear on mammography.

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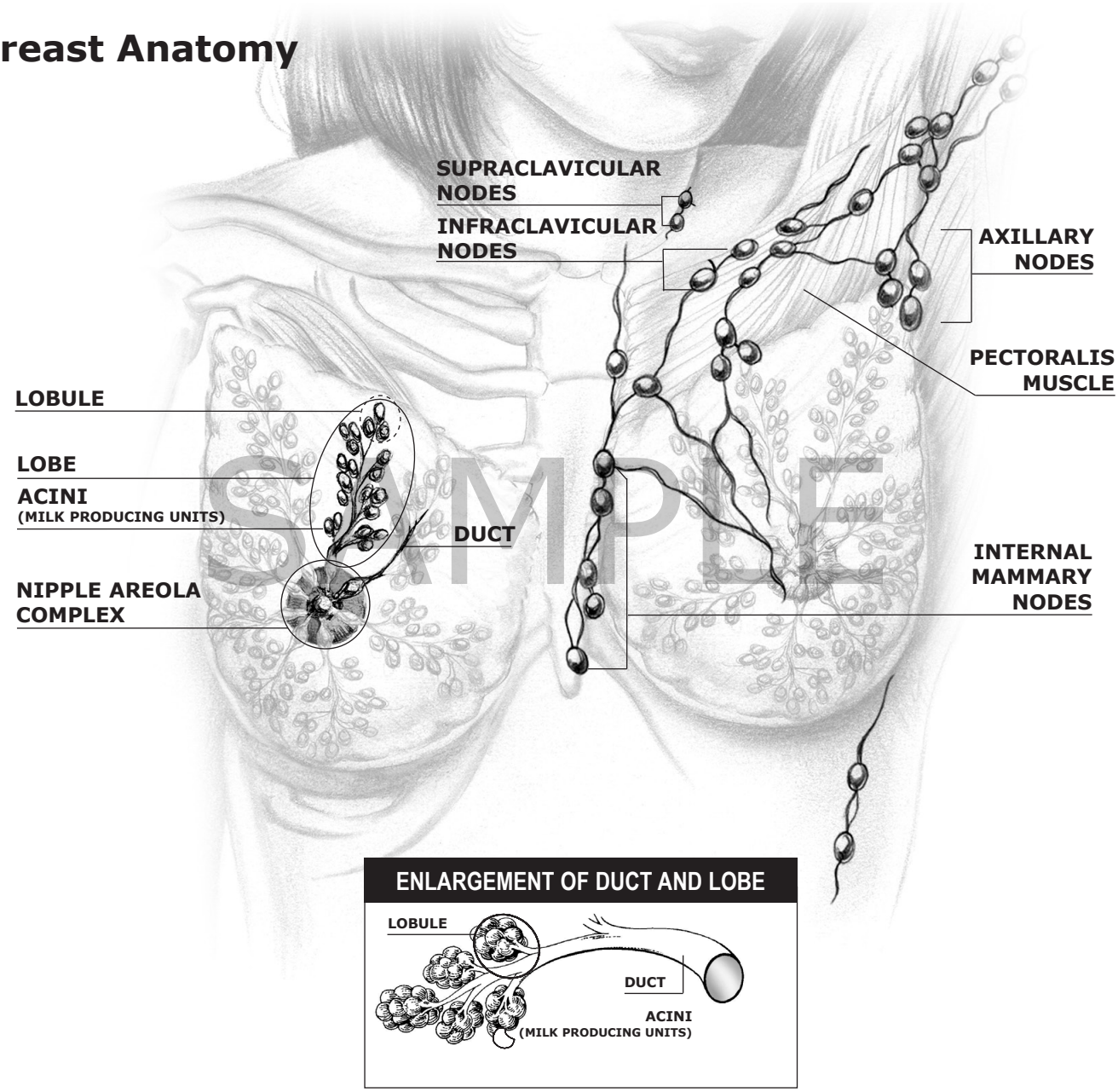
Breast Anatomy



0201 Breast Anatomy Graphics: Breast Anatomy
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Breast Implants

Breast implants are the most common type of reconstructive breast surgery. The procedure may be done immediately after breast cancer surgery or later as outpatient or inpatient surgery. General anesthesia is usually used, and the surgery takes approximately one hour.

Suitable Candidates for Implant Reconstruction:

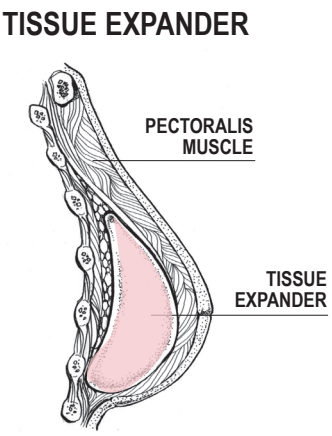
- Women with small to medium-sized breasts, with little or no drooping (ptosis)
- Women with a small of amount of abdominal body fat and are not candidates for a TRAM flap (tummy tuck)
- Women desiring bilateral (both breasts) reconstruction
- Women not wanting additional scars
- Women who do not want longer, more complicated surgery
- Women in poorer general health or advanced age
- Women with large, drooping breasts who desire implant reconstruction usually require a surgical procedure on the opposite breast to match the size and contour of the implanted breast.

Implant Procedures

There are two variations in implant procedures: (1) breast implant using an expander before final fixed-volume implant placement and (2) initial placement of a fixed-volume implant. Ask your reconstructive surgeon which implant procedure is recommended for you.

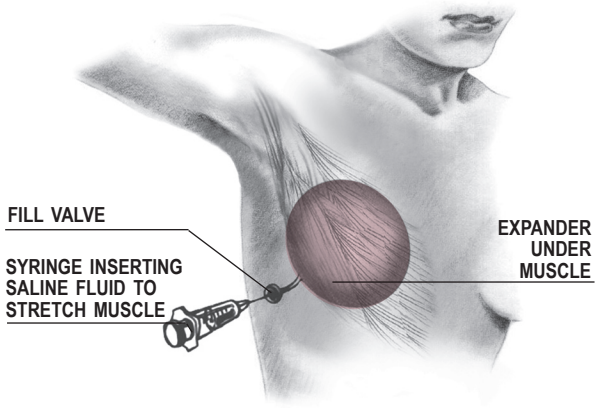
1. Breast Implants With Expander

Most women need to have their chest muscle and skin stretched before the final fixed-volume implant placement. An expander is inserted under the muscle and then gradually filled through a valve with a saline (salt water) solution every few weeks for 3 – 6 months.



The surgeon injects about 50-cc of saline at each filling, causing slight discomfort for about 24 hours until the body adjusts to the new size. This gradual filling stretches the muscle and skin before the final implant placement. Additional surgery is required to remove the expander and position the fixed-volume implant.

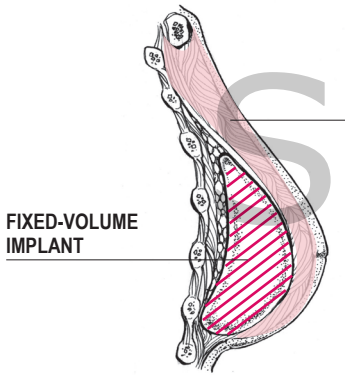
FILLING OF THE EXPANDER



2. Implant (Fixed Volume Implant)

A soft shell filled with silicone gel or saline fluid or a combination of both is implanted under the skin and chest muscle. Surgery is either outpatient or inpatient and lasts approximately an hour. Local or general anesthesia may be used.

FIXED–VOLUME IMPLANT PLACEMENT



Implant Advantages Compared to Autologous (Own Tissues) Reconstruction:

- Decreased initial surgical time for implant procedure
- Less pain after surgery
- Decreased recovery time after surgery
- Decreased potential for surgical complications during and after surgery
- Less expensive surgery initially

Implant Disadvantages Compared to Autologous Reconstruction:

- An expander is usually needed to stretch out the muscles and skin before final implant placement. This requires several visits to the surgeon for injections of saline into the expander before final implant placement. During this time the surgical breast gradually matches the size of the other breast, unlike autologous (using your own body tissues) reconstruction where the breast matches the other breast in size immediately after surgery.
- Final implant may leak or rupture, requiring replacement
- Difficult to match a large remaining breast with an implant

- Radiation therapy after implant placement increases risk of complications
- Capsular contracture risk (tissues around implant harden and distort its shape)
- Contracture may cause pain, as well as visual change in shape
- Severe contracture may require removal of implant and placement of new implant
- Difficult to get implant to hang symmetrically on chest wall with opposite breast (implant cannot match natural droop of other breast)
- Implants will stay the same size with weight gain or weight loss, unlike natural breasts
- Implants have a limited lifespan of between 10 to 15 years; they deteriorate and need replacement (potentially requiring future surgical procedures)

Additional Information:

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What Is Breast Cancer?

The female breast is a very complicated, glandular organ and is the site of the most commonly occurring cancer in women—breast cancer. No one knows exactly what causes breast cancer. Contributing factors have been identified such as having a family history of breast cancer, environmental carcinogens, viruses, radiation therapy and life-style factors, including diet and hormonal function.

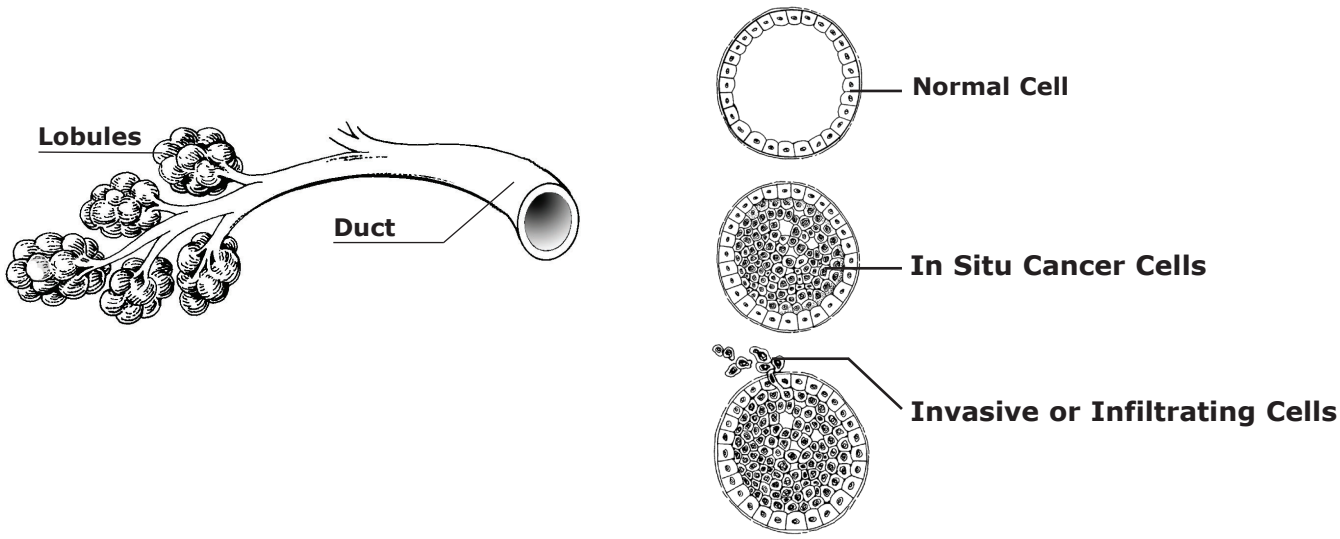
The term carcinoma is used to describe a malignant or cancerous growth. Cancer begins when the cells of the breast undergo changes. A normal cell converts into a cell that has an uncontrolled growth pattern. These cancer cells continue to divide and grow and may spread to other parts of the breast and then to other parts of the body if not removed. The process of cancer cells spreading throughout the body is called metastasis.

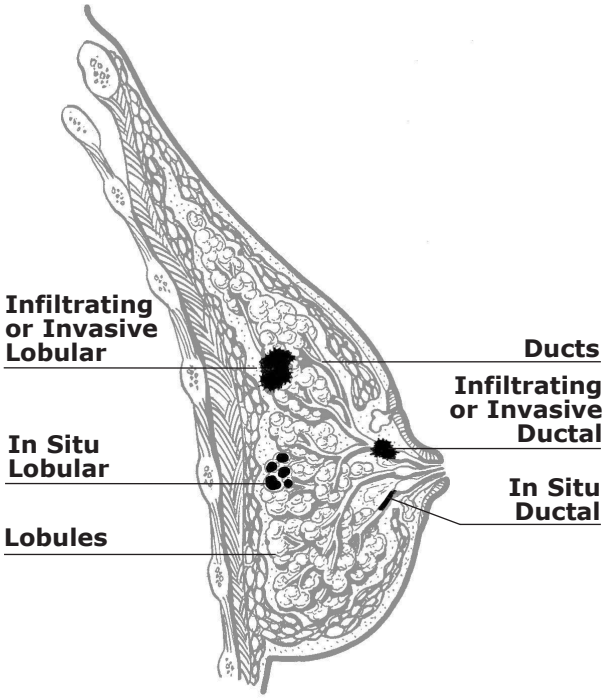
Types of Breast Cancer

Approximately 15 different types of breast cancer have been identified. Tumors that develop from different types of breast tissue, in different parts of the breast, may have varying characteristics. Breast cancers are named according to the part of the breast in which they develop.

Cancers beginning in the ducts are called ductal carcinomas and comprise the largest number of cancers occurring in women. Cancers beginning in the lobules are called lobular carcinomas and account for a small percentage of cases. Your physician will tell you which type of cancer you have—ductal or lobular.

Ducts and lobules are lined with one or two layers of orderly, normal cells. When the cells become cancerous they grow and fill the duct or lobule. In situ carcinomas are cancers that are still contained within the walls of the breast area in which they developed. They have not invaded surrounding tissue. If the cancer grows through the walls, it is called an infiltrating or invasive carcinoma. Your pathology report will explain if your cancer is in situ or invasive (infiltrating).

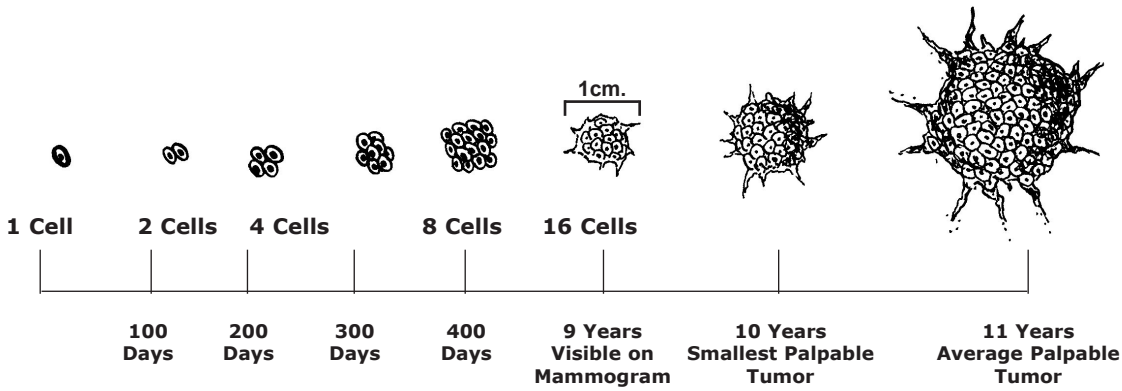




How Fast Do Breast Cancers Grow?

Some breast cancers grow rapidly, while others grow slowly. Breast cancers have been shown to double in size every 23 to 209 days. A tumor that doubles every 100 days (the estimated average doubling time) would have been in your body approximately eight to ten years when it reaches one centimeter in size (⅜ inch)—the size of the tip of your smallest finger. The cancer begins with one damaged cell and doubles until it is detected and treated. The cancer must be surgically removed from the body, destroyed with chemotherapy and/or radiation therapy, or controlled with hormonal therapy. Some people believe that cancer grows in spurts and the doubling time varies at different times. However, by the time a one-centimeter tumor is found, the tumor has already grown from one cell to approximately 100 billion cells. The pathology report will tell how fast a tumor is estimated to grow.

Some tumors spread more rapidly to other parts of the body, while others do not spread as readily. Breast cancer spreads to other parts of the body through the lymphatic system or the blood system. The spread of the cancer can be local (in the area of the breast), regional (in the nodes or area near the breast) or distant (to other organs of the body).

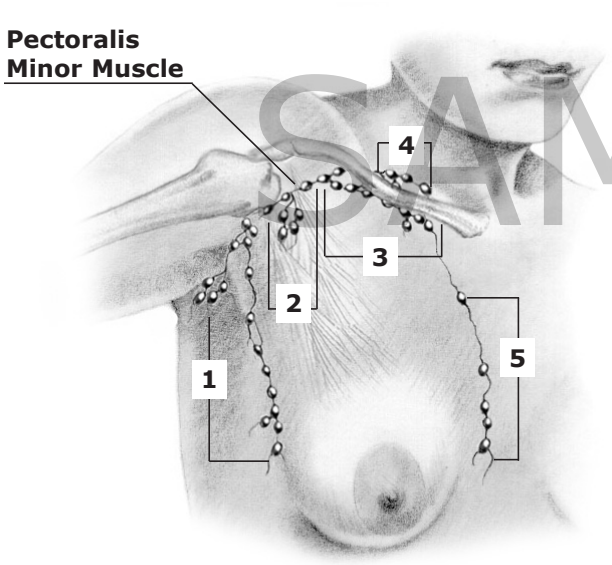


The Role of the Lymphatic System

Lymph nodes play an important role in the discussion of your treatment decisions. The lymphatic system serves as the sewage system for cellular waste in the body. The lymph vessels follow closely beside the blood vessels and receive the cell's waste products. This waste is carried by the vessels and filtered through rounded areas of the lymph system, called lymph nodes. Nodes appear as small round capsules and vary from pinhead to olive-size. Lymphocytes and monocytes (components of fluid that fight infection) are produced in the nodes. Nodes act as filters to stop bacteria, cellular waste and cancer cells from entering the blood stream. Lymph nodes may also serve as metastatic sites—places where cancer has spread from the original site to the nodes, referred to as secondary sites.

A small percent of the lymphatic fluid leaving the breast is drained in the lymph nodes located near the breastbone, called **internal mammary nodes**. The majority of the fluid is drained through the nodes of the armpit, referred to as the axillary nodes. There are three levels of nodes in the axillary area. Your surgeon may remove nodes from one or several levels, a procedure called axillary sampling. Axillary dissection is the term used when all the nodes under the arm are removed. The number of nodes in each level varies from person to person. A procedure called sentinel node biopsy identifies the first draining nodes from a tumor determining the need for axillary dissection.

Breast Lymph Nodes



1 - Low axillary, Level 1

2 - Mid axillary, Level II

3 - High axillary, Level III

4 - Supraclavicular

5 - Internal mammary nodes

Nodes are removed to determine whether your cancer has moved from the breast into the node area. The term *negative nodes* means that your lymph nodes did not have any evidence of cancer. *Positive nodes* indicate that the cancer was found in the lymph nodes. Your surgeon will tell you how many nodes were removed during your surgery and whether any were found to have cancer cells present. Treatment decisions are often based on the number of nodes in which cancer cells are found. Two important factors that determine your oncologist's treatment plan are the number of positive nodes and the size of your tumor. Before surgery, the surgeon can tell if nodes will be sampled or removed. After surgery, the surgeon can tell you how many lymph nodes were removed and if they contained evidence of cancer cells.

Surgery and treatment with chemotherapy, radiation therapy or hormonal therapy can vary because of differences in types of cancer, sizes of tumors, potential lymph node involvement or documented metastasis, aggressiveness of tumors and hormonal sensitivity. Therefore, it is necessary for you to communicate with your physicians, who know your particular disease type, when seeking any specific information or advice on your breast cancer treatment.

Breast cancer is not a sudden occurrence, but a process that has been developing for a period of time. Therefore, when a biopsy confirms a cancerous breast tumor, you are not facing a medical emergency. You have time to get answers to your questions and learn about your particular disease and treatment options. Most physicians recommend surgery within several weeks of biopsy. There are exceptions; for example, cancer in the lymphatic system (also known as Inflammatory Carcinoma) requires immediate treatment with chemotherapy for maximum control. Tests performed on your tumor will reveal cell type and estimate how quickly the tumor is growing. Ask your physician about the characteristics of your tumor and treatment recommendations.