October is Breast Cancer Awareness Month

What is breast cancer?

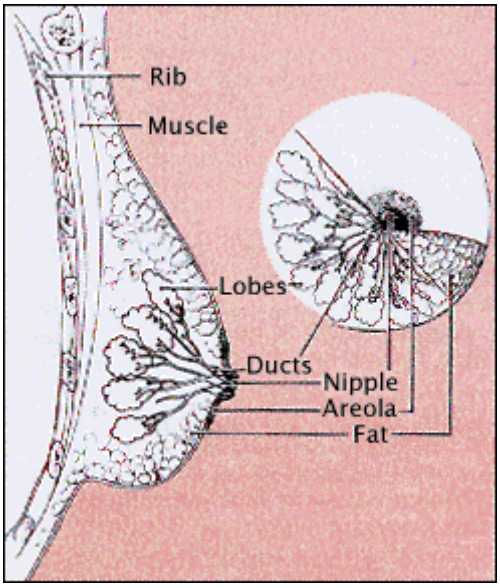
Breast cancer is the abnormal growth of cells in the breast tissue. When cancer arises in breast tissue and spreads (metastasizes) outside the breast, cancer cells are often found in the lymph nodes under the arm (axillary lymph nodes). If the cancer has reached these nodes, it means that cancer cells may have spread to other parts of the body such as the bones, liver, or lungs.

Breast cancer can occur in both women and men. This document focuses on breast cancer in women.

What are the parts of the breast?

Each breast has 15 to 20 sections called lobes. Within each lobe are many smaller lobules. Lobules end in dozens of tiny bulbs that can produce milk. Thin tubes called ducts link all the lobes, lobules, and bulbs. These ducts lead to the nipple in the center of a dark area of skin called the areola. Fat surrounds the lobules and ducts. There are no muscles in the breast, but muscles lie under each breast and cover the ribs.

Each breast also contains blood vessels and lymph vessels. The lymph vessels carry colorless fluid called lymph, and lead to small bean-shaped organs called lymph nodes. Clusters of lymph nodes are found near the breast under the arm, above the collarbone, and in the chest. Lymph nodes are also found in many other parts of the body.



This diagram shows the breast.

What are the key statistics about breast cancer?

Breast cancer is the most common type of cancer among women in the United States. In 2023, an estimated 297,790 women will be diagnosed with breast cancer**.** About 43,700 women will die from breast cancer this year.

What are the risk factors?

Studies have shown that your risk for breast cancer is due to a combination of factors.

- **Increasing age and being born female.** Most breast cancers occur in women over the age of 50, and the risk is especially high for women over age 60.
- **Personal history of breast cancer.** Women who have had breast cancer face an increased risk of getting breast cancer a second time.
- **Family history of breast or ovarian cancer**. A woman's risk for developing breast cancer increases if her mother, sister, or daughter had breast or ovarian cancer.
- **Certain breast changes.** Atypical hyperplasia is a benign (non-cancerous) condition in which cells look abnormal under a microscope and are increased in number. Lobular carcinoma in situ is when abnormal cells are found in the lobules of the breast. These changes in the breast may increase a woman's risk for developing cancer.
- **Genetic alterations.** Changes in certain genes (BRCA1, BRCA2, and others) increase the risk of breast cancer. In families in which many women have had the disease, gene testing can sometimes show the presence of specific genetic changes that increase the risk of breast cancer.
- **Taking hormones.** Some forms of hormone replacement therapy and certain oral contraceptives may increase the risk.
- **Reproductive history.** Starting menstrual periods before age 12 and starting menopause after age 55 raises the risk. Women who have their first child after age 30, not breastfeeding or never having a full-term pregnancy also can have a greater risk.
- **Breast density.** Dense breast have more connective tissue than fatty tissue, which may make it harder to see tumors on a mammogram. Women with dense breasts are more likely to get breast cancer.
- **Radiation therapy.** Women whose breasts were exposed to radiation during radiation therapy before age 30, especially those who were treated with radiation for Hodgkin's disease, are at an increased risk for developing breast cancer. Studies show that the younger a woman was when she received her treatment, the higher her risk for developing breast cancer later in life.
- **Alcohol.** Studies suggest an increased risk of breast cancer with increasing alcohol intake.
- **DES (diethylstibestrol) exposure.**
- **Excess body weight.** Being overweight or being obese after menopause increases the risk.
- **Physical inactivity.**

What are signs and symptoms of breast cancer?

Early breast cancer usually does **not** cause pain. In fact, when breast cancer first develops, there may be no symptoms at all. As the cancer grows, the following changes may occur:

- A lump or thickening in or near the breast or in the underarm area
- A change in the size or shape of the breast

- Nipple discharge or tenderness, or the nipple pulled back (inverted) into the breast
- Ridges or pitting of the breast (the skin looks like the skin of an orange)
- A change in the way the skin of the breast, areola, or nipple looks or feels (warm, swollen, red, or scaly)

Can breast cancer be found early?

A mammogram is a low-dose x-ray of the breast. It can find breast cancer that is too small to feel. The following guidelines from the American Cancer Society may help to detect breast cancer early:

Age 40-44:

- Women should have the option to have a mammogram.

Age 45-54:

- Have a mammogram every year.

Age 55 and over:

- Women can have a mammogram every other year or continue yearly.
- Women should continue having a screening mammogram as long as their overall health is good and they have a life expectancy of 10 years or longer.

If you have a history of breast cancer in your family, talk with your healthcare team about how often and when you should have a mammogram. For some women at high risk, an annual breast MRI is recommended along with mammography.

Can breast cancer be prevented?

Even if you do not have the risk factors listed above, you may still develop breast cancer. Scientists are trying to learn more about factors that increase the risk of developing this disease. For example, they are looking at whether the risk of breast cancer might be affected by environmental factors. So far, scientists do not have enough information to know whether any factors in the environment increase the risk of this disease.

Recent studies suggest that regular exercise may decrease the risk in younger women. Also, some evidence suggests a link between diet and breast cancer. Ongoing studies are looking at ways to prevent breast cancer through changes in diet or with dietary supplements. However, it is not yet known whether specific dietary changes will actually prevent breast cancer. These are active areas of research.

Research has led to the identification of changes (mutations) in certain genes that increase the risk of developing breast cancer. Women with a strong family history of breast cancer may choose to have a blood test to see if they have inherited a change in the BRCA1 or BRCA2 gene. Women who are concerned about an inherited risk for breast cancer should talk to their doctor. The doctor may suggest seeing a health professional trained in genetics. Genetic counseling can help a woman decide whether testing would be appropriate for her. Also, counseling before and after testing helps women understand and deal with the possible results of a genetic test. The LIFE Center at Rutgers Cancer Institute of New Jersey is a medical facility to which young women who are at increased risk for breast cancer can come for help, advice, and information in the fight against breast cancer.

Cancer Prevention Trials at Rutgers Cancer Institute of New Jersey

If you would like information about clinical trials for preventing cancer, please call Rutgers Cancer Institute of New Jersey's Office of Human Research Services at 732-235-7356. For additional information about nationwide cancer prevention trials, you can call the National Cancer Institute at 1-800-4 CANCER or visit their website at www.cancer.gov.

Where Can I Find Further Information?

The Resource and Learning Center
732-235-9639
www.cinj.org/rlc
Provides reliable, relevant and current information about all aspects of cancer.

The LIFE Center
732-235-7110
www.cinj.org/patient-care/adult/GeneticCounseling

National Cancer Institute
1-800-4-CANCER
www.cancer.gov

The American Cancer Society
1-800-ACS-2345
www.cancer.org

The Susan G. Komen Breast Cancer Foundation
1-800-465-6636
ww5.komen.org

RLC breast cancer website QR code. Scan with smartphone / device.

