

# National Breast Cancer Awareness Month

## What is Breast Cancer?

Breast cancer is a malignant (cancerous) tumor that starts from cells of the breast. The disease occurs mostly in women, but men can get breast cancer as well. The information here refers only to breast cancer in women.

The breast is made up of lobules, ducts, fatty and connective tissue, blood vessels, and lymph vessels. Lymph vessels are like veins, except that they carry lymph fluid instead of blood. Inside the breasts are glands that produce and release milk after a woman has a baby. The glands that make the milk are called lobules and the tubes that connect them to the nipple are called ducts.

Lymph is a clear fluid that contains immune system cells and tissue waste products. The fluid is carried in lymph vessels that lead to small, pea-sized collections of tissue called lymph nodes. Most lymphatic vessels of the breast lead to lymph nodes under the arm. These are called axillary nodes.

When breast cancer cells reach the underarm lymph nodes and continue to grow, they cause the nodes to swell. Once cancer cells have reached these nodes they are more likely to spread to other organs of the body as well.

There are several types of breast tumors. Most are benign; that is, they are not cancer. Benign breast tumors are abnormal growths, but they do not spread outside of the breast, and they are not life-threatening.

Some lumps are not really tumors at all. These lumps are often caused by fibrocystic changes. Cysts are fluid-filled sacs. Fibrosis refers to the formation of connective tissue or scar tissue. Such changes can cause breast swelling and pain. The breasts may feel lumpy and sometimes there is a clear or slightly cloudy nipple discharge.

Understanding the medical language as it relates to breast cancer can be challenging. Here are some terms that describe the most common types of breast cancer:

**Ductal carcinoma in situ (DCIS):** This is the most common type of noninvasive breast cancer. Noninvasive means that the cancer is confined to the ducts. It has not spread through the walls of the ducts into the fatty tissue of the breast. Nearly all women with cancer at this stage can be cured. The best way to find DCIS early is with a mammogram.

**Infiltrating (invasive) ductal carcinoma (IDC):** This cancer starts in a milk passage or duct; breaks through the wall of the duct; and invades the fatty tissue of the breast. From there it can spread to other parts of the body. IDC is the most common type of breast cancer. It accounts for about 80% of invasive breast cancer.

**Infiltrating lobular carcinoma (ILC):** This cancer starts in the milk glands or lobules. It can spread to other parts of the body. About one in ten cases of invasive breast cancers is of this type.

**Lobular carcinoma in situ (LCIS):** A tumor that has not spread beyond the area where it began is called *in situ*. Although not a true cancer, LCIS increases a woman's risk of developing cancer later. For this reason, it is important that women with LCIS have a physical two or three times a year, as well as a mammogram every year.

There are also several other less common types of breast cancer. You can get more information about these through the website of the American Cancer Society at [www.cancer.org](http://www.cancer.org).

## **Incidence**

Breast cancer is the most common cancer among women, other than skin cancer. It is the second leading cause of cancer death in women, after lung cancer. About 211,300 women in the United States will be found to have invasive breast cancer in 2003. About 39,800 women will die from the disease this year. Right now there are slightly over 2 million women living in the U. S. who have been treated for breast cancer. Breast cancer death rates are going down. This decline is probably the result of earlier detection and improved treatment.

## **Risk Factors**

We do not know exactly what causes breast cancer, but we do know that certain risk factors are linked to the disease. A risk factor is anything that increases a person's chance of getting a disease such as cancer. Having a risk factor, or even several, does not mean that a person will get the disease. Some women who have one or more breast cancer risk factors never develop the disease, while most women with breast cancer have no apparent risk factors. Even when a woman with breast cancer has a risk factor, there is no way to prove that it actually caused her cancer.

There are different kinds of risk factors. Some factors, like a person's age or race, cannot be changed. Others are linked to cancer-causing factors in the environment. Still others are related to personal choices such as smoking, drinking, and diet. Some factors influence risk more than others, and your risk for breast cancer can change over time, due to factors such as aging or lifestyle.

## **Risk Factors You Cannot Change**

**Gender:** Simply being a woman is the main risk factor for developing breast cancer. Because women have many more breast cells than men do and perhaps because their breast cells are constantly exposed to the growth-promoting effects of female hormones,

breast cancer is much more common in women. Men can develop breast cancer, but this disease is about 100 times more common among women than men.

**Aging:** Your risk of developing breast cancer increases as you get older. About 18% of breast cancer diagnoses are among women in their 40's, while about 77% of women with breast cancer are older than 50 when they are diagnosed.

**Genetic risk factors:** Recent studies have shown that about 10% of breast cancer cases are hereditary as a result of gene changes (mutations). The most common gene changes are those of the BRCA1 and BRCA2 genes. Normally, these genes help to prevent cancer by making proteins that keep cells from growing abnormally. However, if you have inherited a changed gene from either parent, you are at increased risk for breast cancer. Women with an inherited BRCA1 or BRCA2 mutation have a 50–85% chance of developing breast cancer during their lifetime. Women with these inherited mutations also have an increased risk for developing ovarian cancer.

Other genes have been discovered that might also lead to inherited breast cancers such as the ATM (ataxia-telangiectasia mutation) gene, the CHEK-2 gene, and the p53 tumor suppressor gene.

If you are considering genetic testing, it is strongly recommended that first you talk to a genetic counselor, nurse, or doctor qualified to interpret and explain these tests, before being tested. It is very important to understand and carefully weigh the benefits and risks of genetic testing before these tests are done. Testing is expensive and is not covered by some health plans. There is concern that people with abnormal genetic test results will not be able to get life insurance or that coverage may only be available at a much higher cost.

**Your risk of developing breast cancer is increased if:**

- You have 2 or more relatives with breast or ovarian cancer.
- Breast cancer occurs before age 50 in a relative (mother, sister, grandmother, or aunt) on either side of the family. The risk is higher if your mother or sister has a history of breast cancer.
- You have a relative with both breast and ovarian cancer.
- You have 1 or more relatives with two cancers (breast and ovarian, or two different breast cancers).
- You have a male relative (or relatives) with breast cancer.
- You have a family history of breast or ovarian cancer and Ashkenazi Jewish heritage.
- Your family history includes a history of diseases associated with hereditary breast cancer such as Li-Fraumeni or Cowdens Syndromes.

Having one first-degree relative (mother, sister, or daughter) with breast cancer approximately doubles a woman's risk, and having two first-degree relatives increases her risk 5-fold. Although the exact risk is not known, women with a family history of

breast cancer in a father or brother also have an increased risk of breast cancer. Altogether, about 20–30% of women with breast cancer have a family member with this disease.

**Personal history of breast cancer:** A woman with cancer in one breast has a 3- to 4-fold increased risk of developing a new cancer in the other breast or in another part of the same breast.

**Race:** White women are slightly more likely to develop breast cancer than are African-American women. But African-American women are more likely to die of this cancer because their cancers are often diagnosed later and at an advanced stage when they are harder to treat and cure. There is also some question about whether African-American women have more aggressive tumors. Asian, Hispanic, and Native American women have a lower risk of developing breast cancer.

**Previous breast biopsy:** Women whose earlier breast biopsies detected *proliferative breast disease* without *atypia* or *usual hyperplasia* have a slightly higher risk of breast cancer (1.5–2 times greater than other women). Having a previous biopsy result of *atypical hyperplasia* increases a woman's breast cancer risk by 4–5 times. Having a biopsy specimen diagnosed as fibrocystic changes without proliferative breast disease does not affect breast cancer risk.

**Previous breast radiation:** Women who as children or young adults have had radiation therapy to the chest area as treatment for another cancer have a significantly increased risk for breast cancer. Some reports found the risk to be 12 times normal. This varies with the age of the patient at the time of the radiation. Younger patients have a higher risk. If chemotherapy was also given, the risk is lowered because the chemotherapy often stops ovarian hormone production.

**Menstrual periods:** Women who started menstruating at an early age (before age 12) or who went through menopause at a late age (after age 50) have a slightly higher risk of breast cancer.

**DES Therapy:** In the 1940's through the 1960's some pregnant women were given diethylstilbestrol (DES) because it was thought to lower their chances of miscarriage. Recent studies have shown that these women have a slightly increased risk of developing breast cancer.

### **Lifestyle-related Factors and Breast Cancer Risk**

**Not having children:** Women who have had no children or who had their first child after age 30 have a slightly higher breast cancer risk.

**Oral Contraceptive use:** It is still not certain what part oral contraceptives might play in breast cancer risk.

**Hormone replacement therapy:** It has become clear that long-term use (several years or more) of hormone replacement therapy (HRT) after menopause, particularly estrogens and progesterone combined increase your risk of breast cancer. Moreover it may also be that they increase your chances of dying of breast cancer. HRT seems to reduce the effectiveness of mammograms. Five years after stopping HRT, the breast cancer risk appears to drop back to normal. Estrogen alone does not seem to increase the risk of breast cancer as much, if at all.

At this time, there appear to be few strong reasons to use HRT, other than for temporary relief of menopausal symptoms. Because there are other factors to think about, you should talk with your medical provider about the pros and cons of using HRT.

**Breast feeding:** Some studies have shown that breast feeding slightly lowers breast cancer risk, especially if the breast feeding lasts 1½–2 years. This could be because breast feeding lowers a woman’s total number of menstrual periods.

**Alcohol:** Use of alcohol is clearly linked to a slightly increased risk of getting breast cancer. Women who have one drink a day have a very small increased risk. Those who have 2–5 drinks daily have about 1½ times the risk of women who drink no alcohol.

**Obesity and high-fat diets:** Being overweight is linked to a higher risk of breast cancer, especially for women after menopause and if the weight gain took place during adulthood. Also, the risk seems to be higher if the extra fat is in the waist area. However, the link between weight and breast cancer risk is complex and studies of fat in the diet as it relates to breast cancer risk have often given conflicting results. Since diet and weight have been shown to affect the risk of getting several other types of cancer and heart disease, the American Cancer Society says it is best to stay at a healthy weight and limit your use of red meats, especially those high in fat.

**Physical activity:** Exercise and cancer is a fairly new area of research. Some studies suggest that exercise in youth might give life-long protection against breast cancer. A small amount of physical activity as an adult may also lower breast cancer risk. More research is being done to confirm these findings.

### **Breast Cancer Screening Guidelines**

**Mammogram:** Mammography is so far the only screening method that has been consistently proven to reduce deaths from breast cancer. It is considered the gold standard of breast cancer screening. Women age 40 and older should have a mammogram every year, and should continue to do so for as long as they are in good health.

**Clinical breast exam (CBE):** Women in their 20s and 30s should have a clinical breast examination (CBE) as part of a regular exam by a health care provider, preferably every 3 years. After age 40, women should have a breast exam by a health care provider every year. CBE is a complement to regular mammography screening and an opportunity for

women and their health care providers to discuss changes in their breasts, risk factors, and early detection testing.

**Breast self-examination (BSE):** For years, the American Cancer Society has recommended monthly breast self-examination for women age 20 and older to aid in the early detection of breast cancer. This recommendation is now optional. Recent studies have not shown that BSE reduces deaths from breast cancer. However, doing BSE is one way for women to know how their breasts normally feel and to notice any changes. Women should report any breast changes promptly to their health care provider.

### **Symptoms of Breast Cancer**

While the widespread use of screening mammography has increased the number of breast cancers found before they cause any symptoms, some are still missed.

The most common sign of breast cancer is a new lump or mass. A lump that is painless, hard, and has uneven edges is more likely to be cancer. But some rare cancers are tender, soft, and rounded. So it is important to have anything unusual checked by your health care provider.

Other signs of breast cancer include the following:

- A swelling of part of the breast
- Skin irritation or dimpling of the skin
- Nipple pain or the nipple turning inward
- Redness or scaliness of the nipple or breast skin
- A nipple discharge other than breast milk
- A lump in the underarm area.

Through self-awareness of breast cancer, risk reduction, proven screening, early detection testing, and regular consultation with your health care provider, breast cancer death rates can continue to decline.