Breast cancer detection

Breast lumps are common, occurring in roughly half of all women before the onset of menopause. Fortunately, the majority of these lumps are harmless. Some lumps are actually cysts—non-cancerous growths that are usually associated with monthly hormonal changes. Another usually harmless breast symptom is fibroadenoma, a firm, smooth mass, which commonly affects women under the age of 30.

On the other hand, some breast lumps are cancerous. Breast cancer is the most common cancer affecting women in the United States, with approximately 210,000 new cases diagnosed each year; two-thirds of these women are more than 50 years of age.

Cancer warning signs

The most frequent sign of breast cancer is a lump or mass, which often feels hard and painless. Many such growths have irregular borders. The lumps may or may not be moveable beneath the skin. However, some cancers are tender, smooth and soft.

Other breast cancer warning signs may include a change in the size or symmetry of a breast, dimpling of breast tissue, nipple pain or discharge, inflamed-looking or hot skin, a thickening and/or scaling of the skin surrounding the nipple, or nipple retraction (a sinking of the nipple into the surrounding tissue). Any unusual symptoms such as these should be evaluated by your doctor.

Cancer risk factors

The cause of breast cancer is unknown, but certain risk factors are associated with the disease. Known risk factors include:

- Gender (breast cancer is 100 times more common in women than men)
- Aging (risk increases significantly after age 50)
- Genetic (inherited) factors, such as:
  - Family history of breast or ovarian cancer (especially in a mother, sister or daughter)
  - Mutations (changes) in genes that normally suppress the growth of tumors (especially the BRCA1 or BRCA2 genes)
- A previous personal history of breast cancer
- Alcohol use (risk level rises according to level of consumption)
• Long-term hormone replacement therapy with estrogen and progesterone (for more than five years) in postmenopausal women
• Previous radiation therapy of the chest area for treatment of another type of cancer (such as Hodgkin's disease)

Factors that increase the risk of breast cancer slightly include:

• Early onset of menstruation (prior to age 12) and/or late onset of menopause (after age 55)
• Giving birth for the first time after the age of 30 or never giving birth

Other risk factors

Obesity and inactivity increase the risk of breast cancer in both women (especially after menopause) and men. For men, this may be due in part to higher-than-normal levels of the female hormone estrogen, often associated with excess fat cells. Severe liver diseases such as cirrhosis also increase a man's risk of breast cancer; this may also be linked to estrogen, which is sometimes overproduced in the diseased liver.

Note: The presence of one or more risk factors does not mean that breast cancer is inevitable. It should be noted that more than half of all women diagnosed with breast cancer have no known risk factors.

Note your symptoms

A mass in the breast tissues may be hard or soft, and can have a smooth or irregular contour. The size can range from microscopic to quite large. While some breast lumps are tender or painful, most are painless. They are usually discovered by the woman herself during a shower, breast self-examination or by a healthcare provider during a routine examination. Very small lumps cannot be felt, but may be detected by mammography (an x-ray of the breast).

Fibrocystic breast changes is a general term that refers to breast symptoms such as lumpiness, tenderness and various changes that are usually associated with monthly hormonal fluctuations. Cysts tend to increase in size just before menstruation and disappear after a woman's period begins. Cysts may become more frequent as menopause approaches, but are rarely seen in postmenopausal women. Fibrocystic changes are usually harmless and do not indicate a high risk of breast cancer.

However, a small percentage of women with lumpy breasts are diagnosed with atypical hyperplasia, a condition in which the cells lining the ducts or lobules (milk-producing glands) of the breast are abnormal. These cells may be larger than normal, irregularly shaped or unusual in some other way when viewed under a microscope. The condition is usually discovered during a biopsy. Women with this condition are four to five times more likely than women without it to develop breast cancer within 10 years of diagnosis. Careful follow-up is recommended.

Another breast change common in young women (usually those under age 30) is fibroadenoma — a firm, smooth, rubbery mass of unknown cause. Fibroadenomas, which are not associated with cysts and are almost always benign, can be surgically removed.
Other breast symptoms

Although a lump in the breast is usually the first warning of breast cancer, other symptoms may also occur. Any of the following symptoms should be investigated as soon as possible.

- **Dimpling**: A puckering or retraction (pulling in) of the skin of the breast or inversion of a nipple
- **Nipple discharge**: Fluid leakage from one or both nipples (in a woman who isn't breast-feeding) that may be milky, clear, watery, bloody, greenish black or gray, or pus-filled; *bloody nipple discharge is a classic sign of breast cancer.*
- **Changes in breast size or shape**: Breast swelling or shrinkage; a change in the appearance of the breast; or unusual breast texture, such as hardness
- **Skin appearance**: Ulceration (sore) of breast tissue or a thickening or scaliness of the skin surrounding the nipple (like the skin of an orange)
- **Inflammation**: A feeling of heat or unusual redness or pinkish color in breast tissue (in a woman who is not breast-feeding)

**Breast symptoms in adolescents and men**

It should be noted that lumps and tenderness are often associated with the hormonal changes that accompany puberty in both girls and boys. These symptoms are usually harmless.

Unusual breast symptoms in men are usually associated with medication use, hormonal changes that may be associated with obesity or advanced liver disease, or the illegal use of drugs. A breast lump may also indicate the presence of a tumor that may be benign or cancerous.

**What you can do**

The key to early detection is screening. The National Cancer Institute suggests a three-step program:

- **Monthly breast self-examination**: By checking your own breasts each month, you will become familiar with how they normally feel and skilled at identifying changes. (Some women prefer not to do these exams, however. Discuss the issue with your provider.) Call your healthcare provider if you discover any lumps or other unusual symptoms.
- **Professional breast examination**: Most major U.S. health organizations recommend women ages 20 to 39 see a healthcare provider once every 3 years for a professional breast exam. The exam should be performed annually for most women beginning at age 40 or at age 35 for women whose mothers or sisters have had breast cancer prior to menopause.
- **Regular mammograms**: Generally mammography is recommended as part of the routine annual examination in women beginning at age 40.

*Note: Women at increased risk of breast cancer should seek the advice of their healthcare providers regarding when to begin and how frequently to get mammogram screenings.*
Self-care for breast discomfort

Lumps attributed to fibrocystic breast changes do not generally require treatment. Most associated pain or discomfort can be relieved by:

- Using mild analgesics such as aspirin, ibuprofen (Advil, Motrin) and acetaminophen (Tylenol). **CAUTION: NEVER give aspirin to teenagers, unless directed to do so by your healthcare provider. It can cause Reye’s syndrome, a rare but often fatal condition.**
- Wearing a larger bra—or one that provides good support—during the premenstrual phase
- Limiting salt consumption to prevent fluid retention

Breast self-exam

Breast lumps are most often discovered by women themselves. Spending just 10 minutes each month to examine your breasts could actually save your life some day. **Follow these steps if you're standing in front of a mirror:**

1. Stand up straight, arms at your sides, and visually inspect your breasts. **Check for discharge from the nipples or puckering, dimpling, scaling of the skin or retraction of the nipple.**
2. Clasp your hands behind your head and press your hands forward. You will feel your chest muscles tighten. **Check for any change in the normal shape and contour of your breasts.**
3. Press your hands firmly on your hips and lean forward. At the same time, move your shoulders and elbows forward. **As in step 2, check for any change in shape or contour that seems different from the way your breasts normally look.**

In the shower or bath

1. Raise one arm and with your opposite hand, press your breast firmly with your fingers flat. Make small circles, moving from the outer edge toward the nipple each time until you have worked your way around the entire breast. **Check for any unusual lump or mass, especially between the breast and underarm, including the underarm.**
2. Gently squeeze the nipple. **Check for a discharge.**
Lying down

1. Slip a pillow or folded towel under the shoulder of the raised arm. This flattens the breast and makes breast examination easier.
2. Repeat steps 1 and 2 (above) on each breast.

If you discover a breast lump, nipple discharge, or any other unusual breast changes during your exam, contact your healthcare provider for a diagnostic evaluation. The call may save your life.

Adapted from the National Institutes of Health

What your doctor may do

The doctor may decide that a suspicious breast lump should be biopsied. This is a relatively painless, low-risk procedure that helps determine whether the lump is cancerous or further treatment is necessary. If a breast mass is identified, fine-needle aspiration may be performed by inserting a fine-needle into the lump to withdraw fluid or cells. Several other breast biopsy techniques are also available.

If a lump is benign, simple removal is usually sufficient. The doctor may even leave it alone and watch it closely for changes. If it is cancerous, more tests will be performed to determine the best course of treatment. Other diagnostic methods include ultrasound imaging, a viewing technique using sound waves; and magnetic resonance imaging (MRI), another technique for viewing soft tissues.

Final note

Regular breast examination is the best means of early cancer detection, which could save your life some day. National Cancer Institute pamphlets on breast self-examination and mammography are available free of charge; just call 1-800-4-CANCER. The American Cancer Society also provides educational information and support, and can help with referrals to nearby hospitals or clinics. Check your newspaper or telephone directory for local listings.