

# What You Should Know About Breast Cancer Screening

**A**fter skin cancer, breast cancer is the most common cancer in American women, and only lung cancer kills more women in this country. One woman is diagnosed with breast cancer every 3 minutes (about 200,000 women annually), and 1 dies of the disease every 13 minutes (almost 45,000 every year). However, although the number of new breast cancer cases is increasing, the death rate is actually decreasing—partly because of better screening and earlier diagnosis, allowing for more effective treatment.

## What is my risk of getting breast cancer?

An American woman who lives to the age of 85 years has a one in eight chance of developing breast cancer at some point in her life. Beyond this, however, your odds of developing cancer depend on individual risk factors.

**Age.**—About 75% of breast cancers occur in women older than age 50 years. If you have additional risk fac-

tors, you may have a greater chance of developing breast cancer at a younger age.

**Family History.**—A history of breast cancer in several close relatives suggests a possible hereditary tendency, perhaps even the presence of the BRCA1 or BRCA2 “cancer genes” (which also influence colon and ovarian cancers). The more affected relatives a woman has, and the younger they were at diagnosis, the greater her risk.

**Estrogen Exposure.**—The risk of breast cancer also rises depending on a woman’s exposure to the female hormone estrogen. Estrogen levels increase at puberty and decline at menopause, so early menstruation and late menopause contribute to breast cancer risk. Women who take estrogen or hormone replacement therapy after menopause also have a slightly higher risk of breast cancer, but the risk drops when the drug is stopped.

**Reproductive History.**—The risk of breast cancer is higher in women who never have children or who were older than age 30 years at their first pregnancy, possibly because pregnancy “interrupts” menstruation and estrogen exposure.

**Overweight.**—Overweight, especially after menopause, raises the risk of breast cancer, perhaps because estrogen is stored in fat.

**Alcohol.**—Women who consume 3 or more alcoholic drinks per day have a 2-fold higher risk of developing breast cancer.

**Smoking.**—Cigarette smoking also has been shown to increase the risk of breast cancer.

## What methods are available for detecting breast cancer early?

Cancer screening involves tests for detecting cancer at an early stage, when it’s more likely to be curable. There are several methods for doing this.

**Breast Self-examination.**—Cancer screening begins at home. Breast self-examination (BSE) is a simple way to detect changes in your breasts. You perform it on the same day every month, usually about a week after your period ends if you’re menstruating.

There are three steps:

- Look at your breasts in a mirror, observing the color, texture, size, shape, and appearance of the nipples as you stand with your arms at your sides, hands on your hips, and arms raised.
- Soap up your breasts and examine them in the bath or shower, raising your arm and moving the fingers of the opposite hand over the breast in a circular up-and-down pattern.
- Lying on the bed, put a pillow under your right shoulder and place your right hand behind your head. Use the circular and up-and-down patterns to examine your right breast, and then repeat on your left side. Make sure to check for discharge by gently squeezing your nipples.

## Clinical Breast Examination.

—Clinical breast examination involves inspecting and feeling your breasts, and is performed by a physician or nurse at your yearly physical exam. It may detect up to 5% to 10% of breast cancers. If you have any doubts about how to do a BSE, this is a good time to ask for a demonstration.

*This Patient Handout was prepared by Patricia L. Van Horn using materials from IntelliHealth (<http://www.intellihealth.com/>), UpToDate (<http://www.uptodate.com/>), and WebMD (<http://my.webmd.com/>).*

## Breast Cancer Screening

**Mammography.**—Mammography is still the mainstay of early detection, and finds about 40% of breast cancers. It is 85% to 90% accurate, and studies have found that screening mammography reduces the risk of dying from breast cancer by 34% in women aged 50 years and older.

A mammogram is a breast x-ray that uses a special machine and x-ray film made for breast tissue. You stand in front of the machine and a technician positions your breast between two radiographic supports. These supports are pressed together to gently flatten the breast. This may be uncomfortable or even slightly painful, but the discomfort only lasts for about 5 seconds. The angle of the supports is then changed to provide 1 or 2 different views of the breast. The whole exam takes about 15 to 20 minutes. After the films are developed, the technician may need to take additional images to improve the quality of the pictures; this is a routine safeguard.

Mammography facilities must relay your results within 30 days, and you'll be contacted within 5 working days if there's a problem. The American Cancer Society reports that only 1 or 2 of every 1,000 mammograms lead to a diagnosis of cancer, although about 10% of women will require additional testing to clear up questions.

**Ultrasound.**—In general, ultrasound is not considered to be an initial screening tool at this time. Rather, it is used to determine whether a breast lump is fluid-filled or solid (more likely to be cancerous), and to further examine lumps found by mammography.

In ultrasound, high-frequency sound waves are transmitted through the breast, and the echoes are recorded as images. You lie on an examination table, and a little gel is applied to the breast. A probe

shaped like a paddle is then moved gently over the breast in various directions. The whole test usually lasts no longer than 10 minutes.

**Magnetic Resonance Imaging.**—Magnetic resonance imaging (MRI) is also not generally used for initial screening. This test provides very clear pictures of the breast using a large magnet, radio waves, and a computer. An MRI can distinguish between cancerous and noncancerous breast lumps found on mammography, reducing the number of unnecessary tests for tissue sampling (biopsies).

Before the scan, you may receive an injection of dye to help certain anatomic features show up better. There are several types of MRI machines; the most common type requires you to lie in a sort of long tube. During the scan, you'll probably hear a thumping sound that will last for several minutes, but you won't feel anything. The exam usually lasts between 45 and 60 minutes.

### When should I begin screening for breast cancer, and how often should I be screened?

You can start doing BSE in your 20s, and your doctor should perform a clinical breast exam every year during your regular OB/GYN check-up. Women with a very strong family history of breast cancer may want to begin more aggressive screening in their 20s, and also should discuss genetic testing with their doctors. Beyond this, all of the major US medical organizations now recommend that women over age 50 years undergo annual screening with both clinical breast examination and mammography. There is some disagreement about mammography for women in their 40s, though. Annual screening between ages 40 and 50 years can be beneficial because tumors tend to grow faster in younger women, and mammography would detect them early. However, there are also more

“false-positive” mammograms in younger women because their breast tissue can produce confusing results. This may mean more tests—and more anxiety—for women who are cancer-free. The American Cancer Society recommends having “baseline” mammography for reference between ages 35 and 40 years, and then every year after age 40 years. But finally, the right age for you to begin mammography is best decided between you and your doctor based on your personal risk factors.

Here are some other points to consider:

- For every 1,000 women, 2.4 of those in their 30s will die of breast cancer in the next 15 to 20 years. This figure rises to 7.8 for women in their 40s, 12.9 for those in their 50s, 19.5 for those in their 60s, and 25.3 for those in their 70s.
- For every 1,000 women, annual mammography will prolong the lives of 1 to 2 of those in their 40s, 2 to 4 women in their 50s, and 6 to 8 women in their 60s and 70s.
- For every 1,000 women in their 40s, 44 mammographies are required for each breast cancer that is detected. This number shrinks to 22 mammographies for every breast cancer found among women in their 50s, and 10 for women in their 60s.

### FOR MORE INFO...

**American Cancer Society**  
1-800-ACS-2345 (<http://www.cancer.org>)

**CancerNet** 1-800-4-CANCER  
(<http://www.cancer.gov/cancerinformation>)

**National Cancer Institute**  
(<http://www.cancer.gov/newscenter>)

**National Library of Medicine**  
(<http://www.nlm.nih.gov/medlineplus>)