SAINT LOUIS UNIVERSITY CANCER CENTER

Our standing as an academic medical center puts the Saint Louis University Cancer Center at the forefront in developing and providing the latest medical treatment and procedures for breast cancer patients. Our cancer services are accredited by the American College of Surgeons Commission on Cancer. Radiologists, oncologists and surgeons who are part of the Saint Louis University Cancer Center offer all the recommended tests and treatment for breast cancer. In addition, we provide personalized information to help patients through the difficulties in dealing with this disease. For more information about the programs available through the Saint Louis University Cancer Center, call (314) 268-5880 or toll-free 1-800-268-5880.
SOME FACTS ABOUT BREAST CANCER

Breast cancer is the most common form of cancer among American women. More than 190,000 women are diagnosed with breast cancer each year and almost everyone knows at least one person who has been treated for it. Three-fourths of the cases of breast cancer occur in women ages 50 and older, but it also affects younger women as well as about 1,400 men a year.

More women are getting breast cancer, but no one yet knows all the reasons why. Some of the increase can be traced to better ways of recognizing and detecting cancer in an early stage. The increase also may be the result of changes in the way we live – postponing childbirth, taking replacement hormones and oral contraceptives, eating high-fat foods, or drinking more alcohol. However, even though the incidence of breast cancer is increasing, the death rate is decreasing due to medical and surgical intervention.

The encouraging news is that breast cancer is being detected earlier while the tumor is very small and limited to the breast. Currently, two-thirds of newly diagnosed breast cancers show no signs that the cancer has spread beyond the breast.
THE BREASTS
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. The lobes, lobules and bulbs are all linked by thin tubes called ducts. 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. These normal features can sometimes make the breasts feel lumpy, especially in women who are thin or who have small breasts.

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 (in the axilla), above the collarbone, and in the chest. Lymph nodes are also found in many other parts of the body.

Over her lifetime, a woman can encounter a broad variety of breast conditions. These include normal changes that occur during the menstrual cycle as well as several types of benign (noncancerous) lumps. What they have in common is that they are not cancer. Even for breast lumps that require a biopsy, some 80 percent prove to be benign.

WHAT ARE THE RISKS FOR DEVELOPING BREAST CANCER?
Simply being female and getting older puts a woman at average risk for developing breast cancer. The older she is, the greater her chance of getting breast cancer. This disease is very uncommon in women under the age of 35 and most breast cancers occur in women over the age of 50. The risk is especially high for women over the age of 60. No woman should consider herself too old to need regular screening mammograms.

Research has also shown that the following conditions increase a woman’s chance of getting breast cancer:

• **Personal history of breast cancer.** Women who have had breast cancer face an increased risk of getting breast cancer in their other breast.

• **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, genetic testing can sometimes show the presence of specific genetic changes that increase the risk of breast cancer. Doctors may suggest ways to try to delay or prevent breast cancer, or to improve the detection of this disease in women who have these changes in their genes.

If you know that one or more types of cancer seem to run in your family, you may wish to contact the genetic education program offered by the SLUCare Division of Hematology and Oncology. This comprehensive, confidential program can help you and your family members identify your cancer risks, take steps that may help reduce the risk and undergo screenings to detect cancer in its early stages. Intensive education and counseling are important parts of the program.

• **Family history of breast cancer.** A woman’s risk for developing breast cancer increases if her
mother, sister, or daughter had breast cancer, especially at a young age.

- **Certain breast changes.** Having a diagnosis of atypical hyperplasia or lobular carcinoma in situ (LCIS) may increase a woman’s risk for developing cancer.

- **Estrogen.** Evidence suggests that the longer a woman is exposed to estrogen (estrogen made by the body, taken as a drug, or delivered by a patch), the more likely she is to develop breast cancer. For example, the risk is somewhat increased among women who begin menstruation before age 12, experience menopause after age 50, never have children, or take hormone replacement therapy for long periods of time. Each of these factors increases the amount of time a woman’s body is exposed to estrogen.

  DES (diethylstilbestrol), a synthetic form of estrogen, was used between the early 1940s and 1971. Women who took DES during pregnancy to prevent certain complications are at a slightly higher risk for breast cancer. This does not appear to be the case for their daughters who were exposed to DES before birth. However, more studies are needed as these daughters enter the age range when breast cancer is more common.

- **Late childbearing.** Women who have their first child after about 30 have a greater chance of developing breast cancer than women who have their children at a younger age.

- **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 treatment, the higher her risk for developing breast cancer later in life.

- **Alcohol.** Some studies suggest a slightly higher risk of breast cancer among women who drink alcohol.

- **Diet and dietary factors.** Some evidence exists that a diet high in animal fat may increase the risk of breast cancer and a diet high in fruits and vegetables may decrease the risk.

  Most of the women who develop breast cancer have none of the risk factors listed above, other than the risk that comes with growing older. Scientists are conducting research into the causes of breast cancer to learn more about risk factors and ways of preventing this disease.

**WHAT ARE THE 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. But as the cancer grows, it can cause changes that women should watch for:

- A lump or thickening in or near the breast or in the underarm area.
- A change in the size or shape of a 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 (for example, warm, swollen, red or scaly).

  A woman should see her doctor about any symptoms like these. Most often, they are not cancer, but it’s important to check with the doctor so that any problems can be diagnosed and treated as early as possible.
HOW IS BREAST CANCER DETECTED?

From age 20 on, monthly Breast Self-Examination (BSE) is recommended seven to 10 days after a woman’s period begins. After menopause, BSE should be performed on the first day of the month. BSE only takes a few minutes, costs nothing, and helps find tumors at a smaller size. Ask your health care provider or a Saint Louis University Cancer Center health professional for simple BSE instructions.

To help find the cause of any signs or symptoms, your doctor does a careful physical exam and asks about personal and family medical history. In addition, your doctor may recommend one or more of the following breast exams.

• Clinical breast exam. The doctor can tell a lot about a lump by carefully feeling it and the tissue around it. Benign lumps often feel different from cancerous ones. The doctor can examine the size and texture of the lump and determine whether the lump moves easily. A clinical breast exam should be performed by a trained health care professional annually beginning at age 20 as a part of an annual wellness examination.

• Mammography. A mammogram is a safe low-dose X-ray picture of the breast. A screening mammogram is a quick, easy way to detect breast cancer early when treatment is more effective and survival rates high. Usually two X-ray pictures are taken of each breast. A physician trained to read X-ray pictures, a radiologist, examines them later. If you have sensitive breasts, try having your mammogram at a time of the month when your breasts will be least tender. Try to avoid the week right before your period to help lessen any discomfort. A screening mammogram should begin by age 40 and should be performed annually.

A diagnostic mammogram is used if there may be a problem. It is also used if it is hard to get a good picture because of special circumstances, for instance, when a woman has breast implants. Diagnostic mammography takes a little longer than screening mammography because more X-ray pictures usually are taken. A radiologist may check the X-ray pictures while you wait.

A lump should never be ignored just because it is not visible on a mammogram. Breasts of younger women contain many glands and ligaments. Because their breasts appear dense on mammograms, it is difficult to see tumors or to distinguish between normal and abnormal breast conditions. As a woman grows older, the glandular and fibrous tissues of her breasts gradually give way to less dense fatty tissues. Mammograms can then see into the breast tissue more easily to detect abnormal changes.

Tumor sizes found by BSE and Mammography

<table>
<thead>
<tr>
<th></th>
<th>Average-size lump found by women untrained in BSE</th>
<th>Average-size lump found by women practicing occasional BSE</th>
<th>Average-size lump found by women practicing regular BSE</th>
<th>Average-size lump found by first mammogram</th>
<th>Average-size lump found by repeat mammogram</th>
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<tbody>
<tr>
<td>Ultrasoundography</td>
<td>Using high-frequency sound waves, ultrasonography can often show whether a lump is a fluid-filled cyst (not cancer) or a solid mass (which may or may not be cancer). This exam may be used along with mammography.</td>
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Based on these exams, the doctor may decide that no further tests are needed and no treatment is
necessary. In such cases the doctor may need to check your breasts more regularly to watch for any changes.

Often, fluid or tissue must be removed from the breast so the doctor can make a diagnosis. A referral for further evaluation may be made to a surgeon or other health care professional who has experience with breast diseases. These doctors may perform:

- **Fine-needle aspiration.** A thin needle is used to remove fluid and/or cells from a breast lump. If the fluid is clear, it may not need to be checked by a lab.

- **Needle biopsy.** Using special techniques, tissue can be removed with a needle from an area that looks suspicious on a mammogram but cannot be felt. Tissue removed in a needle biopsy goes to a lab to be checked by a pathologist for cancer cells.

- **Mammotome® Breast Biopsy.** Performed under local anesthesia, stereotactic (X-ray imaging from two angles) or ultrasound (inaudible sound waves that produce an outline of tissue) guidance is used to locate the breast abnormality and position a small probe that uses a vacuum system to draw tissue into a sample chamber. The samples are then cut and sent to the pathology lab for examination.

- **Surgical biopsy.** In an incisional biopsy, the surgeon removes a sample of a lump or suspicious area. In an excisional biopsy, the surgeon removes all of a lump or suspicious area and an area of healthy tissue around the edges. A pathologist then examines the tissue under a microscope to check for cancer cells.

- **High Risk Clinic.** Surgeons in the Saint Louis University Cancer Center conduct a weekly clinic for women at high risk for developing breast cancer. Genetic counseling, MRI testing, preventive chemotherapy and other innovative programs for the early detection of breast cancer are included as part of the extensive surveillance provided in this highly specialized clinic.

**BREAST CANCER SCREENING RECOMMENDATIONS**

Recommended Breast Screening
Ages 20 to 40

- Monthly breast self-examination.
- Exam by a trained professional every year.

Recommended Breast Cancer Screening
Ages 40 and Over

- Monthly breast self-examination.
- Exam by a trained professional every year.
- Mammogram every year after age 40.

Screening recommendations are for women who do not have signs or symptoms of breast cancer. Those women who are at higher risk for breast cancer or who have breast abnormalities should ask their physician for specific guidelines.
Breast Self-Examination (BSE) is an easy and painless way to screen for breast cancer. Beginning at age 20, every woman should perform BSE monthly. This 5 minute, 16-step self-exam could detect breast cancer early when it is most treatable.

1. Every woman’s breasts are different, so you must learn what is normal for you. Any small change in the way your breast looks or feels could be an important early sign. BSE should be done about one week after your menstrual period begins. If you no longer have periods, it should be done at the same time of the month. You should begin BSE in front of a mirror undressed to the waist with your arms relaxed at your sides. Be careful to look for any skin color changes, dimpling, or puckering of the skin or change in breast size or shape. Also look at the nipple for changes such as scaliness or pulling to one side or a change in the direction in which it points.

2. The next step is to place your hands on your waist and press inward. By tightening these muscles, changes may be easier to see. Look for any changes as in Step 1.

3. The third step involves placing your hands behind your head and pressing forward. Once again, look for changes as in Steps 1 and 2.

4. Next, place your hands on your waist and allow your breasts to fall forward. Look for any change in shape or puckering.

5. Take your hand and find your collarbone and rub your hand firmly down the breast, feeling for lumps, thickenings, or changes from previous exams.

6. Repeat Step 5 on the other breast.

7. Next, use one hand to support the breast and with the other hand press firmly, feeling for lumps, thickenings or changes.

8. Repeat Step 7 on the other breast.

9. Any nipple discharge could be a sign of a breast problem. To check for nipple discharge, firmly squeeze the breast tissue around the nipple using your thumb and middle finger.

10. Repeat Step 9 on the other breast.

11. Use your hand to check for any changes or lumps in the armpit.

12. Repeat Step 11 on the other side.

13. You should lie down in bed to complete the breast exam. Take a pillow and place it under your left shoulder and put your left hand behind your head. This spreads the breast tissue out, making it easier to examine and find changes. Use your right hand to examine your left breast. Many women find it easier to feel changes by putting lotion on their fingers. Hold the fingers of your right hand together, keeping them flat, and use firm pressure to move in circles around your breast.

14. Move your fingers in smaller circles until you have felt the entire breast.

15. Place your finger on the nipple and push it in, feeling beneath for any changes.

16. Finally, reverse your hands and pillow to repeat Steps 13, 14 and 15 on the right breast.

Nine out of every 10 breast lumps are found by women themselves. Although eight out of every ten lumps are NOT cancerous, it is important to seek medical help immediately when a change or lump is detected. Early detection is the best defense against breast cancer.
| Date | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
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| Nov  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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Indicate days of menstrual flow with an X
Indicate days of BSE with an O
Duplicate this chart for the rest of your life.