



<http://www.womenshealth.gov>

1-800-994-9662

TDD: 1-888-220-5446

Early-stage Breast Cancer Treatment: A Patient and Doctor Dialogue

Q: What is breast cancer, and what type do I have?

A: Cancer is a disease in which cells become abnormal and form more cells in an uncontrolled way. With breast cancer, the cancer begins in the tissues that make up the breasts. The cancerous cells may form a mass of tissue called a *malignant tumor*. Malignant tumors can spread to other parts of the body and may threaten life. (*Benign* [buh-NYN] breast tumors are abnormal growths that are not cancer. They do not spread to other parts of the body and do not threaten life.) A malignant tumor that grows into surrounding tissue is *invasive*. The most common types of breast cancer are:

- **Invasive** (or infiltrating) **lobular carcinoma** (LAH-byuh-luhr KAR-sih-NOH-muh) — Cancer that begins in the glands that make milk and grows into surrounding tissues. These milk-making glands are called *lobules*. About 1 in 10 invasive breast cancers are this type.
- **Invasive** (or infiltrating) **ductal carcinoma** — Cancer that begins in the milk ducts and grows into surrounding tissues. Milk ducts are

thin tubes that carry milk from the lobules to the nipple. About 8 in 10 invasive breast cancers are this type.

Invasive tumors are more likely to spread to other parts of the body than tumors found *in situ*. *In situ* means the tumors have not spread into surrounding tissue. Noninvasive breast cancer is called:

- **Ductal carcinoma in situ (DCIS)** — DCIS is a condition in which abnormal cells are found in the lining of breast ducts. These cells have not spread outside the duct to the surrounding breast tissue. But some cases of DCIS become invasive breast cancer over time. So DCIS is sometimes called Stage 0 breast cancer. Since it's not possible to know which cases of DCIS will become invasive breast cancer, it's important to get treatment for DCIS. Women with DCIS often are treated with breast-sparing surgery and radiation therapy. Radiation therapy lowers the chance that DCIS will come back or develop into invasive breast cancer. If DCIS is spread out or is in more than one location, some women will choose to have a mastectomy. Underarm lymph nodes usually are not removed in the treatment of DCIS. The drug tamoxifen, which stops the growth of breast tumors that depend on estrogen, is also sometimes used in the treatment of DCIS. Tamoxifen may decrease the risk of a breast cancer developing in the same breast after treatment or in the opposite breast.

Sometimes a tumor is called **lobular carcinoma in situ (LCIS)**. LCIS is a condition in which abnormal cells are found in breast lobules. Even though “carcinoma” refers to cancer, LCIS is



<http://www.womenshealth.gov>

1-800-994-9662

TDD: 1-888-220-5446

not cancer, and there is no evidence that the abnormal cells will spread like cancer. However, having LCIS means that a woman has an increased risk of developing invasive breast cancer in either breast. Despite this increased risk, most women with LCIS will never get breast cancer. Most women with LCIS are followed closely with regular checkups and mammograms. Some women choose to take tamoxifen to decrease their risk of developing breast cancer. Rarely, women with LCIS choose to have both breasts removed as a preventive measure, but most doctors think this approach is inappropriate.

Q: How does breast cancer spread?

A: If cancer spreads to other parts of the body, it's called *metastasis* (muh-TASS-tuh-siss). Breast cancer can spread to other parts of the body in 3 ways:

1. Invading nearby healthy tissue, such as the chest wall.
2. Invading the *lymphatic* (lim-FAT-ihk) system. This system, which is part of the immune system, contains a network of lymph nodes (small, bean-shaped glands) and lymph vessels (thin tubes) that are found throughout the body. Lymph vessels carry a fluid called lymph to the lymph nodes, where it is filtered and checked for signs of infection and disease. Cancer cells can enter into lymph vessels in the breast and travel to the lymph nodes and other parts of the body. The first place breast cancer usually spreads is to the lymph nodes under the arms, called *axillary* (ak-suh-LAIR-ee) *lymph nodes*. That is why after breast cancer has been diagnosed, the underarm

lymph nodes are often removed and examined to see if breast cancer has spread.

3. Invading blood vessels in the breast. Cancer cells can travel through the blood stream to other parts of the body, such as the lungs or bones.

When cancer spreads, it can cause tumors to grow in other parts of the body. Breast cancer that forms tumors in other parts of the body, such as the lungs, is still breast cancer. The good news is that most breast cancers can be found and treated and do not come back in distant parts of the body.

Q: What does "early-stage" breast cancer mean?

A: Invasive breast cancer is categorized as Stage I, II (A or B), III (A, B, or C), or IV. The stage is based on the size of the tumor and whether the cancer has spread. Stages I, IIA, IIB, and IIIA are considered "early-stage" breast cancer and refer to invasive tumors that may have spread to nearby lymph nodes but not to distant parts of the body.

Q: How is early-stage breast cancer treated?

A: Treatment of early-stage breast cancer often involves more than one approach. Surgery is usually the first step. Most women with early-stage breast cancer have a choice between 2 surgical treatments:

- **Breast-sparing surgery, followed by radiation therapy** — Breast-sparing surgery, also called breast-conserving surgery, includes *lumpectomy* (luhm-PEK-tuh-mee) and *partial* (or segmented) *mastectomy*



<http://www.womenshealth.gov>

1-800-994-9662

TDD: 1-888-220-5446

(ma-STEK-tuh-mee). With lumpectomy, the tumor and some surrounding normal tissue are removed. With partial mastectomy, a portion of the breast containing the tumor is removed. Women who have breast-sparing surgery usually have lymph nodes under the arm removed. This may occur during the breast-sparing surgery or at a later time. Breast-sparing surgery keeps the breast intact — looking a lot like it did before surgery.

or

- **Mastectomy** — With *simple (total) mastectomy*, the surgeon removes the whole breast that has cancer and possibly some of the lymph nodes under the arm. With *modified radical mastectomy*, the whole breast, plus many of the lymph nodes under the arm, the lining over the chest muscles, and, sometimes, part of the chest wall muscles are removed.

The goal of both surgeries is to remove all of the cancer from the breast. The doctor will also want to find out if the cancer has spread to nearby lymph nodes. With *axillary lymph node dissection (ALND)*, some or all of the lymph nodes under your arm are removed. With *sentinel lymph node (SLN) biopsy*, a substance is injected near the tumor that allows the doctor to see which lymph node the substance flows to first. This is the sentinel lymph node. It is the first lymph node the cancer is likely to spread to. The sentinel lymph node is removed and looked at under a microscope. If cancer is not found, the other lymph nodes may be left in place. If cancer is found, more lymph nodes may be removed.

The lymph node status, along with test results, helps the doctor know what other treatments, called *adjuvant (AY-juh-vuhnt) therapy*, might also be prudent. The goal of adjuvant therapy after surgery is to kill any cancer cells that might be elsewhere in the body and to keep cancer from recurring.

Q: What's my chance of surviving this cancer with each type of surgery? Does the type of surgery affect whether the cancer can come back?

A: In deciding which type of surgery to have for early-stage breast cancer, the choice is not between saving your breast and saving your life. Women with early-stage breast cancer who have breast-sparing surgery live just as long as those who have mastectomy. A woman's life expectancy is the same no matter which surgical choice she makes.

When women are told that the survival rates of both approaches are the same, they might be surprised or skeptical. Some women assume that breast cancer won't return if the whole breast is removed. However, some breast tissue is left behind even after mastectomy, and cancer can recur in that tissue or on the nearby chest wall. For women with early-stage breast cancer who choose breast-sparing surgery, research clearly shows that radiation therapy after surgery lowers the risk of recurrence. The risk of cancer returning in the same breast is low. Yet, even if breast cancer does recur in the same breast, that does not reduce a woman's chances for a healthy recovery. As was already noted, the chance of survival is not affected by the choice of surgery. However, a



<http://www.womenshealth.gov>

1-800-994-9662

TDD: 1-888-220-5446

recurrence in the same breast could require more surgery, and a woman may decide to have a mastectomy at that time.

The type of surgery does not affect the risk of cancer in the healthy breast or elsewhere in the body.

Q: How do I decide which surgery is right for me?

A: The choice is not an easy one to make. You must consider the medical opinions of the team of doctors involved in your care. Your doctors will consider many factors, including your overall health, in making recommendations and can explain the risks and benefits

of each approach. Speaking with several doctors might also help you in your decision-making. For instance, a plastic surgeon can explain how different reconstruction methods might affect the look and feel of your breast. A radiation oncologist might help put the risk of recurrence in perspective. And of course, your feelings matter too. Ample discussion with doctors and loved ones will help you to sort through all these factors and come to a decision you can be content with.

The following sections provide a more in-depth look at breast-sparing surgery and mastectomy. This information might help a woman make a choice about surgical treatment.

Questions about breast-sparing surgery with radiation

Q: If I choose breast-sparing surgery, how much of my breast has to be taken out?

A: In a lumpectomy the surgeon removes the cancer and a small amount of surrounding normal tissue but leaves most of the breast intact. With other types of breast-sparing surgery, somewhat larger areas of the healthy breast are removed. This distance between the outer edge of the tumor and outer edge of the normal tissue surrounding it is known as the *margin*. The goal of breast-sparing surgery is to obtain *clear*, or *clean*, *margins* — that is, a band of normal breast tissue around the entire tumor that is completely free of cancer. This dictates how much breast is ultimately removed.

Q: Will breast-sparing surgery affect the look of my breast? What will the scar look like?

A: How the breast looks after surgery will depend on the size of the cancer compared to the size of the breast and the amount of healthy breast tissue that is removed. The appearance of the scar depends on the type of surgery and the location of the cancer. Your doctor can give you an idea of how breast-sparing surgery may affect the look of your breast. If your doctor says that breast-sparing surgery is an option for you, then he or she expects that the cancer plus a margin of normal tissue can be removed with a good cosmetic outcome.



<http://www.womenshealth.gov>

1-800-994-9662

TDD: 1-888-220-5446

Q: Will I still have feeling in my breast after breast-sparing surgery?

A: Most women who have breast-sparing surgery followed by radiation therapy will still have sensation in the breast.

Q: What does radiation therapy after breast-sparing surgery involve?

A: Radiation therapy is usually performed as an outpatient procedure over a period of at least 5 weeks. Some women are not able to make that commitment. Some women live far from radiation facilities or can't afford to take the time for daily treatments. Others may have health conditions such as pregnancy, lupus, or heart disease, that prevent them from undergoing radiation. Since radiation therapy lowers the risk of recurrence for women who choose breast-sparing surgery, patients and their doctors must consider the requirements for radiation therapy before deciding which surgical option is best for them.

Q: Why do I need radiation therapy if the tumor is removed with clear margins?

A: Women who have radiation therapy after breast-sparing surgery are less likely to have cancer come back in the same breast than women who have breast-sparing surgery without radiation.

Q: What are the chances of the cancer coming back if I have breast-sparing surgery with radiation? If I decide on a breast-sparing surgery with radiation, how can you be sure there are no other "spots" in the breast?

A: Most women who have breast-sparing surgery followed by radiation will not have cancer recur in the same breast. In studies, recurrence rates within 10 years of breast-sparing surgery followed by radiation range from 4 percent to 20 percent. This might seem like a big range. But keep in mind that cancer that recurs in the same breast can be treated and does not affect chances of a healthy recovery compared to mastectomy. Another thing to keep in mind is that doctors suggest breast-sparing surgery only if they feel it offers a very good chance of removing all of the cancer. Obtaining a clear margin is one way the surgeon can lower the risk of recurrence. Radiation also lowers the risk of the cancer recurring in the same breast.

Q: What are the side effects of breast-sparing surgery? What about the side effects of radiation? I hear it makes the breast hard.

A: When considering what kind of surgery to have, it is important to know that there are potential side effects common to all surgical procedures. Any surgical procedure carries a risk of infection, poor wound healing, bleeding, or a reaction to the anesthesia. Also, pain and tenderness in the affected area is common, usually only in the



<http://www.womenshealth.gov>

1-800-994-9662

TDD: 1-888-220-5446

short term. Because nerves may be injured or cut during surgery, most women will experience numbness and tingling in the chest, underarm, shoulder, and/or upper arm. Women who undergo breast-sparing surgery usually find these changes in sensation improve over 1 or 2 years, but they may never completely go away.

Radiation therapy can cause side effects, such as fatigue or skin irritation. These side effects tend to be mild. Radiation therapy can cause a skin condition that looks like sunburn. This usually fades, but in some women it never goes away completely. Some women do find that radiation makes their breast feel hard or firm. Again, this may last just a few months, or longer.

Removal of lymph nodes under the arms may be performed. This can lead to pain and arm swelling, called *lymphedema*, which can last a long time and be debilitating.

Keep in mind that the side effects of treatment vary for each person. Some women may have many side effects or complications, others may have very few. Pain medication, physical therapy, and other strategies can help women manage side effects and recovery.

Q: I heard that radiation can cause cancer. Will it increase my risk for other cancers?

A: Radiation therapy has improved greatly through the years, and the doses are much lower than they used to be. The risk of another cancer due to radiation therapy to the breast is very small. The bottom line is that women who have radiation therapy after breast-sparing surgery are less likely to have cancer recur in the same breast, and they live just as long as women who undergo mastectomy without radiation.

Q: If cancer recurs in the same breast after having breast-sparing surgery followed by radiation, will I need a mastectomy then? Will I be able to have breast reconstruction even though I have had radiation?

A: Cancer that recurs in the same breast usually is removed with surgery. Most often a mastectomy is performed at that time, because radiation is not recommended a second time. Breast reconstruction is possible after previous radiation therapy, but the surgery may be harder to perform. This issue should be discussed with a plastic surgeon.

