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## [Sentinel Lymph Node Biopsy for Early-Stage Breast Cancer](#) [1]

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To help doctors give their patients the best possible care, the American Society of Clinical Oncology (ASCO) asks its medical experts to develop evidence-based recommendations about specific topics in cancer care. This recommendation is about the use of sentinel lymph node biopsy for patients with early-stage breast cancer. This guide for patients is based on ASCO's recommendations.

### **Key Messages:**

- A sentinel lymph node biopsy is a surgical procedure that helps the doctor find out if breast cancer has spread to the lymph nodes.
- An axillary lymph node dissection may also be needed to learn more about how the cancer has spread and to remove cancerous lymph nodes.
- Talk with your doctor about what kind of procedures are recommended to diagnose cancer and what the results will mean.

### **Background**

Breast cancer begins when normal cells in the breast change and grow uncontrollably, forming a mass called a tumor. A tumor can be cancerous or benign. A cancerous tumor is malignant, meaning it can spread to other parts of the body. A benign tumor means the tumor will not spread. A cancerous tumor spreads when cells break off from the tumor and enter the body's

blood or lymph fluid.

Lymph fluid flows through tubes called lymphatic vessels that drain into lymph nodes, which are the tiny, bean-shaped organs that help fight infection. Groups of lymph nodes are located in different areas throughout the body, such as under the arm and in the neck, groin, and abdomen. The lymph nodes can trap cancer cells that were traveling away from the original tumor before the tumor was removed during surgery. Knowing whether the cancer has spread helps the doctors determine the stage and approach to treatment. Because cancer that has spread to the lymph nodes may be treated differently than cancer that has not spread to the lymph nodes, it is important to find out whether any of the lymph nodes near the breast contain cancer. There are two ways to look for cancer in the lymph nodes near the breast:

**Sentinel lymph node biopsy.** When cancer spreads through the lymphatic system, the lymph node or group of lymph nodes the cancer reaches first is called the sentinel node. In breast cancer, these are usually the lymph nodes under the arms called the axillary lymph nodes. In a sentinel lymph node biopsy, often shortened to sentinel node biopsy, or SNB, one to three or more of the axillary lymph nodes are removed and examined for signs of cancer. Usually, if there is no cancer in these sentinel nodes it means the remaining axillary lymph nodes will not have cancer.

To locate the sentinel node, the surgeon injects a harmless, radioactive substance and/or a dye into the breast near the tumor. Sometimes, the injection is given under the areola, which is the darker area that surrounds the nipple. Then, the surgeon makes an incision under the arm and either follows the radioactive signal or finds the lymph nodes that are stained from the dye and removes them. A doctor called a pathologist will carefully examine the sentinel node(s) for signs of cancer. A pathologist specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease.

**Axillary Lymph Node Dissection.** During an axillary lymph node dissection, most lymph nodes under the arm are removed and examined for signs of cancer. Because more lymph nodes are studied, the doctor may have more evidence of whether the cancer has spread.

## **Recommendations**

In general, if you have early-stage breast cancer that can be removed with surgery and your underarm lymph nodes are not enlarged, sentinel lymph node biopsy is the standard of care. This includes the following situations:

- You have tumors in more than one location in the breast.
- You have a type of breast cancer called ductal carcinoma in situ (DCIS) and you are having a mastectomy.
- You have previously had breast surgery, surgery to the underarm or axillary area, or chemotherapy before surgery.

If cancer is found in your sentinel lymph nodes after the sentinel lymph node biopsy, the next

step depends on the results:

- If only one or two sentinel lymph nodes have cancer and you plan to have a lumpectomy and radiation therapy to the entire breast, an axillary lymph node dissection is not needed. A lumpectomy, also called breast-conserving surgery, is the removal of the tumor and some surrounding healthy tissue.
- If you have cancer in sentinel lymph nodes and have chosen to have a mastectomy rather than a lumpectomy, an axillary lymph node dissection is an option.

A sentinel lymph node biopsy alone is usually **not recommended** for early-stage breast cancer in the situations listed below. Then, an axillary lymph node dissection is recommended.

- You have a large breast tumor or the cancer has spread throughout the breast
- You have inflammatory breast cancer
- You have DCIS and are planning to have a lumpectomy
- You are pregnant

### **What This Means for Patients**

For many patients with smaller tumors, a sentinel lymph node biopsy is an appropriate procedure to determine whether cancer has spread outside of the breast and can be performed instead of an axillary lymph node dissection. The side effects of a sentinel lymph node biopsy and an axillary lymph node dissection are similar and include lymphedema, nerve damage, shoulder pain, and loss of mobility in the arm and shoulder.

Lymphedema is the abnormal buildup of fluid in soft tissue due to a blockage in the lymphatic system. For people with breast cancer who develop lymphedema, it usually occurs in the arm where the lymph nodes were removed. Although, the risk of lymphedema does not go away if you've had lymph nodes removed, there are steps you can take to lower your risk and manage lymphedema if you develop it.

Because the risk of lymphedema increases with the number of lymph nodes and vessels that are removed or damaged during cancer treatment, women who have a sentinel lymph node biopsy tend to be less likely to develop lymphedema than those who have an axillary lymph node dissection. Talk with your doctor about whether a sentinel lymph node biopsy is an option for you and the risks and benefits of this procedure compared with an axillary lymph node dissection. It is important to remember that your health care team will work with you to weigh your risk of the cancer coming back with any potential changes to your quality of life to make the best treatment decision for your specific situation.

### **Questions to Ask the Doctor**

Consider asking your doctor the following questions:

- Do you recommend that I have a sentinel lymph node biopsy? Why or why not?

- Do you recommend an axillary lymph node dissection instead? Why or why not?
- What are the risks of the procedure you recommend?
- What is lymphedema? How can it be managed? What steps can I take to prevent or minimize it?
- Can you recommend an experienced surgeon to perform this procedure?
- When will I know the results? How will they be communicated to me?
- What further tests will be necessary if the results are positive (indicates cancer)? What if they are negative? What follow-up care will I need after the procedure?
- Will I have a surgical drain after surgery?
- What can I expect in terms of range of motion in my arm?
- Will I need to do daily exercises after surgery? Does exercise help lymphedema?
- What is a lymphedema sleeve? What is lymphatic massage? Will they help manage lymphedema?
- Where can I find more information?

## More Information

Read the entire clinical practice guideline at [www.asco.org/guidelines/breastsnb](http://www.asco.org/guidelines/breastsnb) [2].

[Guide to Breast Cancer](#) [3]

[Buildup of Fluid or Lymphedema](#) [4]

## Additional Resource

[National Cancer Institute: Sentinel Lymph Node Biopsy](#) [5]

## Links

- [1] <http://www.cancer.net/research-and-advocacy/asco-care-and-treatment-recommendations-patients/sentinel-lymph-node-biopsy-early-stage-breast-cancer>
- [2] <http://www.asco.org/guidelines/breastsnb>
- [3] <http://www.cancer.net/node/18618>
- [4] <http://www.cancer.net/node/25250>
- [5] <http://www.cancer.gov/cancertopics/factsheet/detection/sentinel-node-biopsy>