Torrance Memorial
A Cedars-Sinai Affiliate

Polak Breast
Diagnostic Center

Sentinel Lymph Node Biopsy and Breast Cancer

When a diagnosis of breast cancer is made, the patient begins the process of learning about her disease and treatment options so that an individualized, optimal plan of care can be developed. There are many issues to be considered, and usually one of the first is the type and extent of surgery. Depending on the size of the tumor, a lumpectomy or mastectomy to remove the malignant tumor in the breast is typically planned. The surgeon may also recommend surgical removal (dissection) of the lymph nodes in the axilla (armpit) to determine if any cancer cells have escaped the original tumor and metastasized (spread) to that area. Although the majority of women with a small breast cancer do not have malignant cells in their lymph nodes, identifying which women do have axillary node involvement is important because it helps the oncologist plan additional treatment.

Although most women have no lasting adverse effects after a complete axillary dissection, some women experience pain, change in sensation and swelling, called lymphedema. These complications can be minor, or more serious and chronic. Because of these potential problems, breast surgeons have developed a less invasive way to learn the status of the lymph nodes. Sentinel lymph node biopsy is a technique used by breast surgery specialists that accomplishes this goal.

What is a sentinel lymph node biopsy?

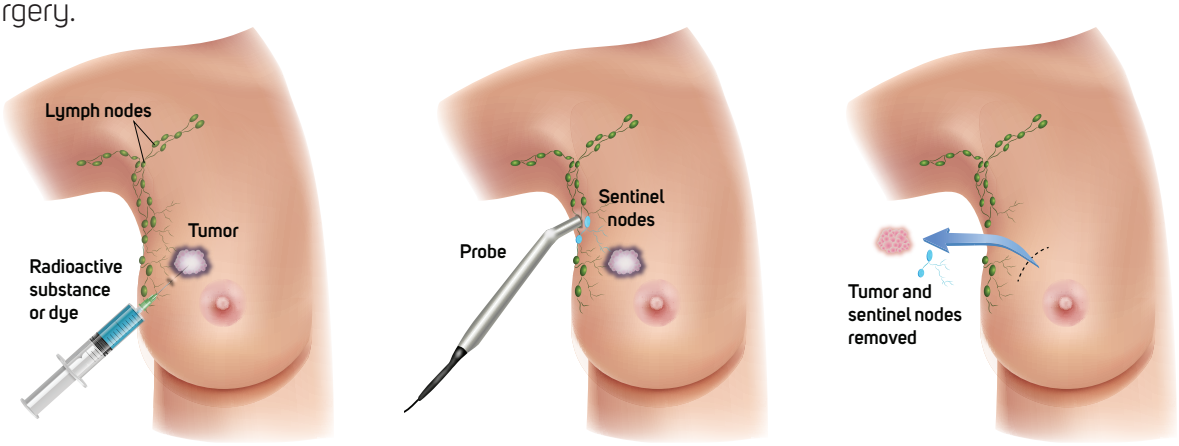
Sentinel lymph node mapping is a surgical technique that can spare some breast cancer patients a complete axillary dissection. As the name "sentinel" indicates, the sentinel node is the first node along the lymph channel that drains the breast and is almost always the first node to receive any cancerous cells that have escaped the original breast cancer. If the sentinel node is cancer free, it is unlikely that other lymph nodes further upstream contain cancer. Often one to three lymph nodes are removed during sentinel lymph node biopsy. Since approximately two-thirds of women with early stage breast cancer will have no tumor spread to the lymph nodes at the time of surgery, these patients can potentially avoid a complete axillary dissection by instead having the SLN biopsy.

How is the SLN biopsy performed?

Sentinel lymph node biopsy involves the injection of a tiny amount of radioactive isotope into the breast before surgery. Ten minutes before the operation begins, the surgeon injects a blue dye into the breast, which further identifies the sentinel lymph nodes.

In the operating room, the surgeons uses a handheld gamma detector to pinpoint the radioactively hot sentinel lymph nodes beneath the skin of the armpit. A small incision is made over this area. Using the gamma detector and the blue dye as guides, the surgeon isolates the sentinel lymph nodes from the surrounding tissue. Minimal dissection is then needed to remove the sentinel nodes. Once the sentinel lymph node biopsy is complete, the surgeon proceeds with the planned lumpectomy or mastectomy. If pathology studies of the sentinel node reveal the presence of cancer cells, removal of additional axillary lymph nodes is usually recommended. Also, removal of all the axillary lymph nodes is recommended if the sentinel lymph cannot be located.

The American College of Surgeons has published guidelines regarding the sentinel lymph node procedure that recommend SLN biopsy be performed by qualified surgeons. Advantages of SLN biopsy compared to a complete axillary dissection include less post-surgical pain and decreased risk of complications. A potential risk of SLN biopsy is the risk of false negative, i.e., that the sampled sentinel lymph nodes have no detectable cancer but other unsampled lymph nodes that drain the breast contain cancer. The result of a false negative can be incomplete surgical removal of cancer-containing lymph nodes. At Torrance Memorial Medial Center, our breast surgeons have a false negative rate for this procedure well below that national average of 5 percent. The accuracy of sentinel lymph node biopsy may also be compromised in patients who have had prior breast or axillary surgery.



Questions to ask my breast surgeon about sentinel lymph node mapping

- Has the surgeon taken an approved training course to learn the SLNM technique?
- How many SLNM procedures has the surgeon performed?
- What are the risks and benefits of SLNM compared to removal of all the axillary lymph nodes?

For more information about breast cancer or treatment, contact the Cancer Resource Center at 310-517-4665 or visit TorranceMemorial.org.