

## Lymphatic system and axillary nodes

The lymphatic system runs through the body. It carries lymph from tissues and organs to lymph nodes. Lymph nodes are small clumps of immune cells that act as filters for the lymphatic system. They also store white blood cells that help fight illness.

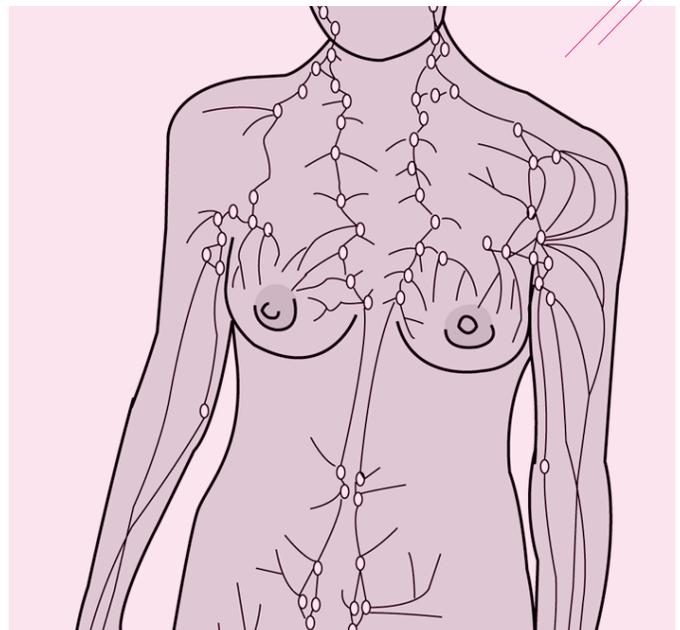
The lymph nodes in the underarm are called axillary lymph nodes. If breast cancer spreads, this is the first place it's likely to go. During breast surgery, some axillary lymph nodes may be removed to see if they contain cancer. This helps determine breast cancer stage and guide treatment.

Lymph node status is related to tumor size. The larger the tumor, the more likely it is the breast cancer has spread to the lymph nodes (lymph node-positive).

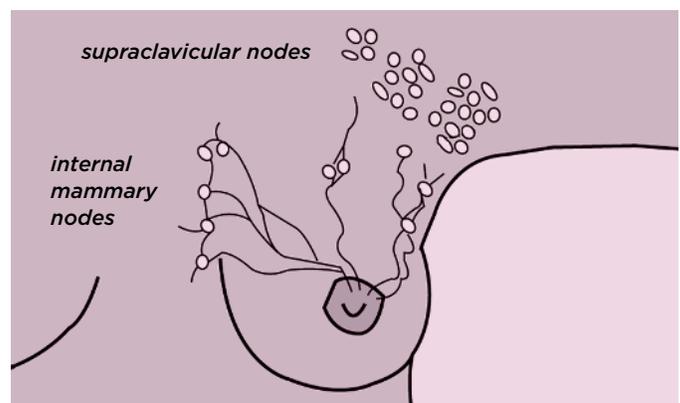
## Sentinel node biopsy

To see if cancer has spread to the axillary lymph nodes, most people have a sentinel node biopsy. Before or during the procedure, a radioactive substance (called a tracer) and/or a blue dye is injected into the breast. The first lymph nodes to absorb the tracer or dye are called the sentinel nodes. These are also the first lymph nodes where breast cancer is likely to spread.

The surgeon removes the sentinel nodes and sends them to the lab. When the surgeon removes the sentinel nodes, it doesn't mean there's cancer in the nodes. It means a pathologist needs to check the nodes for cancer. If the nodes contain cancer, more lymph nodes may be removed. This is done through axillary dissection.



The lymphatic system runs through the body.



Lymph node levels and the internal mammary nodes.



**Lymph node-negative.** No cancer is found in the sentinel nodes. It's unlikely other lymph nodes contain cancer. Surgery to remove more lymph nodes won't be needed.



**Lymph node-positive.** Cancer is found in the sentinel nodes. More lymph nodes may be removed.

For more information, visit [komen.org](http://komen.org) or call Susan G. Komen's breast care helpline at 1-877 GO KOMEN (1-877-465-6636) Monday through Friday, 9 AM to 10 PM ET.

## Resources

### American Cancer Society

1-800-ACS-2345

[cancer.org](http://cancer.org)

### National Cancer Institute

1-800-4-CANCER

[cancer.gov](http://cancer.gov)

### National Lymphedema Network

1-800-541-3259

[lymphnet.org](http://lymphnet.org)

## Related fact sheets in this series:

- [Breast Cancer Prognosis](#)
- [Breast Cancer Surgery](#)
- [Lymphedema](#)

## Axillary dissection

The goals of axillary dissection are to check how many lymph nodes have cancer and to reduce the chances of cancer recurring in the lymph nodes.

Axillary dissection removes more nodes and disrupts more of the normal tissue in the underarm area than a sentinel node biopsy. So, it's more likely to affect arm function and more likely to cause lymphedema.

For this reason, sentinel node biopsy is the preferred method to check the axillary lymph nodes.

## Lymphedema

When lymph nodes are removed, some of the lymph vessels can become blocked. This may keep lymph fluid from leaving the area. Lymphedema occurs when lymph fluid collects in the arm (or other area such as the hand, fingers, chest/breast or back). It causes swelling (edema). The swelling may be so small it's barely seen or felt. Or, it may be so great the arm grows very large.

Lymphedema usually develops within 3 years of breast surgery. If lymphedema occurs right after surgery, it may last a short time then go away.

Lymphedema isn't as common as it used to be. And the cases that do occur are less severe. Since sentinel node biopsy is the preferred way to remove lymph nodes (only a few nodes are removed), most people don't get lymphedema.

For more information on lymphedema, please read [Facts for Life: Lymphedema](#) or see [Questions to Ask the Doctor](#) about lymphedema.



Photo credit: Stanley G. Rockson, MD, Allan and Tina Neill Professor of Lymphatic Research and Medicine, Stanford School of Medicine

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