

## Lymphatic system

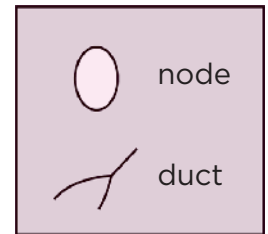
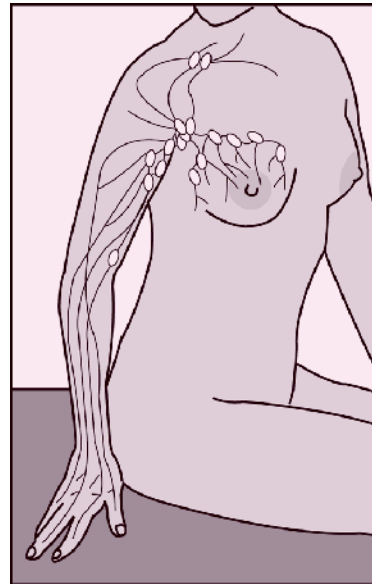
The lymphatic system consists of ducts (similar to blood vessels), nodes and tissue. Its role is to filter the lymph fluid for waste products and to store white blood cells that are vital in fighting infections. Colorless fluid (lymph) moves along in ducts and passes through the lymph nodes, where fluid is filtered. Lymph nodes in the underarm are called axillary [AK-sil-air-e] nodes. These nodes are important in determining breast cancer stage and the likelihood that breast cancer has spread to other parts of the body.

The surgical removal of the axillary nodes in the underarm area and/or radiation therapy to the affected area can interfere with normal lymph drainage and cause lymphedema. Sentinel [SEN-tih-nel] node biopsy is a procedure that can reduce the number of lymph nodes that are removed. This procedure may reduce the risk of infection and lymphedema.

### What to look for

Call your doctor if your affected arm or hand is warm, red, swollen or if you have a fever. These symptoms could indicate an infection and may require antibiotics. Let your doctor know if you experience any of these symptoms:

- a heavy feeling in your arm
- a tight sensation in your arm or hand
- swelling in your arm or hand
- decreased flexibility in your hand or wrist
- shirt sleeves or jewelry that feel tight
- skin that may “pit” with any finger pressure



*Lymph fluid drains through ducts. The fluid travels from your hand, up your arm and to your axillary nodes.*

## What is lymphedema?

Lymphedema [lim-fa-DEE-ma] is a build-up of lymphatic fluid. It causes swelling in the arm and hand, and sometimes in the chest/breast/back on the side of surgery. When the lymphatic system is damaged, fluid collects in the tissue of the affected area causing swelling.

## Who is at risk?

Those who have had axillary lymph nodes removed or have undergone radiation therapy to this area are at risk for lymphedema. It can occur weeks after surgery, within a few months or even years after treatment. Precautions may reduce the risk of getting lymphedema.

## Precautions that may reduce your risk

1. Treat infections of the affected arm and hand right away.
  2. Have injections or blood drawn from the unaffected arm.
  3. Have your blood pressure taken from the unaffected arm.
  4. Wear gloves when doing house or yard work.
  5. Keep your skin clean. Moisturize your skin after bathing.
  6. Protect your skin from the sun with sunscreen (at least SPF 15) and protective clothing.
  7. Avoid lifting or carrying heavy bags, purses or other objects with your at-risk arm.
  8. Avoid wearing tight jewelry or clothing.
  9. Avoid cutting your cuticles during manicures.
  10. Use an electric razor, not a blade, to shave your underarm.
  11. Use insect repellent when outdoors, but wash it off when inside.
  12. Avoid any type of injury, including scratches and bruises, to the at-risk arm.
  13. When flying in an airplane, wear a compression sleeve and drink lots of fluids during the flight.
  14. Rest your arm in an elevated position (above your heart or shoulder).
- Tell your doctor about any changes in your arm as soon as you notice them.**

## Treatments for lymphedema

Lymphedema may be managed with a variety of treatments. Check with your insurance company to see if your treatment choice is covered.

**Arm elevation** — Keeping your hand and arm higher than your heart and shoulder can help increase the flow of lymphatic fluid.

**Compression sleeve** — This device is an elastic, custom-fitted sleeve that applies pressure to help fluid drain. It can be used alone or with manual lymphatic drainage.

**Manual lymphatic drainage** — This procedure consists of a gentle arm massage to stimulate movement of lymphatic fluid. Wrapping the arm and hand is also included to reduce the swelling. It is done by a trained, certified physical therapist. You can also learn these procedures to do yourself.

**Mild exercise** — Staying physically active will also increase the flow of lymph fluid. Arm stretches will help you maintain range of motion. Activities like swimming and walking will help with circulation.

Avoid strenuous and repetitive exercises. Check with your doctor or physical therapist about which exercises are right for you.

**Weight loss** — Maintaining a healthy weight can also help reduce lymphedema.

## Resources

### Organizations

National Lymphedema Network  
1-800-541-3259  
[www.lymphnet.org](http://www.lymphnet.org)

The National Cancer Institute  
1-800-4-CANCER  
[www.cancer.gov](http://www.cancer.gov)

### Related fact sheets in this series:

- Axillary Lymph Nodes
- Breast Health Resources
- Breast Surgery