About Your Lymphatic System

Your lymphatic system has 2 functions:

- It helps fight infection.
- It helps drain fluid from your body.

Your lymphatic system is made up of lymph nodes, lymphatic vessels, and lymphatic fluid (see Figure 1).

- **Lymph nodes** are small bean-shaped glands located along your lymphatic vessels. Your lymph nodes filter your lymphatic fluid, taking out bacteria, viruses, cancer cells, and other waste products.
• **Lymphatic vessels** are tiny tubes, similar to blood vessels, that carry lymphatic fluid to and from your lymph nodes.

• **Lymphatic fluid** is the clear fluid that travels through your lymphatic system. It carries cells that help fight infections and other diseases.

Axillary lymph nodes are a group of nodes in your armpit that drain the lymph fluid from your breast and arm. The number of nodes varies from person to person. An axillary lymph node dissection is a surgery to remove a group of these lymph nodes.

### About Lymphedema

Sometimes, removing lymph nodes can make it hard for your lymphatic system to drain properly. If that happens, lymphatic fluid can build up and cause swelling. This swelling is called lymphedema. Lymphedema can develop in the arm, hand, breast, or torso on the side where your lymph nodes were removed, which is called your affected side.

### Signs of lymphedema

Lymphedema can develop suddenly or gradually and can happen months or years after your surgery. Watch for signs of lymphedema, which include:

• A feeling of heaviness, aching, or pain in your breast, arm, hand, or fingers

• A tight feeling in the skin of your arm, hand, or breast

• Decreased flexibility in your arm, hand, or fingers
• Swelling or changes in your skin, such as tightness or pitting (skin that stays indented after being pressed). If you have swelling, you may notice that:
  ○ The veins in the hand on your affected side are less noticeable than on the other hand.
  ○ The rings on the finger(s) of your affected side are tighter or do not fit.
  ○ The shirt sleeve on your affected side feels tighter than usual.

If you have any signs of lymphedema, or you’re not sure, talk with your doctor or nurse. If you don’t have signs of lymphedema, you can have your blood pressure measured on your affected side.

**Preventing Lymphedema**

It’s important to prevent infection and swelling to reduce your risk for lymphedema.

**Preventing infection**

You’re more likely to get lymphedema if you get an infection in your arm on the side of your surgery. This is because your body will produce extra white blood cells and lymph fluid to fight the infection, and this extra fluid may not drain properly.

A cut or burn on the hand or arm on the side of your surgery can lead to an infection. To reduce your risk of infection, follow the suggestions below:
- Use lotion or cream to keep your hands and cuticles soft. Don’t use scissors to cut your cuticles; instead, push them back with a cuticle stick.

- Wear protective gloves when doing yard work or gardening, washing dishes, and cleaning with harsh detergent or steel wool.

- Wear a thimble when sewing; avoid needle and pin pricks.

- Use an insect repellent to prevent bug bites.

- Be careful if you shave under your at-risk arm; consider using an electric razor. Don’t use a straight razor or hair removal (depilatory) cream because they can cause breaks in your skin.

- Be careful not to get sunburned. Use a sunblock with an SPF of at least 30 and reapply it often.

Caring for cuts and scratches

1. Wash the area with soap and water.

2. Apply an antibiotic ointment, such as Bacitracin® or Neosporin®, to the area.

3. Cover the area with clean, dry gauze or a Band-Aid®.

4. Watch for signs of infection, including redness, swelling, increased heat, or tenderness.

Caring for burns

1. Apply a cold pack or cold water to the burn for 15 minutes.

2. Wash the area with soap and water.
3. Cover the area with clean, dry gauze or a Band-Aid®.
4. Watch for signs of infection, including redness, swelling, increased heat, or tenderness.

**Preventing swelling**

**Right after your surgery**

You may have some mild swelling in your arm right after your surgery. This swelling may last for up to 6 weeks, but it’s temporary and will gradually go away. You may also feel pain or other sensations, such as twinges and tingling, after your surgery. These feelings are common and aren’t necessarily signs of lymphedema.

The following tips will help relieve the swelling:

- Continue to do your exercises 5 times per day or as you were instructed. Exercise your arm until you regain your normal range of shoulder and arm movement. This can take 4 to 6 weeks after surgery. It may be helpful to continue doing the stretching exercises even longer, if you feel a stretch in your chest or under your arm. If you don’t regain your normal range of motion after 4 to 6 weeks, call your doctor or nurse.
- Open your hand slowly and stretch out your fingers. Close your hand gently and make a fist. Repeat this exercise 10 times, and then rest. Repeat this exercise a few times a day.
- If you sleep on your back, elevate your arm on 1 or 2 pillows at your side. If you are able to sleep on the opposite side of your surgery, place 1 or 2 pillows in front of you. Rest your
arm on those pillows. If you had breast reconstruction, make sure not to move your arm any higher than you were instructed.

**Over the long term**

There is no sure way to prevent lymphedema. However, we suggest you follow the guidelines below to lower your risk:

- Have your blood drawn and shots given on your arm that’s not at risk for lymphedema. If you had an axillary lymph node dissection on both sides, talk with your doctor about which arm would be safest to use.

- When you resume exercise and activity after your surgery, make sure to build up your routine gradually. At first, use your unaffected arm or both arms to carry heavy packages until you get your strength back on the side of your surgery.

- Exercise and stretch your muscles on a regular basis. If you feel discomfort, stop and take a break. Check with your doctor or nurse before you resume any strenuous exercise, such as lifting weights or playing tennis.

- Maintain or work towards a healthy body weight.

- Take off any tight or heavy jewelry or clothing that has tight elastic and leaves a mark on your arm. These things can lead to swelling.

- Don’t use heating pads or hot-packs on your at-risk arm or shoulder.

- If you develop swelling in your arm or hand, make a note of
when it started. If it doesn’t go away after 1 week, call your doctor or nurse.

Call your doctor or nurse:

- If any part of your arm, hand, breast, or torso on your affected side:
  - Feels hot
  - Is red
  - Is more painful
  - Is more swollen
- If you have a temperature of 101º F (38.3º C) or higher

If you have any questions, contact a member of your healthcare team directly. If you're a patient at MSK and you need to reach a provider after 5:00 PM, during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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