

Lymphoedema

You may have undergone surgery to remove all or part of a breast, along with lymph glands/nodes under the arm, as part of breast cancer treatment.

Managing your arm condition is easier when you are well-informed about what to do and what to avoid. This guide will help you understand the role of your lymphatic system and possible management strategies to manage or reduce the risk of lymphoedema.

The results of any treatment and management plan depend on your active participation and self-care.



Patient's hand with lymphoedema (left) versus her normal hand (right)

What is Lymphoedema?

Lymphoedema is swelling caused by a buildup of protein-rich fluid in tissues due to a damaged system.

The fluid acts like stagnant water, preventing cells from functioning correctly. One of these cells, the macrophage, helps clear dead cells, proteins and other waste. If it cannot do its job, waste accumulates, leading to swelling.

If the swelling is left untreated, the fluid can become hard, dense fibrous tissue. Repeated infections may also cause this hardening, which will make treatment more difficult.

The risk of developing lymphoedema is about 20-30% for those who have had a mastectomy (removal of the whole breast and most lymph nodes). If fewer breast tissues and glands are removed, the risk is lower but still higher than for someone without surgery.

Your Lymphatic System

Your lymphatic system carries a clear fluid called lymph, similar to how arteries and veins carry blood. This fluid flows through lymphatic vessels, lymph nodes that filter out cancer cells and bacteria.

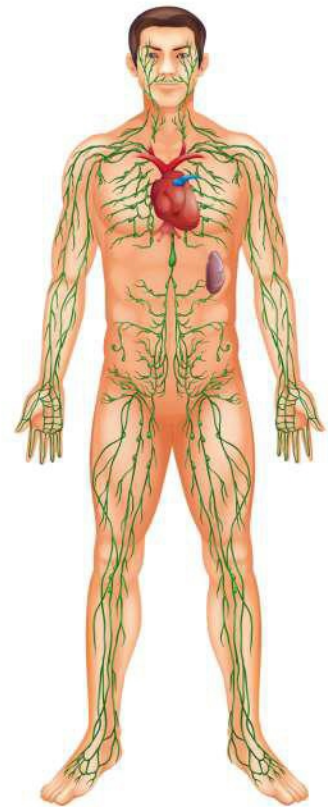
While blood carries nutrients and oxygen to cells and carries waste away, the lymphatic system removes waste that is too large for the blood to handle. It also plays a key role in fighting bacteria and infections.

The lymphatic system is divided into territories separated by boundaries called watersheds. There are four major territories of the torso and six in each arm. If a specific territory is blocked, swelling may occur only in certain parts of the arm or torso. Treatment to unblock it involves opening pathways to drain fluid into other areas.

How Lymph Flows

Flow of the lymph is influenced by:

- The amount of fluid in the tissues.
- Rhythmic contraction and relaxation of the muscles around the vessels.
- Pressure variations caused by breathing movements (deep inspirations may improve lymph flow).
- Slow and rhythmic movements (such as Tai Chi or Qi Gong).



How Surgery and Radiation Therapy Affect Your Lymphatic System

During surgery, some of the lymph vessels and their associated nodes in the armpit may have been removed to prevent cancer from spreading and recurring. This reduces the number of drainage pathways for fluid, which can lead to swelling in the arm.

Excess fluid can build up because the system's transport capacity is reduced, but the fluid load remains the same, leading to lymphoedema. Radiation therapy given to prevent the future occurrence of cancer may sometimes develop lymphoedema as a complication. Early intervention at this stage is important and can have a significant impact on whether your lymphoedema progresses or resolves.

Signs of Lymphoedema

A recent study showed that lymphoedema does not develop immediately. Instead, it may take 14 months to 3 years after surgery to appear. Some people never develop visible swelling, but potentially damaging changes can still happen within the tissues of your arm.

Here are some signs that may indicate a higher risk of developing lymphoedema in the arm:

- Pain and tingling sensation
- A heavy or tight feeling
- Cramps or numbness
- Warmth, redness, itchiness
- Swelling that comes and goes with exercise or activities

While experiencing these signs does not necessarily mean you will develop lymphoedema in the arm (e.g. pins and needles, tingling and numbness may be associated with the surgery you had undergone), you should see a doctor who is knowledgeable in the diagnosis, management, and treatment of lymphoedema, or contact your breast cancer nurse.

A warm, red limb could indicate an infection (cellulitis or erysipelas), requiring immediate treatment.

What Worsens Lymphoedema?

Some risk factors, such as age, radiotherapy, and the number of lymph vessels and glands removed cannot be controlled. However, other factors can be controlled to minimize the effects of lymphoedema.

One of the most important factors is your weight. Excess fat can compress lymph vessels increase fluid buildup and worsen lymphoedema.

It is also important to care for your skin, as dry or cracked skin increases infection risk, triggering inflammation and worsening swelling.

How to Prevent Lymphoedema

Lymphoedema does not always develop immediately. Paying attention to your limb can help prevent it from occurring or worsening. Here's what you should do:

Take care of your skin

- Cuts or scratches can trigger inflammation, increase fluid buildup and stressing the lymphatic system.
- Bacteria entering through broken skin may cause an infection, leading to further inflammation (heat, redness and swelling).

Wear loose-fitting clothes

- Tight-fitting clothing, such as straps and jewellery, can restrict the flow of blood and lymph from your limb, increasing the risk of developing or worsening lymphoedema.
- A specialist nurse or physiotherapist can provide additional guidance on suitable clothing.

Engage in mild exercises

- Mild exercises that take your joints through their full range help improve circulation. The variation in pressure created by muscle contraction also helps to squeeze fluids through limb tissues.
- Suitable exercises include walking, gentle bike riding, yoga, tai chi and Qi Gong.
- Always consult your doctor, nurse or therapist before starting an exercise programme.

Maintain a healthy diet and weight

- A diet low in fat and salt but high in fibre and fluids can help reduce the risk of lymphoedema.
- Being overweight can worsen lymphoedema. Consult a dietitian or nutritionist before undergoing weight management.

You should also avoid the following to reduce the risk of lymphoedema:

Strenuous exercise without supervision

- Exercises that leave you out of breath may raise your heart rate and blood pressure, which increases fluid and protein buildup in the tissues, overwhelming the lymphatic system. If your lymphatic channels are affected due to the surgery, they cannot carry enough fluid, leading to swelling.
- However, mild exercises can be very beneficial. Your physiotherapist can determine an ideal level of exercises for you.

Sunburn and hot spas

- Heat increases blood flow to the skin, leading to fluid accumulation and a greater load on the lymphatic system. This may cause or worsen lymphoedema.

Skin injuries

- Cuts and scratches allow harmful organisms like bacteria to enter, increasing the risk of infections. Any infection can lead to an increase in lymph load, leading to lymphoedema.

Carrying heavy bags on the affected arm

- Carrying heavy bags on the affected arm over a long period can reduce lymphatic flow.

Wearing bras with narrow straps or constrictive jewellery

- Tight-fitting inner garments or constrictive objects on the skin are likely to exert high pressure on lymph vessels. This may reduce lymphatic flow, leading to swelling.

Long periods of inactivity

- Your lymphatic flow depends on your muscle activity. Inactivity (e.g. watching TV or using a phone) for more than 45 minutes can slow lymphatic flow.

Other Recommendations to Prevent Lymphoedema

- Wear rubber gloves when washing clothes or dishes.
- Keep skin moisturised with non-perfumed lotion.
- Wear a support garment during long flights and do gentle exercises.
- Use insect repellent outdoors to prevent bites and infections.
- Elevate your limb when resting.
- Apply sunscreen when going outdoors.
- Wear long sleeves or gloves when gardening.
- Avoid plong periods of cooking and baking.
- Do not hold cigarettes with the affected hand.
- Avoid using strong detergents or chemicals on the affected limb.
- Avoid sports that may cause injury.

Contributed by Physiotherapy, Rehabilitation, Allied Health Services

This brochure is produced for educational purposes and should not be used as a substitute for medical diagnosis or treatment. Please seek the advice of a qualified healthcare provider before starting any treatment or if you have any questions related to your health or medical condition.

Information shared is accurate as of May 2025 and subject to revision without prior notice.



Scan QR
code to
download
e-brochure