

**L**ymphoedema is swelling caused by a build-up of fluid in the body's tissues. Lymphoedema may develop in some people after breast cancer treatment. The swelling commonly affects the arm and can include the hand and fingers. Swelling can also affect the breast, chest, shoulder or the area on the back behind the armpit.

It can occur as a result of damage to the lymphatic system, which may happen because of surgery or radiotherapy to the lymph nodes under the arm and surrounding area. It may also develop after removal of the axillary lymph nodes (the nodes under the arm/armpit) performed during mastectomy or for the prevention or management of metastatic breast cancer. Lymphoedema only affects the side of the body that was treated.

Lymphoedema is a long-term condition, which means that once it has developed it can be controlled but is unlikely to ever go away completely.

### **SYMPTOMS OF LYMPHOEDEMA**

Symptoms of lymphoedema include the following:

- **Swelling:** this may come and go initially. It may be worse at the end of the day, after strenuous activities or in a hot shower. Your clothing, particularly your bra, and jewellery (watch, bracelets and rings) may feel tighter. Swelling in the arm or chest area often develops immediately after breast surgery as part of the healing process, and may settle without treatment. Although lymphoedema may be 'delayed' in developing, it will remain as a chronic condition.
- **Discomfort:** this can present as a dull ache, heaviness in the arm, breast area or chest area, or tingling or numbness. These can be early signs of lymphoedema developing.
- **Tightness:** when there is extra fluid in the tissues, the arm or breast area can feel tight. This may be without any evident swelling appearing on the 'surface'.
- **Dry skin:** when there is swelling, the skin becomes stretched taut often resulting in dry, flaky, sometimes itchy, skin. Dry, cracked skin increases the risk of cellulitis (a sudden infection of the skin and the tissue below).
- **Arm stiffness:** swelling within tissues may restrict the freedom of movement, limiting your range of motion.

# Lymphoedema and Breast Cancer

### ● **Hardness or firmness (fibrosis) of the tissues.**

You should contact your breast-care nurse or treatment team as soon as possible if you notice any of these symptoms, as early intervention can sometimes reduce the severity of long-term symptoms.

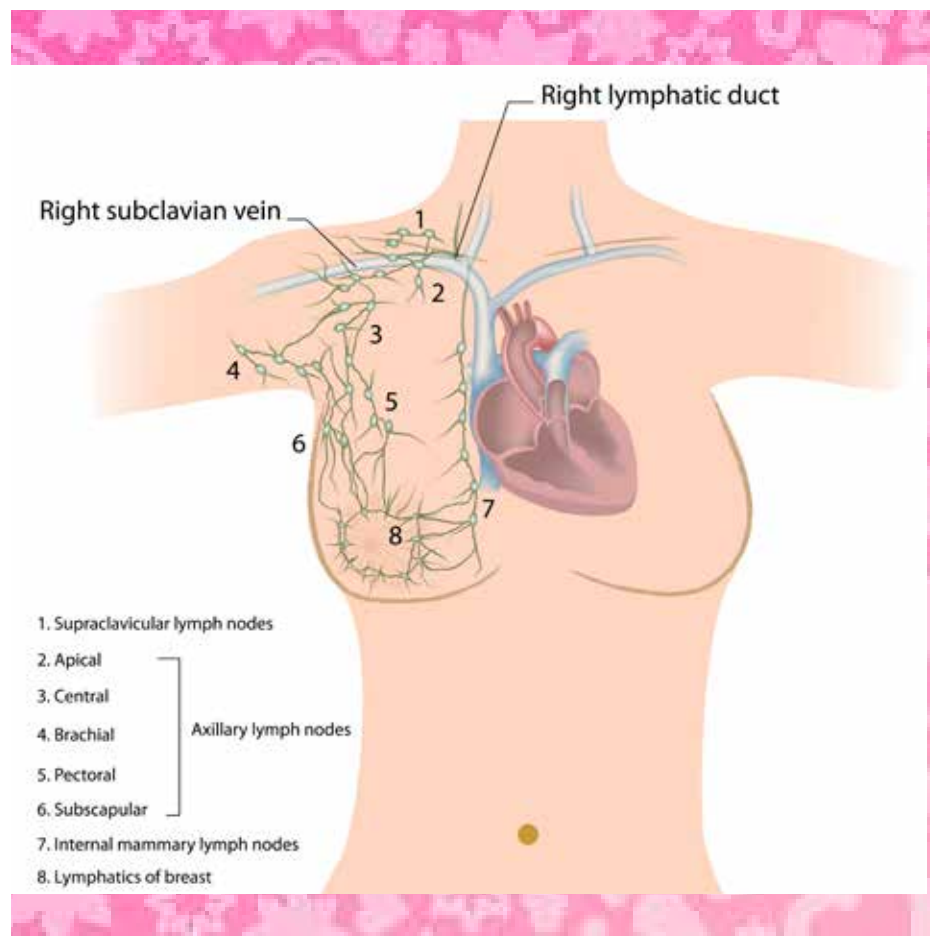
### **CAUSES OF LYMPHOEDEMA**

Lymphoedema can be caused by damage to the lymphatic system. The lymphatic system is a series of lymph nodes, also called lymph glands, and tiny tubes called lymph vessels that are connected throughout the body. The lymphatic system is a major component of the body's natural immune

system. The function of the lymphatic system is to transport lymph cells, such as white blood cells, to injured areas to address infection or damage. The lymphatic system, when functioning properly is involved in transporting toxins, lymphatic fluid and waste products towards lymph nodes where they can be filtered and expelled from the body. When the lymphatic system is overrun or working inefficiently lymphoedema can occur.

One, some or all of the lymph nodes under the arm can be removed during breast surgery to check whether any cancer cells are present. Lymph vessels and nodes can also be damaged with radiotherapy.

Any damaged or removed lymph



nodes and vessels cannot be replaced. This can affect the ability of the lymphatic system to drain fluid in this area, thus resulting in a build-up of fluid and therefore swelling of those tissues. Lymphoedema may develop soon after surgery, radiotherapy or chemotherapy, but it can also occur many years later. In some cases, lymphoedema can be due to cancer cells blocking the lymphatic system.

## TREATMENT FOR LYMPHOEDEMA

There are various treatments and techniques to manage lymphoedema, some of which are listed below:

**1 Skincare:** people with lymphoedema have an increased risk of skin infections, thus keeping your skin in good condition is essential. Keeping the skin clean and moisturised and protected from the sun (long sleeves or sunblock) can help. Avoiding insect bites or stings (where possible) by using repellents and avoiding cuts or abrasions (for example wearing gardening gloves) will reduce the risk of infection.

**2 Exercise:** you are more likely to increase your risk of lymphoedema if you are overly protective of your 'at risk' arm. Use it normally in everyday activities and functions. Exercising your arm regularly with sporting activities or prescribed exercises will keep the arm and shoulder mobile but also stimulate blood flow which facilitates fluid drainage. If you have to sit for long periods at work or while travelling, your physical therapist can give you exercises like fist clenching and unclenching, and shoulder rolls to stimulate circulation and drainage. Likewise, if you can elevate the 'at risk' arm or hand when stationary, this may help reduce the severity of oedema.

**3 Compression garments:** these are similar to elasticated tights worn the full length of the arm from the hand to the armpit. The compression helps reduce the swelling. These are often custom fitted, so ask a medical professional for guidance.

**4 Massage:** this specialised type of massage is called manual lymphatic drainage. It is a very light massage technique with huge benefits for the patient. The physiological changes from this massage include:

- an increased number of capillaries to the area, which brings with them oxygen and nutrients to tissues and helps drain excess fluid;
- the stimulation of drainage of waste products and a reduced fluid build-up; and
- improved blood circulation, which helps to reduce swelling and remove waste products.

These changes due to lymphatic drainage massage translate to reduced swelling in the arm for the patient. With reduced swelling, the patient may feel less pain and greater freedom of movement. Massage can help increase relaxation through gentle and long massage strokes. Massage stimulates the production of natural endorphins, serotonin and dopamine resulting in the individual feeling happy with a sense of wellbeing, even motivated and enthusiastic. Massage can also restrict the production of the hormone cortisol. Cortisol is a hormone released during times of stress to enable the body to be alert and aware; however, prolonged periods of

high cortisol can leave the individual feeling anxious and depressed.

## RISK REDUCTION

There are a number of things you can do to reduce your risk of developing lymphoedema:

- **Maintain a healthy weight.** Being overweight can increase your risk of developing lymphoedema because of added strain on an already weakened lymphatic system.
- **Use your 'at risk' arm normally and exercise regularly.**
- **Reduce your risk of infection and look after your skin.** Infection in your 'at risk' arm, hand, breast or chest area can cause swelling and may damage your lymphatic system, leading to lymphoedema.
- **Avoid procedures on your 'at risk' arm.** Taking blood, having injections or receiving intravenous (IV) fluids in the 'at risk' arm is thought to increase your risk of developing lymphoedema. There is no strong evidence to support this but you may choose to use your other arm.
- **Travelling.** As suggested if there are times of prolonged sitting perform small movements and exercises to promote circulation and reduce the extent of the swelling.



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