

Start winding with the smallest bandage in figure of eight across the palm starting at the knuckle and ending at the wrist. Anchor using micropore tape. Never use the claws included in the bandage package. The second bandage should be wound from the wrist to mid arm. The third bandage should be used from forearm to mid upper arm. Never start or end at the elbow since circulation will be affected when you bend it. The last bandage should be wound from mid upper arm to the shoulder. (A kit costing Rs. 600/- can be purchased from Tata Memorial Hospital's Rehabilitation Centre.)

4. Manual Lymph Drainage :

(i) Self massage of lymph nodes

Self massage is best performed lying down comfortably in bed, naked from the waist up, using a little cream to give the correct amount of pressure and friction.

a. Starting at the neck line, hands crossed over each other, place fingers above and inside the collar bone and pull the skin up and down in a controlled and measured movement. Repeat 5-7 times.

b. With hands behind the ears, use the whole finger, not just the tips, to massage the area first clockwise and then anti-clockwise. Repeat 5-7 times.

c. Taking the non affected side first, place your hand in the arm pit and massage in a circular motion, first clockwise and then anti-clockwise 5-7 times. Repeat on the affected side.

d. Place hands on the sternum and massage in a circular motion clockwise and then anti-clockwise. Repeat 5-7 times.

e. Place hands on the groin area, just under the line between top of the thigh and bottom of the tummy, then rub up following the line. First clockwise then again anti-clockwise. Repeat 5-7 times.

ii) Drainage of lymphatic fluid after massage

a. Starting from the non affected side, lift the arm above your head. Using the other hand and starting at the shoulder rub the body downwards through the chest wall to the groin area. Repeat on the affected side.

b. Repeat the above procedure on the back.

Since lymph collects just below the surface, under the skin, it is not necessary to use high pressure for massage. Gentle daily manual lymph drainage for at least an hour goes a long way in reducing fluid.

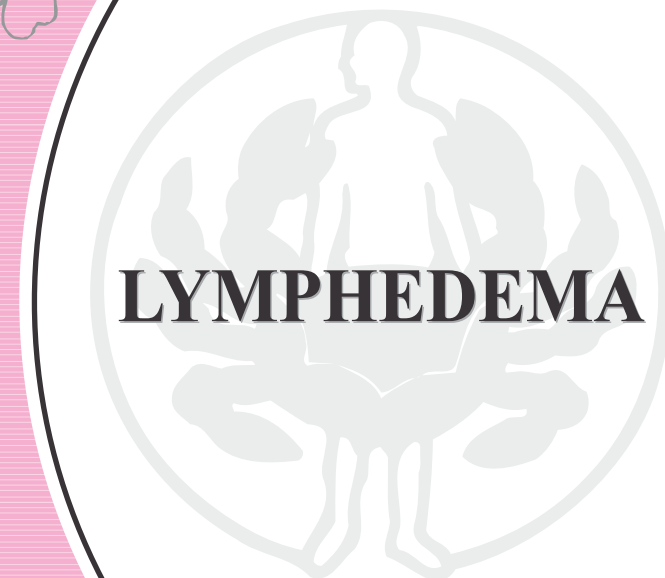
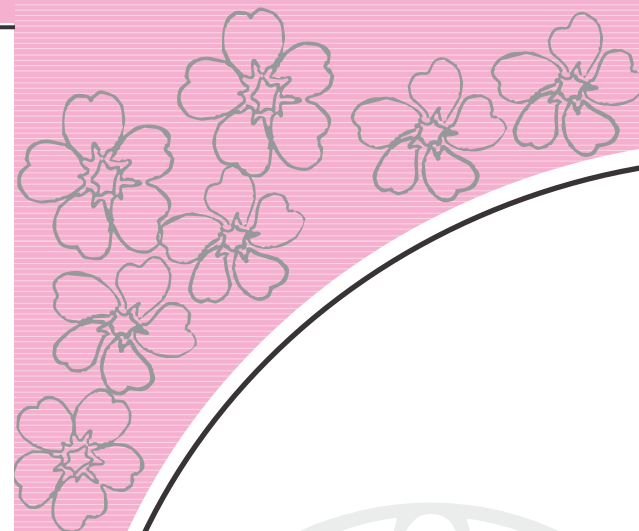
5. Drainage using the pneumatic pressure pump : This is an instrument which gently applies pressure to the edematous arm. A 12 chamber machine is used for up to one hour every day from Monday to Friday for 2 consecutive weeks. Longer periods of treatment are not recommended and can cause increased levels of damage by breaking delicate vessels already affected by edema. The procedure cannot be repeated for 6 months.

FOLLOW UP CARE

Lymphedema is easier to prevent than treat. Reversal of the swelling can be a long and disappointing struggle. However by persisting and following the procedure described meticulously, very good results have been obtained. Being a breast cancer survivor brings its own hardships. This is one which can be managed. Continue your daily routine, use the garments and bandages as instructed by the therapist. Exercise regularly 50 times a day. And you will find that you can put lymphedema behind you.

Acknowledgements

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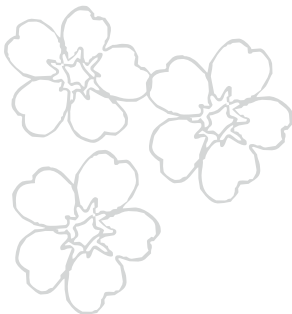


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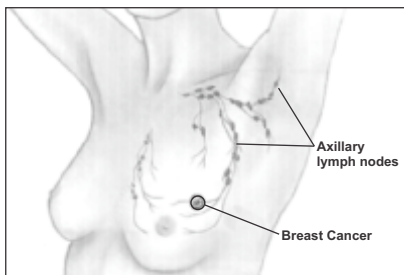


ABOUT LYMPHEDEMA

The lymphatic system is part of our circulatory system. Oxygenated blood from the lungs flows to the tissues through arteries, but only 80% returns through our veins. The remaining 20% returns through lymphatic vessels as lymph. While the heart is responsible for pumping and causing the blood to flow through our body, lymph moves due to contractions of the vessels or muscles. Lymph is emptied by the vessels into

ducts and rejoins the 80% blood entering the heart. The lymphatic system is responsible for removing interstitial fluid from tissues and transporting infection carrying cells to the lymph nodes where they are neutralised. Lymph nodes are located at intervals along the lymphatic system and act as sieves collecting the dead bodies of bacteria and other sources of infection destroyed by the body's immune system.

During cancer surgery, associated lymph nodes are removed along with the affected part. The lymphatic system carries cancerous cells from the primary site to other parts of the body resulting in metastasis. Lymph nodes in between recognize the cancer cells and destroy them but if they cannot, they themselves become sites of metastasis. The presence of cancerous cells in lymph nodes helps the doctor assess whether the disease has spread outside the primary organ and what further treatment such as chemotherapy, radiation and targeted therapy is needed. In the case of breast cancer surgery, some of the lymph nodes in the armpit next to the operated breast are removed. The patient may also undergo radiation therapy to the region. As a result, the lymphatic system on the operated side may be damaged and becomes incapable of draining the arm properly and lymph starts collecting in the tissues causing swelling in the arm, breast and/or chest wall. This is called Lymphedema.



PREVENTION

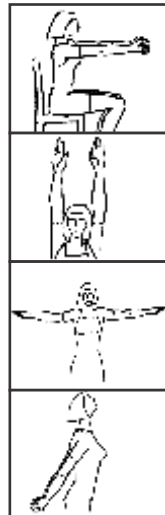
If left untreated, the swelling can become large enough to cause mild to severe discomfort and even inability to use the arm. The swelling is very difficult to reverse, but by taking proper care and observing some dos and don'ts, it can be prevented to a large extent. It is therefore in every breast cancer patient's interest to learn some simple exercises and lifestyle modifications that will reduce your risk of getting lymphedema.

Do's and Don'ts

- Never take injections, IV fluids, check blood pressure or draw blood on the affected arm.
- Never wear glass bangles.
- Never expose the affected arm to excessive heat e.g. during cooking.
- Cut nails carefully, without pulling cuticles.
- Don't lift heavy weights. Don't carry a heavy bag on the shoulder.
- Don't subject the arm to extreme temperatures.

Do's

- Keep the arm clean.
- Treat it gently.
- Be careful when shaving underarms. Use an electric razor with a narrow head.
- Whenever possible keep the arm raised, for example on a pillow.
- Use a compression bandage when traveling long distances or flying.
- Wear loose gloves when cleaning, washing.
- Protect your arm from pinpricks, scratches, bruises, cuts or burns of any kind.
- Use a thimble when stitching. Wear loose clothing and jewellery.
- Use insect repellent to avoid insect bites.
- In case of any injury, wash with antiseptic and apply a sterile bandage.
- And the most important, exercise as shown below at least 50 times every day.



Sit straight in a chair or cross-legged on a bed or floor. Bring your arms in front. Join your hands and stretch.

Raise your arms above your head and stretch. Your upper arms should be touching your ears.

Bring your arms down to shoulder level with palms facing downwards.

Finally, join your hands behind your back and stretch. At the same time, raise your head and take a deep breath.

With a little bit of care and discipline and regular exercise, these precautions will become a part of your normal life and help prevent lymphedema to a large extent.

SIGNS AND SYMPTOMS

In spite of one's best efforts, lymphedema is not completely preventable and could occur either very soon after surgery or even a long time later. A cut, burn or bruise, even a seemingly insignificant insect bite could cause it. Some of the indications are:

- Swelling in the arm, breast, chest wall or the back. Since the swelling develops very slowly, it is worthwhile to keep track by measuring circumference of the arms at different points (finger, wrist, forearm, elbow, upper arm and armhole) and compare the affected and unaffected arms.
- Redness, patches, hot areas, thickening, itching
- Heaviness usually increasing as the day progresses
- Decreased range of motion
- Pitting-formation of dents when the skin is pressed



LYMPHEDEMA MANAGEMENT:

Lymphedema management involves 5 equally important steps. This is a treatment NOT magic. If started early, the swelling can be reversed to a great extent. Patience and persistence is essential.

I. Muscle Pumping Exercises : These 6 exercises should be done 3 times a day, once with bandages before going to sleep and twice with the compression sleeve.

(i) Deep breathing exercises : With your hands placed lightly over your stomach, breathe in through the nose, with the stomach pressed out like a balloon. Then breathe out through the mouth with the stomach pressed inwards as far as possible. Repeat 10 times.

(ii) Join hands in a namaste position, in front of your chest. Spread and stretch hands and fingers out as wide as possible and return to start position. Repeat 5 times.

(iii) With the affected arm stretched out in front of your body, spread and stretch open your hand and fingers and then make a half claw. Hold for 5 seconds and then back to open palm. Repeat 5 times with arm in front, 5 times with the arm up above your head and 5 times with the arm out to the side.

(iv) With the affected arm out in front of your body, spread and stretch open your hand and fingers then bend them to make a fist with the thumb placed on the outer side. Repeat 5 times with arm in front, 5 times with arm up above your head and 5 times with the arm out to the side.

(v) Pretending there is a bar up above your head, with your chest out put both arms up in the air above your head and pretend to pull the bar down with both hands clenched in a fist position. Repeat 5 times.

(vi) Using a soft Smiley ball, raise the arm high, keeping the elbow straight and squeeze the ball. Hold for 3 counts and release. This exercise can be used as a preventive before lymphedema sets in.

2. Wearing Compression Sleeve : It is very important that the compression sleeve should fit you correctly. There should be no wrinkles which can cause the swelling to worsen. It should end 2cm below the shoulder. When working, simply remove the palm portion but remember to fold back neatly to avoid undue pressure at the fold. Buy 2 sleeves so that you can wash one and use the other. The typical sleeve costs about Rs. 250/- and lasts 3 months.

3. Multi-layer Bandaging : To manipulate lymphatic fluid drainage from fingers to the shoulder, bandages are applied at night when sleeping. Bandaging is done in multiple layers as described:

- Stockinet sleeve provides protection and absorption of sweat.
- 2" Soft Touch Bandage. Fold over the entire length to make it 1" wide and roll up.
- 4 different size bandages are used with the smaller ones at the distal end and larger ones near the shoulder to create a gradient of pressure.
- Cast padding to equalize pressure.

Procedure : Start applying the Soft Touch bandage across the palm to anchor it, then around the little finger, leaving the nail bed. Again fold around the palm and start on the ring finger. Continue to the thumb. Do not try to stretch the bandage, use a second bandage when the first one is finished. Now apply the cast bandage.

