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Lymphedema Surgery

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What is Lymphedema?

Lymphedema is swelling caused by a buildup of lymphatic fluid in the tissues. The swelling occurs when lymph nodes are no longer able to do proper drainage of lymph fluid from an area of the body. It can occur anywhere in the body, but most commonly it affects the arm or leg, and may occur as:

Primary Lymphedema:

Or

Secondary Lymphedema:

- After cancer surgery (e.g., lymph node removal)
- After radiotherapy
- Due to infection or trauma or burn

What are the lymphedema symptoms?

The swelling may cause symptoms and signs that worsen over time, as:

- Heaviness
- Pain
- Tenderness
- Tightness
- Recurrent infections which cause intermittent redness, pain and inflammation (cellulitis)
- Skin changes, thickening, fibrosis or ulceration
- Discomfort or reduced mobility
- Excess fat in the affected extremity
- Once a diagnosis of lymphedema has been confirmed, conservative (nonsurgical) management should begin promptly. This typically includes limb elevation, meticulous skin care, compression garments, physiotherapy, and the use of pneumatic compression devices.
- While these measures are often effective in controlling symptoms, they can be demanding for patients and usually require lifelong adherence. Surgical treatment may be considered when conservative therapy does not provide sufficient symptom control.

When is Surgery Considered?

Surgery is not a replacement for compression therapy or physiotherapy but works alongside.

Surgery is considered when:

- Conservative treatment (compression garments, manual lymphatic drainage, physiotherapy) has not provided adequate improvement
- Swelling is persistent or progressive
- Recurrent infections occur
- There is significant impact on quality of life
- The affected limb causes immobility

Important Notes

- Surgery improves lymphedema but does not “cure” it.
- Early intervention gives better outcomes.
- Long-term follow-up and lifelong physiotherapy and compression therapy are essential, before and after surgery.
- Realistic expectations should be considered

Before the Surgery... Preparation and Expectations

- Detailed assessment including imaging (e.g., ICG lymphography, lymphoscintigraphy, Ultrasound)
- Continued compression therapy
- Optimization of general health and body weight
- Smoking cessation (if applicable)

A detailed interview is conducted with our medical team covering the following:

- Review of your medical history, previous surgeries and past or current conditions, allergies, circulatory problems, thyroid problems and diabetes.
- Review of the results of the physical examination, vision examination as well as the laboratory tests which include testing your tear production, measuring parts of your eyelids, examining your eyes and testing your vision, including your peripheral vision.

- Photographs of your eyes from different angles.
- An overview of the surgical intervention, expected risk, recovery stages as well as the expected results.
- Determining where your surgery will be performed and the date of operation.

Important Instructions

- Avoid taking aspirin, vitamins, anti-inflammatory drugs and herbal supplements, 1 week before the surgery, as they can increase bleeding
- Take only those medications approved or prescribed by our medical team.
- Stop smoking, 3 weeks before the surgery.
- Arrange for someone to drive you home after surgery.
- Arrange for resting at home for at least one week after the operation

Types of Lymphedema Surgery

- **Physiologic Procedures (Restore Lymph Flow)**

These aim to improve lymphatic drainage, where lymphatic vessels are connected and drained into the body's venous system, which includes:

- **Lymphaticovenular Anastomosis (LVA)**

- Microsurgical connection between lymphatic vessels and small veins
- Best for early-stage lymphedema
- Minimally invasive
- Small incisions

- **Vascularized Lymph Node Transfer (VLNT)**

- Healthy lymph nodes are transferred from one healthy part of the body to the affected area, together with their vessels which are connected to the recipient area's vessels microscopically.
- Helps rebuild lymphatic drainage pathways
- Suitable for moderate to advanced cases
- Incisions and scars will be present at the donor and recipient areas.

- **Vascularized Lymph Vessel Transfer (VLVT) or VLNT but without Lymph nodes**

- Vascularized Lymph Vessel Transfer (VLVT) involves transferring functional lymphatic vessels (without lymph nodes) along with their blood supply from a donor site to the affected limb, which are connected to the recipient area's vessels microscopically.

- **Lymph Node to Vein Anastomosis (LNVA)**

LNVA (Lymph Node–Venous Anastomosis) is a supermicrosurgical procedure used to treat lymphedema by directly connecting a lymph node to a nearby small vein, allowing lymph to drain into the venous system.

It is conceptually related to LVA (lymphaticovenous anastomosis) but uses a lymph node–based approach instead of individual superficial lymphatic channels.

Debulking/ Excisional / Reductive Procedures (Remove Excess Tissue)

Used in advanced or late-stage lymphedema with significant swelling, fibrosis or fatty infiltration. These types of surgeries may need more than one stage to obtain better results.

Liposuction

- Removes excess fatty and fibrotic tissue
- Requires lifelong compression afterward to maintain the liposuction effect.

Excisional Surgery

- Removal of severely affected tissue and skin
- Reserved for severe cases

After the Surgery.

- Avoid aspirin, ibuprofen (Advil, Motrin IB, others), naproxen sodium (Aleve, others), naproxen (Naprosyn), and other medications or herbal supplements, for one week after the surgery, as this may increase bleeding. Stick only to the medication prescribed by our medical team.
- Limit your dietary salt intake to help faster swelling recovery.
 - Limb elevation
 - Gradual return to activity
 - Ongoing compression therapy (often required)
 - After Liposuction or debulking surgery, a compression garment will be worn.
 - Follow-up physiotherapy

- Regular clinic follow-up

Recovery time depends on the procedure performed.

Recovery and Results

Benefits of Surgery:

- Reduction in limb volume
- Decreased heaviness and discomfort
- Fewer infections
- Improved mobility
- Improved cosmetic appearance
- Better quality of life
- Results vary between patients.

Follow-up

In the first month after the surgery, follow-up is done by visiting the clinic once or twice a week. In the following month, a visit is made every two weeks. Then monthly follow-up visit (once a month) during the next 6-12 months.

Risk

The decision to have plastic surgery is extremely personal. You will have to decide if the benefits will achieve your goals and if the risks and potential complications of lymphedema surgery are acceptable.

Our medical team will explain in detail the risks associated with surgery. As with any surgical procedure, you will be asked to sign consent forms to ensure that you fully understand the procedure and any risks or potential complications. Photographs are taken before and after the surgery and for different periods to follow up the progress achieved.

As with any surgery, risks may include:

- Infection
- Bleeding or hematoma
- Seroma
- Wound healing problems
- Necrosis
- Donor site swelling (in VLNT)
- Persistent or recurrent swelling
- Need for additional procedures

- Permanent Scarring in the affected extremity and the donor site if present.
- Loss of sensation around the surgical area

Medication

Life-long:

Daily penicillin tablets or long-acting Penicillin once monthly intramuscular injection should be taken to prevent recurrent infections if you are not allergic to it.

Short-term:

Post Surgical antibiotics, pain killers and anti-inflammatory will be prescribed.

After free LN transfer surgery, anticoagulants will be prescribed.

R/Tavanic 500 mg One tablet daily for 5 days

R/Ketolac SR	One tablet every 12 hours - after meals – till pain is gone
R/Panadol 500mg	Two tablets every 8 hours
R/Alphintern	Two tablets every 8 hours – half an hour before meals – for 2-3 weeks

R/Controloc 40 mg One tablet 30 minutes before breakfast for 10 days

Cited in :

– American Society of Plastic Surgeons: [HYPERLINK "https://www.plasticsurgery.org/"](https://www.plasticsurgery.org/)
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Treatment of Cellulitis:

1. Apply a mixture of Garamycin ointment and Fucidin ointment times daily.
2. Elevate the foot above the level of the heart.
3. long acting penicillin: Penistard injection 1,200,000 IU

Given once monthly after a sensitivity test, as a deep intramuscular injection.

Or

Ospen 1000 mg tablets once daily.

4. Ceftriaxone 1 gram intravenous injection once daily for 5 days.

After finishing this, take:

- Augmentin 1 gram tablet every 12 hours for two weeks.

5. Lead subacetate compresses (liquid) on a gauze or pads on the affected area twice daily.

Skin Care and Infection Prevention

People with lymphedema are at a higher risk of serious skin infections like cellulitis, so protecting the skin is crucial.

Clean and moisturize daily:

Wash the affected area gently with mild soap and water, paying attention to skin folds and between fingers/toes, then dry thoroughly. Apply a non-perfumed, low-pH moisturizer daily to prevent dryness and cracking.

Protect from injury:

Wear gloves when gardening, cooking, or using harsh detergents.

Use an electric shaver to avoid nicks and cuts.

Protect skin from the sun with sunscreen (SPF 30 or higher) and insect repellent to avoid bites and burns.

Treat any cuts, scratches, or bug bites immediately with soap and water and an antibiotic ointment, then cover it with a sterile dressing.

Monitor for signs of infection:

Contact a healthcare provider immediately if you notice redness, increased pain, warmth, swelling, fever, or flu-like symptoms.

Activity and Lifestyle Management

Regular movement helps promote lymph drainage through muscle contraction.

Exercise:

Engage in regular, gentle physical activity, such as walking, swimming, or specific exercises recommended by a lymphedema therapist, while wearing your compression garment.

Elevation:

When resting, elevate the affected limb above the level of the heart whenever possible to help drain accumulated fluid.

Avoid constriction:

Do not wear tight clothing, jewelry, or shoes that leave marks or constrict the affected area.

Avoid carrying heavy bags on the affected limb.

Maintain a healthy weight and a well-balanced, low-sodium diet. Maintaining a healthy weight can help manage symptoms and reduce the risk of worsening of the condition.

Stay hydrated:

Drinking plenty of water is important for overall health and helps the body filter excess fluid.

Medical Precautions!

Avoid punctures and pressure:

Do not have blood drawn, injections, or blood pressure taken on the affected limb, if possible.

Use compression as directed:

Wear properly fitted compression garments or bandages as instructed by a certified lymphedema therapist. These should be comfortable, not painful or constricting.

Consider air travel precautions:

When traveling by airplane, wear your compression garment and move frequently during the flight to enhance circulation.

Specialized Therapies:

A certified lymphedema therapist can provide specific guidance and treatment as part of a complete decongestive therapy (CDT) plan.

Manual Lymphatic Drainage (MLD):

A specialized, gentle massage technique performed by a trained therapist to move fluid from swollen areas to working lymph nodes. You can also be taught how to perform simple self-massage (SLD) at home.

Compression Bandaging:

During intensive treatment phases, multi-layer bandages may be applied by a therapist to reduce swelling.

Pneumatic Compression:

In some cases, a pump and sleeve device may be used to apply intermittent pressure to the limb, helping to move fluid.

For personalized advice and a tailored plan, it is essential to consult with your healthcare team or a lymphedema specialist.