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# Lymphedema Treatment

## **What is the treatment for lymphedema?**

Lymphedema is treated through physical means. Lymphedema causes an accumulation of fluid in the tissues. In order to mobilize that fluid, we have to stimulate the lymph system to be more active. The complete treatment approach is called Complex Decongestive Physiotherapy (CDPT): there is an inter-related set of interventions, undertaken by a trained therapist, that will lead to a reduction in the size of the affected arm or leg. CDPT incorporates a number of components, including a specific massage technique called **manual lymphatic drainage (MLD)**, that is very effective in mobilizing lymph flow. A second component is **multi-layer bandaging**. The patient is instructed in appropriate forms of exercise and in the necessary skin care regimens. At the completion of the active phase of CDPT, the patient is fitted with a compression garment (stocking or sleeve) that, when worn daily, will sustain the benefits of the therapist's successful interventions.

## **What is MLD and why how does it work?**

MLD is an acronym that stands for Manual Lymphatic Drainage. The technique was discovered about 75 years ago. MLD stimulates the contraction of the lymphatic channels. MLD uses a very directed, light touch to produce the desired stimulation to the skin. The massage opens the lymphatic capillaries and encourages them to permit the entry and transport of fluid. MLD cannot be done intuitively: lymphedema therapists undertake intensive training to learn how to do MLD correctly. Patients can be taught a self-administered form of simple MLD, but it is vital that the patient be guided through direct instruction given by the therapist.

## **Is lymphedema treated by an MD or by a therapist?**

Typically, it is a therapist who treats the patient, ideally under the direction of the physician who orders the treatment. Typically, each session of therapy will include 15 to 30 minutes of MLD. Following MLD, a multi-layer bandage will be applied; this procedure typically requires 30 to 45 minutes. Ideally, the patient will wear the bandaging material for several hours following treatment and, if possible, overnight. This same treatment sequence will be repeated 15-30 for additional sessions, depending upon

the severity of the lymphedema, and upon its responsiveness to treatment. With each application of the bandages, there will be an incremental reduction in volume. When volume reduction is maximal, the therapist will measure the limb for a compression garment. This stocking or sleeve will be supplied to the patient to be worn on daily basis.

### **How do I find a therapist?**

Finding a therapist can be a little bit of a challenge because, in the United States, there are an insufficient number of well-trained lymphedema therapists. In addition, the geographical distribution of therapists is quite uneven: some areas have many, some areas have few-to-none. Therapists derive from a variety of training backgrounds: physical or occupational therapists, nurses, even massage therapists who completed additional training. In this search, the most important element is to be certain that the therapist has had sufficient, specific training in lymphedema treatment techniques. MLD is not an athletic massage; it must be done correctly and under appropriate supervision. It is best to look for a therapist who works closely with referring physicians, to facilitate the dialogue about your care between your doctor and the therapist. If possible, get some reactions from other patients who have been treated by this therapist. There are also information resources on the internet. For example, the National Lymphedema Network (NLN) provides resource directories. At the Stanford Center for Lymphatic and Venous Disorders, we also maintain resource lists and are happy to help the patients who contact us directly.

### **Will therapy be covered by insurance?**

Unfortunately, insurance coverage is variable. In the setting of breast cancer, there the congressional Breast Cancer Act states that all patients who have been treated for breast cancer are entitled to care for breast cancer-associated lymphedema. Insurance benefits frequently fail to cover the cost of lymphedema garments.

### **If my treatment is not successful, what can be done?**

Regrettably, lymphedema doesn't always respond aggressively to treatment. In most cases, if the lymphedema doesn't respond, it isn't

necessarily the fault of the therapist. Nevertheless, it is sometimes the case that the approach of an individual therapist simply is not ideally suited to the needs of the patient so, in settings where the treatment response is suboptimal, it is reasonable to consider a new course of therapy with a second therapist to see if a more desirable outcome can be achieved.

### **Where can I purchase lymphedema supplies (bandages and garments)?**

There are internet-based resources available for on-line purchase. In many cases the pricing is more favorable than what is available through local retail sales. However, prior to undertaking internet purchases, you must remember that the sizing of the garments is critical, so that using an internet-based company for the initial purchases may be fraught with the potential for error. Once you have repeatedly purchased garments, and thereby have demonstrated that the manufacturer's fit is predictable and effective, the transition to web-based purchase is reasonable and may be more economical. The starting place for purchase is usually the therapist, who will typically guide you to a local retailer for the initial fitting and purchases.

### **What about pneumatic pumps?**

Pneumatic pumps can be very useful and effective in lymphedema, but they can never be used as stand-alone treatment, since the pump cannot supplant the other manual therapies. A pump does not take the place of CDPT, but can serve as an effective adjunctive treatment modality. All pumps are not identical: because pumps are used for a variety of medical indications, it is important that the pump mechanism be appropriate for lymphedema care.

Once you have completed CDPT and are fitted with a garment, you may find that you are not completely satisfied with the response to treatment. In some cases, adding in a pump to those the garment use, exercise, and self-administered MLD will net further improvement. We particularly favor multi-component pumps, with at least 6 to 10 individual inflating/deflating segments. It is particularly desirable to use a pump mechanically simulates the action of MLD; such devices are commercially available.

Pumps should never be used at high delivered pressures; we definitely indicate to our patients that not more than 60 millimeters of mercury be applied and actually prefer a pressure closer to 30 millimeters of mercury. The treatment sequence should be no longer than 1 hour. Use of a pump should always be under the guidance of a health care provider.

### **Are there any effective drug therapies for lymphedema?**

At the moment, there are few, if any, effective drug treatments. There is a systemic drug, coumarin, that does have international advocates. However, the U.S. Food and Drug Administration has not approved the drug: while coumarin does somewhat reduce the problems of lymphedema, the drug also has the potential for liver toxicity. An over-the-counter nutritional additive, horse chestnut extract, can be purchased in commercial pharmacies. This substance has long been known to effectively improve vein function. Because the veins and the lymphatics participate in an intimate partnership to move fluid, using horse chestnut extract can somewhat improve edema of lymphedema as well. Horse chestnut extract does not have any identified, worrisome side effects.

While there are no other available prescription drugs for lymphedema, in our research work at Stanford, we are actively seeking to identify effective drug therapies for lymphedema. In our mouse models of human lymphatic disease, we are observing some promising early results that we hope to develop for human use in the future.

### **Is surgery an option?**

There are surgical options for selected patients. Historically, many surgical approaches have failed to be effective in lymphedema, such that these previously recommended interventions are no longer used. One that we do use here at Stanford, and that has been used increasingly and now extensively in Europe, is a liposuction technique specifically adapted to treat selected patients with lymphedema. In some cases of established lymphedema, the fluid accumulation in the limb is gradually replaced by equivalent volumes of fat-storage cells. Because body fat is liquid at room temperature, the excess limb volume has many of the attributes of edema

fluid, but, unlike tissue fluid, it cannot be displaced. For this reason, typical treatment techniques (MLD, compression garments, and pumps) no longer encourage the limb to reduce in size. The excess fat storage tissue can be removed surgically, through a very safe technique under general anesthesia. However, the caveat is, if you are to be considered for this surgery, you must be willing to maintain 24 hour/day garment use after the surgery is completed. Surgery will reduce the lymphedematous limb to normal size, but, without postoperative compression, it will quickly become edematous again.

### **Can anything be done for lymphedema of the breast?**

Yes, the breast is surprisingly commonly involved with lymphedema, because the breast shares the lymphatic drainage pathways used by the arm: when the lymph nodes are dissected in the armpit region, the breast and the arm can be equivalently affected. Like the arm, the skin overlying the breast region can become swollen with lymph. MLD works very well for the breast. In addition, breast compression garments are commercially available and can be prescribed. These garments function in a fashion very similar to a sports bra: they will provide direct compression to the breast after decompression with MLD. Some of the pneumatic pumps that simulate MLD will also work in the chest region and they can be used for breast lymphedema as well.