

Frequently Asked Questions

What is the importance of gradient?

Sequential pumps with calibrated gradient pressure have proven to be the best devices for reducing the lymphatic fluid from the limb in a comfortable and efficient manner. These pumps function in much the same manner as the body does by utilizing the “muscle pump”. The body uses various muscle groups to move the lymphatic fluid through the channels. Unlike the vascular system, the lymphatic system does not have a built-in pump. The vascular system has the heart to pump the blood through the body. The lymphatic system relies on the muscle groups to rhythmically move the fluid through the body.

How do I set the pressure on the pump?

Take the patient’s blood pressure. The lower of the two pressures is the diastolic pressure. The pump’s pressure should never be set to exceed the patient’s “diastolic” pressure. The pump’s pressure in fact should be set **10%-12% below the patient’s diastolic pressure.** Exceeding this pressure will over pressurize the tissues by overcoming the body’s own innate pressure. It is appropriate to start at a lower pressure (15mmHg below diastolic) and set the pump according to the patient’s comfort. Higher pressures are not always better. You can increase the pressure if the patient feels comfortable or if you need higher pressures to overcome fibrosis and other related conditions.

How long do I use the pump?

Patients should use the pump four hours daily. It is more advantageous to pump in the evening before bedtime. If the patient needs to break up treatment they should divide it into two sessions twice daily, two hours in the morning and two hours in the evening before bedtime. They will usually start using the pump every day for four hours. After they reach a plateau they can start a maintenance schedule of every other day, to every second day and then twice weekly. This schedule gives the body a chance to get back to a more normal looking state. Remember that every patient is different so treat them as such. No changes in therapy should be made without authorization from the patient’s physician.

What is the application of the pump for treating ulcers and open wounds?

The pumps can be used on patients with venous ulcers or open wounds as long as there are no signs of infection or cellulitis. The wound or ulcer must be covered with a sterile dressing material to catch any fluid forced out of the site. If an infection occurs you should never put the pump on a patient or massage the limb as this will move the infected fluid back into the body.

The pump is contraindicated when an infection is present. How do I check for signs of an infection?

Just about everyone has had an infection at some point in their life. The signs of an infection are localized swelling, pain, redness, pus formation, red streaks and scab formation. There is usually evidence of an injury such as a cut or bite of some sort. Cellulitis, however, is not as easy to identify but is much more serious. The signs and symptoms of cellulitis are mottled redness, (sunburned appearance), usually over a muscle group, heat blisters or pinpoint rash. Cellulitis usually is not painful at the onset, however most patients will experience substantial pain shortly thereafter. The patient may complain of flu-like symptoms or nausea and dizziness. If any of these symptoms are present, do not use the pump on the patient. Instead call the doctor immediately. This condition will require the patient to be placed on antibiotics for at least 10 to 14 days. A broad-spectrum antibiotic is usually prescribed. The problem with cellulitis is that it may appear without the presence of any injury: the patient may have taken a plane trip, moved furniture, raked leaves or bowled in a league game. Some factor or combination of factors cause the limb to be stressed resulting in a flare up of cellulitis. Also, patients who have chronic sinusitis or strep throat infections are at risk for developing cellulitis especially if edema is present in the upper limb. Stress the importance of having the patient inspect the skin after bathing and the importance of treating all injuries as potentially serious ones.

How are compression garments used in treating Lymphedema?

Compression garments are specially designed to maintain and support the limb, not to reduce its size. Garments must be applied in the morning to prevent gravity from pulling fluid down into the limb. If

this happens the garment will trap the fluid and the garment will not fit comfortably. The patient should use rubber gloves to help in the application of the garment, as these will provide resistance. Garments should be worn daily and removed at night. Compression garments are available in standard and custom styles. There are several companies to choose from with the final choice usually coming down to cosmetics and cost. Garments usually last about 6 months, at which time it is necessary to be re-fitted. The patient should be re-measured each time a new garment is ordered to account for any changes in the size of the limb, (larger or smaller). The garments are machine washable but seem to last longer when hand washed. The patient will know it is time to get re-fitted when they notice that their limb tends to swell slightly at the end of the day or they notice any signs of stretching in the garment fabric. Recent Medicare rulings require that this type of therapy (custom garments not mandatory) be tried for 30 days and not be fully effective before pump therapy is approved for use. This is in contrast to the former regulation which listed pump therapy as a last resort.

How does bandaging or wrapping control Lymphedema?

Bandaging and wrapping is a more recent innovation in the U.S. although it has been used in Europe for quite some time. This treatment utilizes a four-layer wrap to work in conjunction with the pump and compression garment in controlling edema. All the digits (fingers and toes) are wrapped individually. The hand or foot is then wrapped, followed by the forearm/calf, elbow/knee, upper arm and thigh. This therapy can be taught to some patients, however older patients or those with limited dexterity i.e.: arthritis, etc. may have difficulty applying these garments. The bandages are reusable. This is important because the bandages are not stocked by every medical supply company and are expensive. Those patients who are able can wrap their limb at night and in the morning take off the wrap and put on their compression garment. They must take the wrap off to use the pump.

How important is hygiene for Lymphedema patients?

The patient must be taught meticulous skin care especially with the edematous limb. Because of the increased fluid levels under the skin, the skin cannot resist rips and tears in the same manner as non-edematous skin. Any breakdown in the integrity of the skin results in susceptibility to bacteria, infection and cellulitis, the most serious of complications facing the patient. Teach the patient to treat all cuts, burns, bruises, hangnails, ingrown toenails, ingrown hairs, razor rashes, blisters, scrapes, mosquito bites, etc., as potential sites for infection. Should the patient notice any signs or symptoms of infection or cellulitis they should contact their doctor immediately. Delay in treatment will enable the infection to spread to other areas throughout the body.

Can the pump be used on pregnant women?

Some pregnant women will develop lymphedema lasting the entire term of their pregnancy, but which disappears when the baby is born. However, others can continue to have a problem with edema even after delivery. The patient should wear compression pantyhose and elevate their limbs as often as possible. Using a pump during pregnancy presents no adverse effects. The pressure for the pump is set according to the diastolic blood pressure (as previously explained).

What is Manual Lymphatic Drainage?

MLD – Manual Lymphatic Drainage – This is a specially designed massage therapy developed to reduce lymphedema. It is effective in reducing edema of the body, head, neck and limbs. Used in conjunction with sequential pumps with calibrated gradient pressure, MLD can help give the patient pain relief and expedite reduction of edema in the limb. The recommended treatment schedule varies with each therapist, but is usually, twice a day for two weeks, followed by once a day for two weeks, and then in intervals necessary to maintain the edema at a minimum level. Sessions can cost anywhere from \$65.00 an hour and up. Some therapists require the patient to have intensive treatment for one month then move on to a maintenance schedule. Patients can learn a variation of MLD which they can perform on themselves, however, much like “bandaging” this is dependent upon the patient’s age and/or physical ability. Most chiropractors have massage therapists in their offices performing lymphatic massages. This is not MLD, but it does help the patient to clear the body of the excess fluid enhancing the facilitating of drainage from the limb.

