

## **WHAT IS LYMPHOEDEMA?**

Retaining fluid in the legs or arms, and also other areas, leads to swelling of the area. This inconvenient problem can be effectively treated by a number of means – at Springdale we utilise two very effective new ones. With a scanning laser treatment and special massage, we can improve this.

As blood is carried around the body through the arteries to the capillaries and then the veins, some fluid tends to migrate to the tissues. All cells are surrounded by fluid (extracellular) to maintain their health and allow the exchange of nutrients and migration of wastes or toxins. The body has a system of other vessels besides the arteries and veins to drain any build up of this fluid. This is the lymphatic system. It collects the excess fluid in its channels and slowly transports it back into the circulation. In the process it passes through the lymph glands (like the ones in the neck and groin that swell with infection as part of the straining and protective actions of the body).

The lymphatic fluid moves through a number of body actions. There is a slow wall-pulsing action in the vessels themselves (about six beats a minute). The muscles surrounding channel areas tends to squeeze fluid up the channels too, in the same way that blood in the veins tends to move. And actions such as deep breathing create a negative pressure in the chest cavity (where the lymphatic fluid rejoins the venous blood) which draws the fluid upwards.

Lymphoedema occurs when there is overproduction of fluid (more usually related to problems of the heart not beating efficiently etc), or restriction of the upward flow of fluid (this flow is downwards in the head of course).

## **WHAT CAUSES LYMPHOEDEMA?**

As mentioned, overproduction of fluid such as occurs in congestive heart failure will result in an excess fluid load and swelling of the ankles and lower legs. It also occurs with varicose veins and after deep vein clots. The cause in these cases is increased pressure in the veins causing capillary fluid leaking. The appropriate first treatment in this situation is to correct the underlying problem. This may be enough to resolve the fluid problem.

Restrictions to vessel drainage occur with conditions such as tight clothing, obesity, can do with a poor bowel habit, growth of various kinds putting pressure on the lymphatic vessels, surgery, radiotherapy and infections. Surgery can have a direct effect as with stripping veins, thereby disturbing the fine channels that run parallel with the veins, or removing the lymphatic glands as occurs in cancer surgery as well as through restrictions that occur with bands from scars. Surgery to glands tends to be kept to a minimum necessary as these fluid drainage problems are well known. It is difficult to predict who will suffer adversely from such interventions as some will develop problems with a limited interference.

There are some people born with an inadequate complement of vessels, sometimes generally, but often localised. Certain circumstances, such as prolonged immobility can tip a system that has been just coping into failure.

## **WHAT HAPPENS IN LYMPHOEDEMA?**

As the fluid drains inefficiently it builds up between the cells causing impaired exchange of nutrients and clearing of toxins. The tissue health becomes impaired. The activity of the lymphatic vessels can also be impaired with problems in the glands they pass through or with simple local external pressure.

In response to these conditions, the body goes through a number of responses which tends to produce a scarring fibrosis. This can occur in the tissues or in the lymphatic channels. Obviously this tends to complicate matters more.

## **WHAT CAN BE DONE?**

Simple things to reverse existing problems can be addressed. Less restrictive garments, losing weight, gentle exercise to promote the muscle pump for the channels, as well as deep regular breathing can all aid. A lower salt intake may help some people who over consume this in direct and indirect food seasoning. Maintaining a good fluid intake paradoxically helps by allowing the kidneys to excrete excess minerals more efficiently.

Wearing special compression garments, which need to be approved by a medical attendant can help.

Then massage (in particular a special type called MLD – manual lymphatic drainage – as well as variants of this) and special laser treatments can also help. These combined can mean freedom from constant restrictive garments for some people.

## **WHAT DOES SPRINGDALE USE?**

We use an infra-red laser which painlessly scans repeatedly over the problem area. Specifically it is a PR777 Gallium Arsenide (905nm) and Helium Neon (633nm) laser. Helium Neon, being visible, acts as an aiming beam.

Following this we use the LPG Keymodule® machine for its massaging action. This has been shown in recent trials to be as effective as the traditional MLD treatment. Again it is painless and in fact very relaxing. Depending on the problem different areas or the whole body can be treated.

## HOW DO THEY WORK?

The scanning infra-red laser works in a low power setting with an adjustable frequency to penetrate several centimetres under the skin surface. Different levels of energy and different rates of firing have been shown to induce different effects. But the basic effect is to stimulate normal body functions. Often unhealthy or damaged tissue achieves the best effect with little change being seen in healthy tissue. Too much energy may inhibit or reverse the benefits the right amount can give.

With the scanning laser in lymphoedema a number of benefits occur. There is an increase in the rate of the natural pulse of lymphatic channels, encouraging the movement of more fluid. Areas of fibrosis both within channels and tissue around them are softened and remodelled allowing more ready movement of fluid in the areas and better exchange of nutrients and removal of toxins. Also it appears the laser can help in the formation of new lymphatic channels.

The Keymodule® machine works through its suction and roller massage action to draw and drain more efficiently through the lymphatic channels. Local pressure from the head functions encourages the fluid around the cells to move into the channels. There is a wide range of variation possible within the Keymodule® system to allow a matching of the appropriate treatment to the particular localised problem of any individual. A lot of the functions have an intermittent pressure setting which allows the most efficient movement of fluid. This intermittent pressure function is widely variable in its possible settings.

## ARE THE TREATMENTS PAINFUL?

The scanning laser usually is undetectable. Some people are aware of a sensation of tingling or movement in the tissues. The Keymodule®

treatment is like a gentle massage. There should be no pain associated with it at all.

## HOW MANY TREATMENTS DO I NEED?

The number of treatments you might need will vary according to your condition and your body's individual response. But most people benefit from a series of treatments two or three times a week for a couple of weeks at the beginning and then as needed as single sessions which might be every three to six months or so.

## HOW EFFECTIVE IS IT?

The combination of the two types of treatment is extremely effective. Most people can manage without their compression garments they may have had to use on a daily basis before. Obviously for conditions that may induce extra fluid retention such as flying and prolonged immobility we would recommend you wore your garment.

## DOES IT COMPLETELY REVERSE THE PROBLEM?

The techniques tend to turn back the clock and improve function dramatically. However they do not tend to return your body to perfection.

## WHAT ELSE CAN I DO?

- Avoid excessive salt intake. It causes you to retain fluid.
- Avoid excessive fat intake. Apart from affecting your weight it loads the lymphatic channels in the abdomen.
- Gentle exercise and long deep breathing help augment normal lymphatic function.
- Elevating your affected limbs allows gravity to aid in fluid drainage.
- Swimming or water immersion displaces fluid.



# LYMPHOEDEMA TREATMENT BY SCANNING INFRA-RED LASER & ENDERMOLOGIE®

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