

Obesity and lymphoedema

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Obesity is rapidly becoming a national epidemic, with estimates of 50% of the UK's adult population being obese by 2030 (Lancet 2011). Large increases in body weight can potentially lead to a variety of illnesses such as diabetes, venous disease, joint problems, heart disease, as well as chronic oedema and the development and deterioration of lymphoedema. There is, perhaps more worryingly, an increase in childhood and adolescent obesity, which is storing problems for our future generations.

What we eat in our 'normal' diet and how it may affect the development of lymphoedema is unclear. However, we do know that some primary lymphoedema patients experience symptoms similar to Irritable Bowel Syndrome due to abnormal gut lymphatics. Changing the type of fat in the diet of these patients can significantly reduce these symptoms and in some cases, improve the severity of their lymphoedema. It is also becoming clear that fat cells have an effect on our lymphatic system and its ability to function normally. It is well recognised that obesity is associated with the development of secondary lower limb lymphoedema, especially in patients who already have chronic venous insufficiency (CVI), which is also often initiated by a high Body Mass Index (BMI). BMI is a recognised measurement tool that uses body weight and height to determine if we are overweight and to what degree. In 2012 (Green et al, N Engl J Med 2012;366:2136-2137) a study of 15 patients with a BMI of 30+, swollen lower legs, but no other cause for the swelling, were examined using lymphoscintigraphy. The results showed 5 of them had abnormal lymphatic function; all of these patients had BMI of 59+. These results suggest, as BMI increases, there may be a threshold at which our lymphatic flow reduces. This may be due to compression or inflammation of vessels, causing them to function less effectively. Theoretically, this may then also exacerbate primary lymphoedema. It may also indicate that once the BMI starts to reduce, the lymphatics may, to some extent, improve again.

Common sense should tell us that carrying excess body weight will put strain on the heart, lymphatic and venous systems which we rely on to pump, transport, and drain tissue fluid, thus preventing us developing oedema. In addition, venous disease, direct pressure on lymphatic vessels from fatty tissue, positional obstruction of drainage vessels in the groin by a large abdomen and inability to elevate heavy legs, all exacerbate the situation. Other systems then become affected – knees and hips in particular suffer from the strain of carrying excess weight, which in turn leads to reduced mobility and calf pump action – one of the keys to reducing oedema. It is not just lower limbs that are affected; studies in 2008 from the University of Missouri, Columbia (Journal of Lymphoedema Vol3 No2) suggest there is an increased risk of 40-60% of developing lymphoedema after breast cancer surgery in women with a high BMI.

The problem doesn't stop with a high BMI influencing how lymphoedema develops, it also restricts how it can be managed and treated.

It is much more difficult for therapists to treat high BMI patients. Apart from the obvious risks associated with the manual handling of heavy limbs, there may be limitations for some areas around the country as specialist equipment may not be available, or clinics may not have the space to safely treat patients. Specialist equipment, such as wider and higher weight bearing couches, is required to safely treat obese patients, along with access to appropriate toilet facilities and physical access to treatment rooms. The room I currently use does not have a doorway large enough for an extra wide bariatric wheel

chair. All this may require extra resources, not readily available in the current financial climate, especially for small clinics or independent therapists. Treatment may then have to be delayed until the patient has shown a decrease in weight.

In order to protect therapists from injury due to lifting/manually handling heavy limbs, one clinic in Scotland has recently introduced a traffic light scheme of allocating work to therapists. This ensures they have an even daily allocation of patients and limit the number of high BMI patients seen each day. If your therapist injures their back from repetitive lifting of a heavy limb, they could be off work for several weeks, which in turn will delay your treatment and that of others.

Treatment generally is less effective and the overall course of treatment takes longer when dealing with fatty tissue. However experienced the therapist is, bandages tend to slip/crease easily. This has a knock-on effect with the length of treatment time required, which may then build up a waiting list for the clinic, delaying treatment availability. Hosiery is also much more expensive and difficult to fit correctly, which may prove to be a financial problem for some services who are on limited budgets, and restrict what is available. Although many garments are supplied on prescription, there are, at times, issues with obtaining expensive garments.

As therapists, we know from experience that when patients reduce weight significantly, there is a direct improvement in oedema – in both upper and lower limb. We do, however, appreciate how difficult weight management can be, but we also know that any treatment options are really hampered unless weight and BMI are within reasonable limits. Your therapist will guide and support you to a certain degree to reduce weight and various schemes to help you are available through GP referral now e.g. prescribed access to 'Weight Watchers', 'Slimming World,' dietetic advice, and possible referral to a specialist Bariatric Team and potential gastric band surgery in extreme cases. However, ultimately the only person who can loose weight, is the person themself, and unless that happens, your therapist will be very limited in how far they can improve your condition.

There are success stories, and several of my patients now have much more manageable limbs due to weight loss.

<http://www.lymphoedema.org/Menu3/5Articles%20by%20healthcare%20professionals.asp>