

# Links between BMI and the increasing incidence/prevalence of chronic oedema: what is our future?

Neil Piller

There are five important points of note. Firstly, the prominence and importance of the lymphatic system has been elevated with the knowledge that it is the only path by which all that leaks out of the vascular system is returned to it. Secondly, we are facing a potentially massive epidemic of chronic oedema associated with increasing body mass indexes (BMIs). Thirdly, chronic oedema is linked to a range of other pathologies, including lipodermatosclerosis, fibrosis and papillomatosis, all of which add a further burden to the patient's health and wellbeing (Partsch and Lee, 2014). Fourthly, despite the extremely important role of the lymphatics, we must not forget the venous system and of the impact of poor venous health on the lymph load and tissue health; for this reason, lymphologists and phlebologists must work closer together in an improved partnership. Lastly, we must consider the reasons for increasing BMIs, and this can sometimes be the largest obstacle, but certainly to tackle the problem at its root and to be proactive in our health maintenance, we also need the involvement of our public health colleagues, dietitians and nutritionists.

Wherever you go, and whatever you read, it's clear that the obesity epidemic is worsening — from young infants to older adults. There are over one billion overweight adults worldwide and at least 500 million of these are obese. Forty-two million children under the age of five are believed to be overweight (International

Food Policy Research Institute, 2015). We know that being overweight is a major risk for chronic diseases. These include type 2 diabetes, cardiovascular disease, hypertension, stroke and even some types of cancer. We know that chronic disease contributes to disability, reduced quality of life and perhaps even premature death. We know that one of the clear links to the risk of lymphoedema and of poor treatment outcomes is a person's weight (Ferguson et al, 2016).

Our main concern with respect to the above is the consequential dysfunctionality of the lymphatic system and of the appearance of chronic oedema (lymphoedema). Why? Well it is usually through an elevation of the capillary pressure due to increased venous pressure, which is a consequence of venous reflux, immobility, dependency, heart failure and untoward external pressure on the venous and lymphatic systems. In an overweight or obese person, this enhanced pressure is primarily linked to the weight of the abdominal contents.

It appears that across developed nations, the burden of obesity is about 10% of total health budgets (International Food Policy Research Institute, 2015), with general projections of continued increases as the obesity epidemic and its sequelae as indicated above, worsen.

What are our leverage points in this battle? Talking about a person being overweight or obese can raise significant sensitivities, especially given real (or perceived) stigmatisation of this group. However, let's look at a broader health picture. If you go to your dentist and they said you have poor oral health or your GP and they said you have high blood pressure or a liver, kidney or heart condition, it is likely that most people

would not take offence. But if they (or others) say you are obese, that might be seen as another matter, since it can often be perceived as more than a medical judgment. Some suggest that even those who see, read or and hear about obesity (or who are called obese) generally tend to think that this really only applies to those much heavier than they are. It also seems a common view that being overweight or obese is more of a cosmetic problem, rather than a health one with health-related implications.

So the key question is how do we facilitate a shift in belief and attitudes? Who can best do this? Is it the nutritionist/dietician or an exercise physiologist where we might have a good chance to be proactive? But who will go if there is not a perceived problem? Is it the GP/family doctor? There can be problems with continuity of care and often, care and recommendations tend to be reactive to a problem rather than a proactive management of a future problem. Is it the lymphologist and phlebologist and their associated therapy teams or is it the surgical teams undertaking bariatric surgery? For the latter groups, it is certainly reactive, but we already have an obesity epidemic and so this is appropriate for this group. However, we have limited resources. What happens when there are not enough therapists to treat the problem? What happens when there are not enough surgical teams to undertake bariatric surgery?

The key seems to be in environmental/cultural/behavioural change; that is, an improvement in the population awareness of risk factors, an acknowledgment that the problem can, on most occasions, be simplified to: calories in/utilisable/absorbed versus calorific expenditure

*Neil Piller is Director Lymphoedema Research Unit, Department of Surgery, School of Medicine, Flinders University, Adelaide, South Australia, Australia*

— the latter in the form of activity and exercise, which many now do less at work and in the home. However, given that it is now very clear that exercise does not precipitate or worsen lymphoedema, this aspect of the fear of it can be removed from our list of risks or exacerbating factors — in fact, it is quite the reverse; exercise and activity can help reduce the problem.

However, another part of the problem is that the message about eating well is necessarily more complicated than the messages of other health campaigns. For instance, the recommendations for preventing tobacco- and asbestos-related illnesses are relatively straightforward: simply ‘don’t smoke’/‘don’t come in contact with airborne asbestos unless wearing protective apparatus’. Given that ‘don’t eat’ is not an option, how can we make an uncomplicated recommendation for eating well and maintaining one’s fitness?

This is not the journal to argue about weight management. It’s clear that there is no uniform diet or exercise strategy that will work for everyone. But an individual with a weight problem should consult, read widely, link to an appropriately qualified health professional, keep a record of how they are progressing and,

importantly, noting what really seems to make the most difference. Perhaps just as important is that often it is best to do only one thing different at a time and give it a reasonable chance to work. Further, we should also get the message across that if things don’t get worse, you have halted your weight gain or if the chronic oedema or some associated comorbidity of it is not getting worse, then that is a large victory!

Even as a clinician, you can get overwhelmed or confused by statistical interpretation of trials and a range of suggestions and theories regarding weight management, so you can imagine how a patient must feel. We (and they) often react to each new bit of news without giving the current strategy a reasonable time to work. So perhaps it is best to stick to established recommendations about eating well and exercising regularly. Importantly for the patient, they must do something and do it for themselves, with an understanding of the likely benefits.

Goals can be small and can be progressively set; maybe it’s another day in which they exercise each week, maybe it’s more water and less food each day, maybe it’s having a diet that is less pro-inflammatory, or maybe it’s improved sleep or less stress.

It all needs to be part of the larger partnership between clinicians, lymphologists, phlebologists and other healthcare professionals, the patient, and their partners and family (Piller, 2009). So it’s social, environmental, behavioural and personal. We can’t go on like we are with this obesity epidemic, with the increasing incidence/prevalence of chronic oedemas, and with the increasing associated disability and health costs. Clinicians and the patient need to find the leverage point and work on and promote it.

We need to have more integrated conferences and meetings and in them we need patient input and views. The International Lymphoedema Framework is working strongly with its National Frameworks to ensure that we all ‘belong together’ ([www.lympho.org](http://www.lympho.org)).

### References

- Ferguson CM, Swaroop MN, Horick N et al (2016) Impact of ipsilateral blood draws, injections, blood pressure measurements and air travel on the risk of lymphoedema for patients treated for breast cancer. *J Clin Oncol* 34(7): 691–8
- International Food Policy Research Institute (2015) *Global Nutrition Report*. Available at: <http://bit.ly/1vLeJjf> (accessed 18/03/2016)
- Partsch H, Lee B (2014) Phlebology and lymphology — a family affair. *Phlebology* 29(1): 645–7
- Piller NB (2009) Lymphologists, phlebologists, veins and lymphatics. *Journal of Lymphoedema* 4(2): 8–9

### Writing for *Journal of Lymphoedema*

*Journal of Lymphoedema* welcomes a range of articles relating to the clinical, professional, and educational aspects of lymphoedema. If you have written an article for publication or if you are interested in writing for us and would like to discuss an idea for an article, please contact the editor, Adam Bushby, on 0207 960 9673 or email [abushby@omniamed.com](mailto:abushby@omniamed.com)

