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Compression moves on: technological and research advances in lymphoedema are changing practice and options for patients.

As the average age and BMI of our population continues to rise, nurses in almost all areas of healthcare are increasingly faced with managing the heavy limbs and skin problems typical of chronic oedema. Any swelling persisting beyond 3 months is defined as chronic oedema (Moffatt et al 2003; Lymphoedema Framework 2006) and is indicative of a lymphatic system that is no longer able to deal with the fluid load whatever the cause (Mortimer and Rockson 2015). Whilst insufficiency of the veins or lymphatics is the primary cause, obesity is a known contributor. More worrying still is that lymphoedema brings a 71-fold increased risk of cellulitis over normal (Dupuy et al 1999); with 29% having a recurrent episode within 12 months (Moffatt et al 2003). Cellulitis admissions already account for 2-3% of all hospital admissions (Halpern et al 2008) and the resultant costs are estimated to be in the millions. Research has shown that early identification and management of lymphoedema reduces the morbidity, improves outcomes and reduces health and social costs (Lacomba et al 2010; Todd et al 2010; Stout et al 2012; Finnane et al 2015).

In management terms, chronic oedema and lymphoedema are synonymous, but a great deal has moved on since almost a decade ago, when I outlined in this journal, the fundamentals of compression garments in lymphoedema management (Linnitt and Davies 2007). Our enhanced understanding of the physiology and pathology (Mortimer and Rockson 2015) and heightened appreciation of the engineering and technical know-how going into today's compression garments (Kimmel 2009) is changing the decision-making process when compression is being considered.

Nurses have come to understand that compression come in different standards, the original British classes being aimed at venous conditions, while more stringent standards apply to lymphoedema garment e.g. the German RAL ('European' being a common and incorrect misnomer); usefully the garments are listed separately in the Drug Tariff. Having established that lymphoedema compression garments are appropriate, the next decision is the required prescription of 'class' (amount of compression measured in mmHg), here useful guidelines have been published (Lymphoedema Framework 2006; International Society of Lymphology 2013) but all the manufacturers produce useful supporting literature and many now have sophisticated online support including free certified learning modules. In addition, UK specific online learning resources are permanently available e.g. www.lymphoedema-scotland.org and free introductory courses run periodically (e.g. from University of Glasgow).

Patient-driven changes have included softer fabrics that manage to retain compression and stiffness, seamless garments and the vast range of colours now available in lymphoedema garments. But arguably the biggest step-change is the suggestion that the stiffness of the garment may in fact be more significant than the mmHg of compression applied from elastic material. With this has come an increasing array of Velcro-wrap devices, rather like a soft felt-like wet-suit material that wraps around the patient's limb therein being easier to apply and preventing the drag that might cause

damage to fragile skin. Although arguably no more cosmetically pleasing to wear on a permanent daily basis than previous hosiery, the ease of application, adjustability and option to combine with existing compression garments have proved popular with nurses and patients alike. With increasing recognition that lymphoedema is not just a female problem (Noble-Jones et al 2014; Cooper 2015) the wraps' similarity to an orthopaedic splint gives a high rate of acceptability among male patients in our experience.

Lymphoedema research is now growing at an exponential rate and includes lymph node transplant, fluoroscopic diagnostics, personalised exercise prescription, as well as advances in medical devices. Most exciting of all is that through organisations such as the Lymphoedema Support Network (www.lymphoedema.org) and British Lymphology Society (www.thebls.co.uk) patients, nurses and therapists can be involved in this exciting revolution.

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