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In each issue of JCN we ask a clinical expert in a particular field to take a look at a therapy area and examine some everyday problems that community nurses may experience. In this issue, we investigate leg ulcer management....

How to prevent leg ulcer recurrence when moving into compression hosiery

THE PROBLEM



Once patients' leg ulcers are healed, it is recommended that you move them from compression bandaging into leg ulcer hosiery kits or maintenance hosiery. But nurses often have difficulty in getting patients to comply with long-term hosiery use — which does require a lot of commitment — and ulcers often return. We asked Leanne Atkin, vascular nurse specialist at Mid-Yorkshire NHS Trust, how to ensure that your patients keep healing and remain healed when they move into maintenance compression hosiery.

including inappropriate fabric choice, poor stocking fit, lack of patient understanding, inability to apply hosiery, and poor manual dexterity. Therefore, a full holistic assessment is vital as concordance will depend on the partnership you have with the patient and the development of an individualised compression programme that is comfortable, while being therapeutically effective (Rostron, 2011).

Selection

To get hosiery selection right, it is essential that you are aware of the wide variation of garments available, as there are differences in construction, performance and style.

One review found that compression hosiery reduced leg ulcer recurrence when compared to no compression at all, and that stockings with higher compression values were more effective but less likely to be worn (Nelson and Bell-Syer, 2014). Therefore, you should recommend that patients wear the highest level of compression that is comfortable.

However, it is also important to remember that there are differences in the levels of compression exerted even in the same class, depending on whether the stocking is classified according to the British Standard or European Class systems. Generally, European Class hosiery provides greater compression when compared to British Standard (*Table 1*).

WHAT SHOULD I DO?

Venous ulceration affects up to 1% of all adults and is a major cause of morbidity in older patients (Christian, 2013). As most of you will know, compression therapy is the 'gold standard' treatment (Anderson, 2011). Venous ulceration is costly in terms of treatment costs, your time and patient suffering (Posnett and Franks, 2008).

HEALING

Healing a leg ulcer is an achievement for you and your patient (Anderson, 2013), however there are always continued concerns about the chance of ulcer recurrence. Compression therapy is a palliative measure; it does not cure the underlying venous disease, so without some form of

continued compression the venous hypertension will reappear and patients will be at increased risk of developing recurrent ulceration.

HOSIERY

The use of compression hosiery post-healing is recommended to reduce the chance of recurrence (Nelson and Bell-Syer, 2014). However, ulceration can recur even when you have recommended compression hosiery — this is often due to inappropriate hosiery selection or poor patient compliance.

It is commonly known that many patients have difficulty complying with compression hosiery. This can be for a number of reasons



Table 1: British Standard and European Class hosiery compression classes

	British Standard	European Class
Class 1	14–17mmHg	18–21mmHg
Class 2	18–24mmHg	23–32mmHg
Class 3	25–35mmHg	34–46mmHg

Stiffness

The materials used within the hosiery — which vary between manufacturers — determine the elasticity (compression) and resistance (stiffness) of the stocking. This is important as the stiffness affects the working and resting pressures the stocking delivers to the limb.

Garments with increased stiffness provide increased resistance to limb expansion, so have a greater impact on the calf muscle pump and can aid oedema reduction (Partsch et al, 2006). British Standard hosiery offers less stiffness and can be a cost-effective option for patients without oedema (Stephen-Haynes and Sykes, 2013).

Conversely, European Class hosiery has advantages for patients with oedema or lymphoedema, as the stiffness of the fabric helps to contain the oedema, preventing an increase in leg volume and minimising the risk of ulcer recurrence.

Therefore, if there is any evidence or history of oedema, you should choose a stiffer garment — this will assist in ensuring that the oedema does not return.

HOSIERY OPTIONS

When recommending whether the patient uses thigh- or below-knee-length hosiery, it is important that you consider the patient's dexterity and whether there is any evidence of oedema around the knee or thigh — in these cases, thigh-length hosiery will ensure compression along the length of the limb; whereas below-knee garments could increase distortion in the limb's shape, leading to increased discomfort and poor compliance.

Made-to-measure

Off-the-shelf hosiery is suitable in the majority of patients, but 'made-to-measure' or custom-made hosiery has some advantages, especially in

unusually shaped limbs. Made-to-measure garments are produced either in a continuous/circular-knit or a flat-knit. Circular-knit stockings are generally thinner compared to flat-knit and are seamless so they can be more acceptable to patients.

However, in cases of severe limb-shape distortion, circular-knit garments can 'cut into' the limb causing pain and skin damage. When there is evidence of limb distortion, flat-knit stockings would provide a greater comfort level for the patient due to the way the garment is knitted, and can accommodate even the most severely distorted limbs.

HOSIERY FOR THE HEALING PHASE

A recent randomised controlled trial (Ashby et al, 2014) supports the use of leg ulcer hosiery kits to achieve healing. The study highlights reduced recurrence rates for those in leg ulcer hosiery kits versus four-layer compression.

This evidence supports using hosiery as a first-line approach, although for some this may involve a step-down approach as soon as is appropriate, i.e. from bandaging to leg ulcer hosiery kits once exudate and/or oedema has been reduced.

PATIENT EDUCATION

One of the most important elements in preventing ulcer recurrence is education, which means providing patients with information about the underlying disease process; why continued compression is required; and solutions to any difficulties with application and removal. One of the key factors in achieving good patient concordance is empathy and a willingness to find solutions to the challenges faced by patients (Van Hecke et al, 2011).

Maintaining healing is inherently challenging as it relies on the

willingness and ability of patients to perform ulcer care as part of their daily routine (Anderson, 2011).

As a community nurse you are ideally placed to ensure that patients have the required understanding, are provided with the most suitable and comfortable garments, and are supplied with the necessary aids.

By doing this you can optimise patients' willingness and ability to continue with compression and reduce the risk of recurrence. **JCN**

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