The use and benefits of compression stocking aids

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Abstract


An exploratory study was undertaken to trial various stocking aids designed for use with compression and antiembolic hosiery. Their features were identified and assessed by professionals for ease of use. Factors affecting the choice of stocking aids were the style and grade of stockings and the physical ability of users.

Application

Putting on stockings can be difficult for users with physical limitations such as restricted range of movement and reduced muscle power, making bending forward or lifting their leg a problem. In addition, compression stockings require a lot of stretching to put on and users with reduced strength in their hands may not be able to achieve this. Stocking aids aim to help users put the stocking over their foot and ankle and pull it up the leg by eliminating the need to bend forward.

Without the ability to put on and take off stockings independently the user would have to keep them on over more prolonged periods of time or require frequent assistance from family carers, nurses or care services.

Correct provision of support hosiery applicators or aids promotes the independence of individuals who are unable to flex at the hip and people who have had hip replacements and are advised not to flex beyond 90° to avoid the risk of dislocation.

References


The CLOTS Collaboration (2005) Summary. Available at: www.dcn.ed.ac.uk/clots/
Methods
With a view to having a supply of compression/surgical stocking aids in the community equipment store, for loan or sale, the first task was to identify products on the market. Searches were carried out to identify what products were on the market using the Disabled Living Foundation catalogue, the internet, company catalogues, telephone calls to specific companies and discussions with members of an equipment interest group. A search of recent literature was also undertaken to find information regarding the use and effectiveness of aids.

All the companies contacted were asked to loan samples of their products for user trials. The equipment interest group, comprising occupational therapists, district nurses and other interested clinicians, had indicated an interest in the investigation and agreed to try out the products at one of their meetings. A questionnaire was designed for feedback on each aid they used.

Consent
Before trying out the stocking aids the 13 members of the group gave their consent for their discussion and questionnaire data to be used when the findings were reported.

In accordance with research governance, participants were assured of confidentiality and reminded that involvement was voluntary. Ten stocking aids were available and the users logged their opinions regarding features and the ease and effectiveness of use.

Stockings
Antiembolism hosiery, otherwise known as TED stockings, is only issued by hospitals. They are intended for non-ambulant patients during and immediately after surgery. Graduated compression hosiery is intended for mobile patients and is available on prescription.

Prescribed hosiery fulfils the drug tariff specifications, for example European guidelines. Although they are identified as class I, II and III the pressures they apply differ from the drug tariff specifications.

A trial is currently under way to establish the effectiveness of compression stockings in the prevention of DVT and pulmonary embolism after stroke. The study also aims to determine whether there is any difference in the effectiveness of above-knee and below-knee graduated compression stockings in reducing the risk of DVT (the COATS Collaboration, 2003).

Findings
In general it was hard to gather information about the number of products available. For example, different distributors give the same product a different name. Although some products were for use with specific types of compression stockings, consultation with the various companies identified that they seemed to be unsure which of their products could be used with compression/surgical stockings or ordinary stockings. This discovery highlighted the various features of different styles and grades of garments.

Assessment and issue of stockings
Stockings are issued according to leg measurements, which should be given by the prescriber. The length and circumference of the leg are needed to select the correct size. Above-knee or below-knee style should be specified and the stockings come with either open or closed toes.

Information from pharmacists indicates that there are often insufficient details on the prescription to identify the size required. In addition, pharmacists do not have facilities to measure individuals, and it is not always the patient who takes the prescription to the chemist.

A patient in need of made-to-measure hosiery often does not receive it as the details are not completed on the prescription. There is also variation between services as to the provision of stockings and applicators.

Education and compliance
If people do not understand the purpose of the stockings they may think they are the wrong size as they feel too tight. This has implications for compliance as having ill-fitting stockings is the main reason people give for not wearing them (Department of Health, 2005).

Conversely if stockings become loose due to reduced swelling or long-term use then they are not fulfilling their intended purpose.
User compliance was influenced by:
- Understanding of the actual need to wear the stockings or compression aids;
- The type and grade of stockings issued;
- Whether they were full leg or half leg.

Stronger grades and full-leg stockings are more difficult to put on and may well mean the patient will not or cannot wear them. Also, patients may not like the look of the compression hosiery, particularly if they like to wear skirts or dresses.

Stocking aids
Three styles of stocking aid were identified among the products tested. These were the same styles as compared in a Danish study (Hansen, 2004).

- Fabric, which made it easier to slide the foot into the stocking and pull the aid out of the stocking – for use with open-toed style only. This design did not eliminate the need to bend (Fig 1).
- Gutter, which stretched some lower grade stockings making it easier to put the toes into the stocking. Tapes or ropes were attached to pull the aid and stocking up the leg, to reduce the need to bend over 90° (Fig 2, p33).
- Frame, which could stretch all stockings to make it easier to put the foot in, some frames had handles to help pull the stocking up without bending or flexing the hip more than 90° (Fig 3).

The choice of stocking aids is dependent on the abilities and limitations of the user and the features of the stockings. Being unable to put on compression stockings may be only one of the reasons for non-compliance.

Other reasons include users being unaware of the importance of wearing compression stockings, whether or not they are the right size and whether or not they are aesthetically acceptable to the user.

Feedback from the district nurses and occupational therapists was summarised and they highlighted features of the products they thought were good or problematic. Positive comments for the frame and gutter aids included:

- Reduced need for the user to bend;
- Stretches the stocking for a foot to be put in;
- Ease of pulling up the stocking;
- Stable when standing on the floor.

Negative comments about frame styles included:

- Difficulty getting a stocking onto the aid;
- Help needed from a second person or aid, for example ‘helping hand’;
- User needs to be agile;
- User needs to have good hand function;
- Lack of size adjustment on the aid;
- When available, instructions were poor.

Discussion
This exploratory exercise identified a number of issues that need further study, relating to compliance of patients who are prescribed compression/surgical stockings and the use of stocking aids among these patients:

- The effectiveness of compression/surgical stockings (Nelson et al, 2000);
- The grading of compression/surgical stockings;
- Prescription and the issue of whether patients receive the correct size of compression/surgical stocking when dispensed;
- Assessment of compression grades for comfort and ease of putting on and removing;
- The physical ability of the patients to use the stocking aids;
- Users’ feedback on compression/surgical stockings and stocking aids;
- The compatibility of compression/surgical stockings and stocking aids;
- Users’ and health care professionals’ perceptions of compression/surgical stockings as a part of treatment.

Conclusion
Being able to put on compression stockings is crucial for people with conditions such as DVT. The provision of aids to help with patient compliance is a vital part of this treatment, especially for those with mobility problems, for example following hip replacement surgery. It is important to ensure that patients have the most effective type of stocking aid for their individual needs.

This study identified a number of areas and ways in which patient compliance could be improved. It is important that more studies are carried out in this area to further improve the provision of evidence-based care to this client group.