



Improving customer care in compression hosiery

Introduction

Within the modern NHS, the Pharmacy Team provides the front line service that most patients have contact with. Compression hosiery has a key role in the prevention and management of venous and lymphatic disorders of the lower limb. These two factors make the Pharmacy Team ideally placed to offer advice and support, within their scope of practice, for customers who have been prescribed, or who could potentially benefit from, compression hosiery.

This module has been designed to give you a working knowledge of the indications and use of compression hosiery and what you as a Pharmacy Team can do to improve your customer care in this area.

The overall aim of this module is to support the Pharmacy team to provide quality support, care and advice to customers with lymphovenous conditions that have been prescribed or could benefit from compression hosiery.

The first part of this module will discuss the clinical presentation of lower limb vascular and lymphatic conditions and how to recognise this in your customers. It will also identify how compression hosiery is instrumental in the prevention and management of lymphovenous disorders of the lower limb.

The second part will discuss hosiery in more detail including measuring and fitting.

Reflective questions

Prior to reading this module, assess your current understanding by asking yourself the following questions:

- › Do I understand what conditions lead to the swelling of the lower limb?
- › Do I know how compression hosiery works and what benefits are provided to the customer?
- › Do I understand the importance of accurately measuring for the hosiery and when made to measure may be appropriate?
- › Do I know the wide variety of hosiery options that are available to the customer?

LEARNING OBJECTIVES

By the end of this module you will:

- 1) Have a greater understanding of the anatomical and physiological changes that take place resulting in venous hypertension, lymphovenous conditions and the associated lower limb oedema.
- 2) Be able to recognise how these conditions can present, and potentially identify these in your customers.
- 3) Have an understanding of how compression works in preventing or managing these conditions.
- 4) Be able to identify the different types and class of compression hosiery available.
- 5) Be aware of factors that influence measuring for standard and made to measure hosiery.
- 6) Be able to identify strategies to promote customer compliance with their prescribed hosiery enabling them to integrate wearing hosiery into their day to day lives.

VENOUS HYPERTENSION

Aetiology

Venous Hypertension results from an inability of the blood in the veins to return efficiently, upward towards the body and the heart, against gravity. This causes a 'back flow' of blood and an increase in the blood pressure in the veins. This, in turn, produces a back pressure, forcing fluid into the smaller veins, capillaries and ultimately into the tissues themselves.

Normally one-way valves within the veins, coupled with the pumping action of the calf muscle during walking, assist the blood travelling up the legs into the body, against gravity (figure 1). However, the valves in the veins can become incompetent or damaged as a result of a number of conditions including obesity, diabetes, rheumatoid arthritis and deep vein thrombosis (DVT) (figure 2). It is also associated with occupations that involve standing for long periods eg. hairdressing.

Presenting symptoms

Initially, venous disease may present without associated swelling (oedema). Patients may experience aching lower legs, have visible varicose or bulging veins, or have a superficial skin injury below the knee that is taking longer than expected to heal. Slow to heal superficial injuries can result in long term venous leg ulcers.

At some point, patients may experience some degree of lower limb swelling that gets progressively worse during the day. However, this swelling will reduce when in bed and may have gone by morning. If the swelling becomes persistent, it is classified as 'chronic' when it has been present for at least 3 months. Another symptom is changes to the skin in the lower limb, such as patches of a purple colouring or a dark staining.

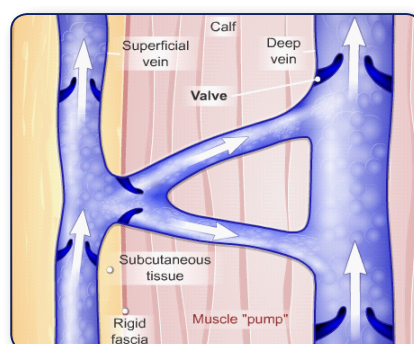


figure 1.

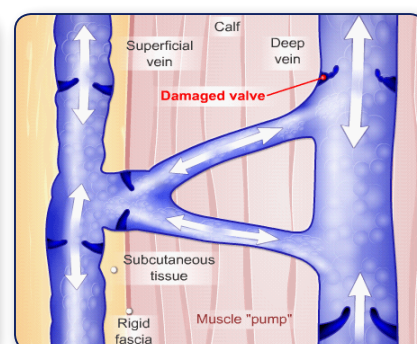


figure 2.

LYMPHOEDEMA

Aetiology

Lymphoedema is swelling as a result of a failure of the lymphatic drainage system to effectively drain fluid from the tissues. The causes of lymphoedema are categorised as Primary and Secondary.

Primary Lymphoedema (PL) is a result of genetic malformation in the lymph drainage system. It is inherited and present from birth although it may not manifest until later in life.

There are numerous potential causes of Secondary Lymphoedema (SL). Damage to the lymphatic system may occur as a result of treatment for cancer. Other causes include cellulitis, venous disease, damage due to DVT and inflammatory conditions such as rheumatoid arthritis.

Presenting symptoms

The affected limb may feel heavy, ache and may even be painful. Pain may be experienced in the joints and there may be reduced mobility or loss of movement in the affected limb. Skin changes can be experienced, such as recurrent infections (cellulitis), skin becoming hard, tight or the development of hard nodule type growths.

Summary

It is important to note that lower limb venous disease and lymphoedema can have similar predisposing factors, often termed as lymphovenous conditions. Management may be similar, however a referral to GP or District/Practice Nurse is essential to diagnose the primary condition.

Action Points

- › If a customer presents complaining of some of the above symptoms advise them to seek a GP appointment for formal assessment and diagnosis
- › If you note a regular customer has newly swollen legs ask if they know the cause or are having treatment

WHAT IS GRADUATED COMPRESSION?

The term 'graduated' refers to the fact that the hosiery exerts a greater pressure, in millimetres of mercury (mmHg), at the ankle and reduces gradually with a lower pressure at the top of the garment (figure 3).

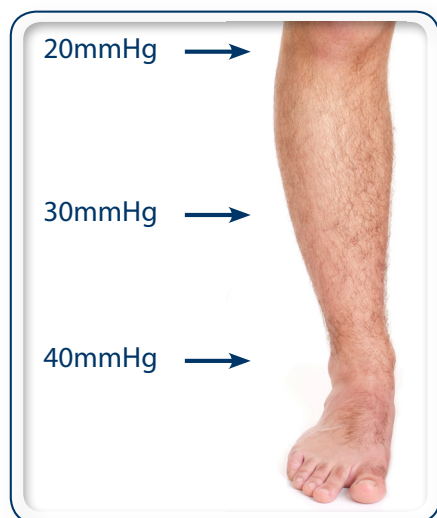


figure 3.

This pattern of compression facilitates the return of blood and fluid from the lower limb into the upper body.

The external compression of the limb will support the venous circulation by improving the function of the valves and therefore reduce venous hypertension, the back flow of fluid into the tissues and swelling (figure 4).

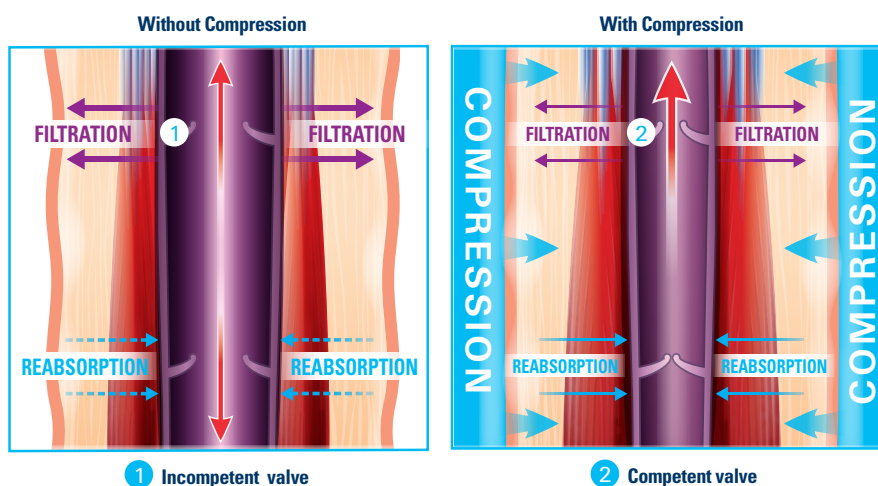


figure 4.

WHY CAN COMPRESSION HOSIERY HELP WITH LYMPHOVENOUS CONDITIONS?

The primary functions of compression hosiery are:

- › To assist venous circulation return up the limb against gravity, reversing venous hypertension
- › To treat venous leg ulcers by reversing venous hypertension
- › To prevent further occurrence of venous leg ulcers
- › To prevent and control oedema associated with venous conditions
- › To promote lymphatic drainage in lymphoedema
- › To prevent and control swelling associated with lymphoedema.



COMPRESSION CLASSES

Hosiery is split into two categories: British Standard and European Standard. These are further differentiated into Classes dependent on the pressure they exert at the ankle.

Table 1

CLASSIFICATION OF COMPRESSION HOSIERY	
BRITISH	EUROPEAN
CLASS I: 14-17mmHg Light, mild support: indicated for superficial or early varices.	CLASS I: 18-21mmHg Light, mild support indicated for mild superficial effect.
CLASS II: 18-24mmHg Medium to moderate support indicated for moderate varices or severe varicose veins, prevention of ulceration/recurrence, mild oedema and varices.	CLASS II: 23-32mmHg Medium to moderate support.
CLASS III: 25-34mmHg Strong support: indicated for gross varices, post-phlebitis limb (following inflammation of the vein), recurrent ulceration and lymphoedema.	CLASS III: 34-46mmHg Strong support indicated for strong compression for combined superficial and deep effect.
	CLASS IV: >49mmHg Very strong compression for deep effect.

As a general rule European Standard hosiery is used in the management of lymphoedema and British Standard for management of venous hypertension. It should be noted that there are variations to this rule.

An investigation, often referred to as a 'Doppler', needs to be undertaken to assist in the assessment of the arterial circulation in the affected limb. This will facilitate the suitably qualified nurse to identify what level of compression the patient's arterial circulation can tolerate without impeding it and causing potentially catastrophic tissue damage.

Action Points

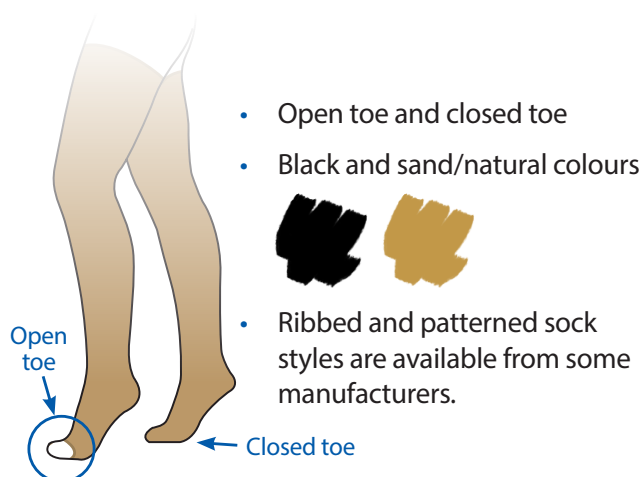
- › Class I British Standard hosiery is available to buy over the counter and therefore does not require a Doppler. However if a customer is presenting with anything other than aching lower limbs and a minor degree of swelling or they have associated issues such as diabetes, a Doppler is advisable to ensure no damage is caused
- › Customers should have regular dopplers (every 3 to 12 months) depending on severity of symptoms and local policy
- › Doppler readings may be different in each leg resulting in differing class hosiery being prescribed for each leg
- › If a customer complains that their hosiery is uncomfortable or ill fitting they may need re-measuring or be better with made to measure hosiery
- › Appropriate use of language can be important when discussing the use of hosiery with male customers. It may be helpful to refer to them as 'socks' as the term 'hosiery' is often associated with female garments

COMPRESSION HOSIERY: WHAT IS AVAILABLE?

Modern manufacturing processes have enabled a wide variety of products that are effective and, increasingly, patient friendly.

Depending on the extent of the patient's symptoms, below knee or thigh length may be required.

Generally the variations available include:



Circular or Flat Knit?

Most hosiery is 'circular knit'; it is knitted in a circular fashion with no seams running the length of the hosiery. This type of hosiery is suitable for most customers. However if a limb is misshapen, circular knit may increase the chance of damage due to the gathering in skin folds. In this case, a flat knit garment may be more suitable as the risk of gathering is reduced. This is because it is knitted on a flat loom allowing for bigger changes in size and is more rigid, helping to prevent the gathering effect. Flat knit garments have a seam along the length of the garment. Specialist referral will be required in this case.

HELPING THE CUSTOMER INTEGRATE WEARING THEIR HOSIERY INTO THEIR DAY-TO-DAY LIVES

The Pharmacist and their team are well placed to assist customers to integrate their hosiery into their daily routine and identify if customers are having issues with wearing it. By its nature, compression hosiery is tight and can be difficult to get on and off. Some manufacturers provide simple instructions to ease the application or application aids can be purchased over the counter or are available on prescription.

Action Points

- › When a customer collects their prescription ask if they are able to fit the hosiery themselves or have a person who can help
- › Is a customer not collecting a repeat prescription because they are unable to fit or tolerate the compression level?
- › Advise the use of appliances if required

FACTORS TO CONSIDER WHEN MEASURING FOR HOSIERY

It is essential that prior to the prescription of compression hosiery, the patient's limb is measured to ensure an accurate fit. This means the hosiery will function as it is designed to and, importantly, that the hosiery does not cause tissue damage by creating a tourniquet effect (figure 5).



figure 5.

Compression hosiery is available in standard sizes and made to measure. Each hosiery manufacturer will provide a measuring chart, which will identify the points on the customer's limb to take measurements and how to

assess whether these measurements fit into a standard size category. If a customer does not fall into the standard sizes shown due to an abnormal shaped limb, made to measure hosiery will be required. Again, each manufacturer will provide specific charts for made to measure hosiery as an increased number of measurements are usually required.

Action Points

- › Take measurements as early in the morning as possible, when any swelling is at a minimum
- › Take measurements directly against the skin to ensure accuracy
- › Take measurements for each leg as they may differ in size
- › Take measurements with the customer's feet flat on the floor
- › Use the correct measuring guide for the brand of hosiery to be prescribed as each manufacturer will vary
- › If the customer has folds in their oedema or the limb is particularly misshapen, a specialist flat knit garment may be required and therefore referral for specialist assessment
- › If a customer feels uncomfortable or embarrassed when having their legs measured, try to make them feel more at ease by:
 - Taking the measurements in a private area
 - Explaining how you are going to measure their legs before you start, including how far up the leg you will need to measure for thigh length hosiery
 - Explaining why it is important to get the right size hosiery so that it works properly
 - Explaining what you are doing at each stage

FURTHER CPD STUDY

Now you have read the module reflect on the following points and create an individualised action plan on your next steps.

- 1) What have I learned about the causes and symptoms of lymphovenous conditions?
- 2) What have I learned about how compression hosiery works and the benefits for the customer?
- 3) What have I learned about the variety of hosiery available and points to consider when measuring for hosiery?
- 4) Has this module highlighted areas for further reading?
- 5) How will I disseminate this knowledge to benefit the whole of my team?
- 6) Has this highlighted any areas within current practice that may need to change? An example of this may be to target customers receiving hosiery to provide advice/support.