

GRADUATED COMPRESSION STOCKINGS

Medical compression hosiery is a medical treatment used for venous problems, prevention of DVT in conjunction with drugs, and to manage the symptoms of post thrombotic syndrome. Like all medical treatments, the efficacy of treatment with medical compression hosiery (MCH) depends on the patient using them. Non-compliance to medical treatments can usually be explained by one or more factors.

- Wrong type of hosiery
- Wrong level of compression
- Poor measuring and fitting
- Not easy to get on
- Poor comfort
- Look ugly
- Don't fit patient's personal needs
- Don't fit patient's specific needs

Types of Stockings

Approved medical compression stockings meet the requirements of very demanding technical specifications and are the result of a long manufacturing process aimed at guaranteeing that the patients receive the appropriate treatment. The specific characteristics of medical stockings are:

- A specified level of compression at the ankle
- Graduation of the compression (less compression as we move up along the leg)
- The repeatability of the compression
- The durability of the compression

It is important to remember that the level of compression obtained by a given stocking is directly linked to the patient's measurements. It is therefore important that the patient is measured by a qualified professional in order to ensure the stocking will fit correctly.

In practice, medical compression stockings are often confused with:

Anti-embolism stockings (white stockings)

These are made for bedridden patients only and do not meet the technical specifications to be used on ambulatory patients who have had a previous DVT.

Support stockings and flight socks

These do not meet any technical specifications, can cause tourniquet effects because of inverted compression, usually do not require the measuring of the patient, and can be very uncomfortable.

Classes of compression

Currently in the UK, the most common compression classes offered by manufacturers are as follows:

CCI (mmHg)	UK (HATRA)	Germany (RAL)	France (ITF)	US
1	14-17	18-21	10-15	8-15
2	18-24	23-32	15-20	15-20
3	25-35	36-46	20-36	20-30
4	n/a	>36	>36	30-40

You can see from these classes that compression level 3 can be anything from 25mmHg in the UK to 46mmHg in Germany. Therefore, it is better to measure compression according to the amount of compression in millimetres of mercury i.e. most guidelines recommend 20mmHg compression at the ankle for prevention of deep vein thrombosis. These would also relieve the symptoms of:

- varicose veins
- reversible swelling
- swelling and discomfort in pregnancy

Strong compression stockings with compression of 20-36mmHg are excellent for:

- severe venous insufficiency
- varicose eczema
- post rheumatic or thrombotic syndrome
- non reversible swelling
- post-traumatic swelling prior to and following vein stripping and sclerotherapy.

Strong compression stockings are also recommended in patients' who have a lot of swelling immediately after deep vein thrombosis and in patients' with lymphodema.

Very strong compression of more than 36mmHg, are reserved for those with severe venous insufficiency:

- Venous stasis ulcers
- severe post thrombotic syndrome
- severe lymphodema

Once again, we need to emphasise the importance of the measurement around the ankle. Shoe size has no relevance to the compression received in the stocking. The measurement which determines the level of compression received is taken at the ankle.

Measuring and fitting

Proper measurement and fitting is absolutely vital to ensure the correct level of compression is achieved. Patients should only be measured by trained professionals who, when fitting or selecting the delivered garment, will integrate the personal and specific needs of the patient to ensure maximum compliance.

Ease of Use

If you cannot put your stockings on, you are unlikely to comply. Modern technology, especially with the introduction of new yarns into graduated compression stockings, allows manufacturers to produce stockings that are much easier to put on while still delivering the desired level of compression for medical treatment.

Comfort

Comfort is absolutely fundamental. If the stocking is not comfortable, the patient will not wear them all day. Again, the modern technology allows manufacturers to produce stockings that can be comfortable.

Patient's personal needs

There are two specific personal needs: firstly the patient's shape, and secondly their lifestyle needs.

Shape: it is a well know fact that men tend to have larger shoe sizes, wider calves and thinner thighs than women. Some manufacturers address this by providing graduated compression stockings that take this fact into account, rather than providing a unisex product, which would have implications for fit and comfort for both men and women

Lifestyle: one has to ask, do you think an air hostess would necessarily like to wear the same stockings as an industrial machine operator? Would a PE instructor necessarily like to wear the same stockings as a businessman?

Patients' specific needs

This is entirely up to the individual. There are a wide range of stockings which would suit different needs.

Contra indications (when not to use stockings)

- Advanced peripheral arterial disease
- Congested heart failure
- Infected phlebitis
- Relative contra indication
- Oozing skin rashes
- Allergy to the compression stocking
- Sensory loss of the leg such as peripheral neuropathy due to diabetes and rheumatoid arthritis (difficulty in putting them on)

If you are considering stockings please visit your medical practitioner to ensure that there are no contra-indications to you using them.

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