

Use of compression stockings

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If you have swollen legs and feet, a venous leg ulcer, varicose veins or you are at increased risk of developing a clot in your leg, you may have been advised to wear compression stockings. Compression stockings have a specific purpose and are not recommended for everyone. It is important that you have spoken with your GP and they have recommended that compression therapy is a treatment option for you.

Generally most people who are advised to wear compression stockings have problems with their venous circulation (veins).

Our systemic circulation has two main purposes, to take oxygen rich blood from the heart to the organs and extremities (via arteries) and to deliver the blood back to the heart with the waste products and carbon dioxide from the cells in our bodies (via veins).

For the veins in our legs to carry blood back to the heart they rely on two mechanisms to help in this process. The first is competent valves. Valves in our veins ensure the blood flows back to the heart in the right direction. Once blood is pushed through, the valve closes behind it, preventing back flow of blood.

The second mechanism is pumping calf muscles, our large veins in our legs that are positioned between our calf muscles. Veins gain assistance from pumping calf muscles to help propel blood back towards the heart. These two mechanisms are important mainly due to the fact that the majority of the day our bodies are upright. The veins need to work against gravity to get blood back to the heart.

Problems generally arise when these valves are not working properly and we are at even greater risk if we are not very active. If the valves are not strong enough, or the

veins are dilated and the valves cannot shut properly, this causes back flow of blood. Blood and fluid can then pool down in our lower legs.

If we are not mobile and our calf muscles are not creating this pumping action that assists our veins, then the blood does not get carried back to the heart and away from our legs at the required rate.

Compression stockings are designed to assist blood flow. The graduated compression stockings apply the strongest force to the leg at the ankle then taper off slightly further up the leg. This graduated pressure increases the velocity of the blood flow and improves valve function.⁽¹⁾

If blood and fluid are pooling in your legs, this not only causes swelling but you are at an increased risk of developing a venous leg ulcer. In addition, if blood is not propelled back to the heart at the required rate, blood can thicken and congeal. This puts you at increased risk of a deep vein thrombosis.

Compression stockings are designed to apply an external force on your legs. This force is measured as a pressure in mmHg (mm of mercury). Depending on your condition and its severity, you will be advised to purchase stockings of a particular pressure. Your health care professional will advise you on the pressure you require. The higher the number, the greater the pressure it exerts on your legs. Once you have the pressure you require to treat your condition, it is appropriate to choose the correct size of stocking. The size is determined by measurements, usually ankle and calf circumference and your leg length. Your retailer, supplier or GP should be able to give you advice on specific measurement requirements for the type of stocking you require.

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It is important to be advised by your GP that you need compression therapy. There are certain conditions when compression therapy should not be used. If you have problems with your arterial circulation (arteries) in your legs, then this compression should not be applied. The arteries' job is to transport blood and oxygen from the heart around our body and down to our legs. The compression stockings' role is to help push blood back up the leg.² If you have damage to the arteries in your legs, applying this compression may not be safe for you. If you are considering using compression therapy, it is also important to rule out other conditions. Some such conditions are cardiac failure, infected veins, gross leg cellulitis, dermatitis that is infected or oozing and also peripheral neuropathy.³

Once wearing compression stockings, it is also important to check your legs and feet regularly. Removal of the stockings daily is advised to properly cleanse your legs and to check your heels and legs for any pressure areas.⁴ If you discover any broken or sore areas on your skin, you will need to discuss this with your GP as you may have incorrect sizing or the appropriateness of compression therapy as a treatment may need to be reviewed.

Compression therapy is a very effective treatment for venous insufficiency or incompetent veins. Compression stockings worn on the lower legs are a non-invasive method of treatment. As stated above, they should be recommended by your doctor or specialist as they are not recommended for people who have particular health conditions.

REFERENCES

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