

Compression Therapy

There are three criteria which must be met before most insurers will cover venous treatments: Symptoms, significant venous reflux on duplex ultrasound and a trial of conservative therapy. Most carriers will further specify that class 2 graduated compression stockings are part of that trial of conservative therapy. Depending on the insurer and the policy, patient will typically have to wear compression for 6-12 weeks before a procedure can be scheduled.

Types of compression.

1. Antiembolism stockings or TED hose: These are designed for bed ridden patients and do not meet the required compression for ambulatory patients.
2. Graduated compression stockings: These stockings are typically required prior to treatment by insurance providers. They exert the greatest degree of compression at the ankle and the level of compression gradually decreases up the leg.
3. Inelastic compression: This includes wraps such as Unna boots and 2 or 4-layer short stretch bandage systems. These have lower resting pressures and higher working pressure which can improve patient comfort and can be used in patients with combined arterial and venous insufficiency. These must be applied by a trained individual and are typically used for ulcers or other advanced venous pathology.
4. Pneumatic compression: Pressure is applied via a boot or leg garment that is inflated by a machine. These are typically used in lymphedema or as an adjunct in venous ulcer cases. Patients cannot wear these while ambulatory and they can be difficult to get insurance to approve.

Of the above compression types, all but the TED hose will typically meet insurance requirements. As graduated compression stockings are the most commonly prescribed and used compression stocking, I will focus on those in this update.

Graduated compression stockings come in different classes or grades depending on the level of pressure exerted. Unfortunately, there is no universal consensus on grading but typically grade 1 is 15-20mmHg, grade 2 is 20-30mmHg and grade 3 is 30-40mmHg. Most insurance carriers require a trial of grade 2 or higher to meet their conservative therapy requirements. The stockings should have 100% of their stated pressure at the ankle, 60-70% at the knee and 40% of the stated pressure at the thigh. I have not seen any insurance companies specify a required stocking height. Patients may wear knee high stockings to meet their insurance requirements but they will typically need to wear thigh high compression stockings after any treatments unless their disease is limited to the lower leg.

Compression stockings help reverse venous hypertension, improve the calf muscle-venous pump and improve lymphatic function. Most patients will report improvement in their venous symptoms with compression use but they will often complain that the stockings are hot, cause

itching or other symptoms. After treatment, I feel compression stockings are vital in ensuring success of the procedure and preventing post procedure complications such as phlebitis and staining. Depending on what treatment options are employed, patients are typically required to wear compression stockings for 1-2 weeks after the procedure. There is also some evidence to suggest that compression stockings can lower the risk of post thrombotic syndrome, (PTS) in patients with DVT. One meta-analysis of five RCT's showed severe PTS in 5% of patients who wore stockings vs. 12% in those who did not and PTS of any severity occurred in 26% of patients who wore stockings vs 46% in patients without stockings.

Noncompliance rates remains a problem with medical compression stockings and have been reported to be 30-65%. Common reasons cited for noncompliance include pain, difficulty donning, heat, skin irritation, cost and appearance. Proper fit, education as to why the stockings are needed and how they work help with compliance. There are also multiple donning and doffing devices available to help patients get the stockings on and off. In my office, I have had the best luck with the Doff N' Donner made by Sigvaris and this can be purchased online.

While there is some evidence to suggest 30-40mmHg compression may be slightly better in some situation than lower compression, in my practice, I have found compliance was much better with 20-30mmHg compression. If patients can only afford one pair of stockings, I will typically recommend a pair of thigh high stockings as that will be sufficient for use post treatment as well as meeting the insurance requirements. If more than one pair of stockings can be covered by the patient's insurance plan or if they have the means to purchase multiple pairs, I will typically suggest knee high stockings for everyday use and thigh high stockings for immediately post procedure.

I also feel it is important to note that there are some contraindications to graduated compression stockings. They should be avoided in cases of severe peripheral vascular disease ($ABI < 0.6$) and they should be used with caution in patients with CHF. Other potential contraindications include severe neuropathy, allergy to the stocking material and extremity deformity preventing correct fit.

In summary, while graduated compression stockings will not typically cure venous disease, they can alleviate some of the symptoms of venous insufficiency and are typically required by insurance carriers' prior covering any definitive treatments. I will typically try to go with the stocking that I can get the patient to have the best compliance with as long as the compression is at least 20-30mmHg. Having said that, a lighter or shorter stocking is better than no compression at all.

As always, thank you for your time and please feel free to contact me if you have any further questions.