Effectiveness of TED Stockings on Circulation and Blood Clotting

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Effectiveness of TED Stockings on Circulation and Blood Clotting

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ABSTRACT
Circulatory issues can stem from many disease that cause blood clots specifically in the legs, adding compression is known to help reduce blood clotting. The goal of this research project is to better understand the purpose and effectiveness of TED stocking on circulation and blood clotting and whether it is still an effective practice. The outcome of this research project is to improve our practice through the use of TED stockings for circulation and blood clotting.

BACKGROUND
Compression stockings (TED stocking) are designed with a pressure gradient that results in a decrease from distal to proximal. The stockings are produced in a variety of sizes, compression gradients, styles, and colors. It is important that each stocking is fitted upon completing a full patient assessment. A full patient assessment includes assessing skin condition, shape of the limb, compression strength of the stocking and size of the stocking (Woods, 2019).

DATA
One mechanism that contributes to orthostatic intolerance is a pooling of blood in the lower limbs, where the body struggles to properly return blood to the heart. This can be simulated in healthy individuals though a head-up tilt test, which suspends a person in a vertical position without allowing them to make use of normal mechanisms to augment venous return, such as the muscle pump. This causes a pooling of blood in the venous system of the lower extremities, sequestering 500–600 mL of blood away from the upper body. This blood redistribution results in a decrease in blood return to the heart, subsequently causing a decrease in stroke volume, cardiac output, and ultimately blood pressure. The body will attempt to compensate by increasing heart rate and blood pressure through the baroreceptor reflex. It has been shown that compression garments can be efficacious in counteracting the cardiovascular effects of head-up tilt, including preventing syncope, increased heart rate, decreased cardiac output, and blood pressure. This suggests that the compression garments induce a decrease in venous pooling, which facilitates an increase in venous return to the heart, resulting in a higher stroke volume and therefore reducing heart rate. This study was reviewed and approved the Mayo Clinic Institutional Review Board and complies with the Declaration of Helsinki.

CONTRAINDICATIONS
Contraindications to the use of compression stockings include the following: arterial insufficiency, severe cardiac failure, irregular shaped limb (present skin folds), untreated infections, lymphorhea/fragile skin, allergy to material stocking is made out of (Woods, 2019). Problems that can be caused by compression stockings: the garment was not measured correctly, application is too difficult, the garment is too loose or too tight, compression strength of the stocking and size of the stocking are incorrect (Woods, 2019). Problems that can be caused by compression stockings include arterial insufficiency, severe cardiac failure, irregular shaped limb (present skin folds), untreated infections, lymphorhea/fragile skin, allergy to material stocking is made out of (Woods, 2019).

REFERENCE

CONCLUSION
Overall there is valuable information that provides evidence proving that TED stocking are effective when used properly. There are many areas that need to be improved upon to reduce complication. Over ¼ of TED stocking are applied incorrectly resulting in a variety of complications. Thigh length stocking often cause a tourniquet adjacent result and can cause Deep Vein Thrombosis. Education needs to detail instructions on how to properly apply TED stocking and signs and symptoms of what can occur when stockings are not fitted correctly. Increased education needs to be provided to all nursing staff and patients who use these devices.