The Effectiveness of Compression on Venous Leg Ulcers

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PURPOSE

The purpose of this research is to determine if different types of compression therapies are optimal for treating patients suffering from leg ulcers. Optimal treatments are based on wound healing rate and safety of the patient receiving the treatment.

WHAT IS COMPRESSION

Compression is the purposeful use of pressure to produce desired therapeutic effects. Bandaging systems provide pressure to increase ulcer healing rate by decreasing edema and pain, and increasing quality of life. Bandaging systems include two-layer hosiery, four-layer bandage, short-stretch, inelastic, elastic, and tubular system.

Compressions

Inelastic

Elastic

Tubular

Figure 1: Comparison of the time of healing between the four-layer bandage group and two-layer compression hosiery group.

Figure 2: Comparison of the mean annual cost and quality-adjusted life years between the four-layer bandage group and two-layer compression hosiery group.

MATERIALS AND METHODS

Subjects

Participants in the intervention group received two-layer bandage, delivering 40 mmHg of compression at the ankle and 30 mmHg at the top of the leg. Participants in the control group received usual care. Figure 3: Comparison in increase in ejection fraction between 20-30 mmHg and 31-40 mmHg.

RESULTS

Compression therapy for patients suffering from leg ulcers is an effective treatment, but for patients with mixed arterial-venous etiology the parameters of the treatment must be under 40 mmHg to ensure the safety of these patients. Using a system that results in a higher compressive force will lead to a faster and more complete heal than a system that provides a lower compressive force. Two-layer compression hosiery, short-stretch bandages, and tubular systems provide viable alternative treatments, when compared to the conservative four-layer bandage system. These bandaging systems accelerate wound healing rates, reduce pain, and increase functionality.

CONCLUSIONS

The use of compression therapy for leg ulcers is an efficacious and safe treatment. Different types of bandaging systems provide an effect treatment based on wound healing rates, recurrence rate, pain reduction, improved functional status, and safety of the patient.

BIBLIOGRAPHY