Edema Reduction with a Novel Total Contact Cast System Containing a Mild Compression Sock.

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Treat the V.I.P.'s in plantar foot ulcers and improve DFU wound outcomes.

V **Vascular Management**

with low-level compression sock

I **Infection Management and Prevention**

with the included gentian violet and methylene blue antibacterial foam* and an ovine collagen dressing with an intact ECM**

P **Pressure Relief**

with TTC system comprised of a clamshell cast with off-loading footplate***

Introduction:

In a November 2014 Off-Loading Consensus Guidelines, it is suggested that vascular management (V) infection management and prevention (I) and pressure relief (P) are essential to diabetic foot ulcer (DFU) healing.[1] Evidence suggests that if V.I.P.'s are aggressively managed, then the wound-healing trajectory will progress.[1] Lower extremity (LE) edema is a common clinical finding in patients with diabetes; however, there is a lack of awareness of how to treat edema without negatively impacting vascularity in the DFU patient.[2] Elevation of the extremity has generally been recommended to reduce edema and prevent other sequential problems such as venous congestion, reduced oxygenation, possible limb pain, slow healing or non-healing wounds and possibly amputation. However, this is not an effective answer to treating edema in a functional patient. LE edema is most often treated with a method of graduated compression therapy to reduce swelling such as a wrap system or compression sock. These methods can enhance fibrinolysis and venous outflow.

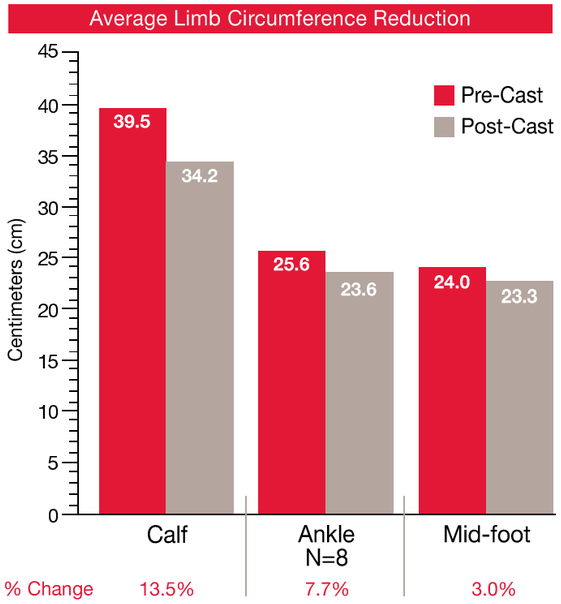
An international consensus group has recommended a system for compression bandage systems and recommend categorizing mild compression as <20mmHg.[3] A pilot study concluded mild compression therapy (18-25mmHg) decreased swelling in DFU patients with lower leg edema without comprising vascularity.[2] A decrease in calf circumference, foot circumference, and cutaneous water content without compromise in arterial flow, has been demonstrated in diabetics after wearing mild compression socks.[2]

Objective:

The objective of this observational case series was to quantify reduction in calf, ankle and mid foot circumferences with the use of a total contact cast (TCC) system comprised clamshell cast with an off-loading footplate which includes a mild compression sock worn to the knee for DFU patients. All 8 patients were receiving TCC system comprised of a clamshell cast with an off-loading footplate for diabetic ulcer management.

Methods:

This case series of 8 diabetic patients that required off-loading for a plantar ulcer with a TCC system comprised of a clamshell cast with an off-loading footplate. The casts were applied according to manufacturer's instruction for use. Calf, ankle and mid-foot measurements were routinely recorded prior to initial application and weekly prior to each cast application.



Conclusions:

Mild compression decreased swelling in diabetic patients with LE edema without complications. As suggested by the V.I.P. concept, use of this TCC system comprised of a clamshell cast with an off-loading footplate reduced the circumference of the calf, ankle, and mid-foot during the management of these DFU patients.

Summary:

In today's high pressure environment to obtain quality wound management for diabetic foot ulcers, wound care professionals must take advantage of all beneficial treatments. Adding a mild compression sock to a TCC improves edema reduction. This is another opportunity for clinicians to begin to improve wound healing outcomes .

REFERENCES

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3. Fletcher, J. et al., Principles of compression in venous disease: A practitioner's guide to treatment and prevention of venous leg ulcers. Wounds International, 2013. Available from: www.woundsinternational.com

* Hydrofera Blue Ready foam, Distributed by Hollister Incorporated

** Endoform dermal template, Distributed by Hollister Incorporated

*** FastCast OLS, Distributed by Hollister Incorporated.

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