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## **Hemodialysis Access Wound Complications Respond to Fuzzy Wales Elastic Compression Therapy: control of venous hypertension in subcutaneous fat probable mechanism**

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### **Problem**

Annually 350,000 persons require hemodialysis surgery for ESRD in the United States.<sup>1</sup> Surgical incision complications following arterial venous anastomosis are high, 5 to 20 percent, because venous hypertension and massive edema results when arterial blood is redirected into the venous system. Edema in the subcutaneous fat increases tension on the suture line, lymphorrhea and infection. Arterial suture line bleeding due to infection in the subcutaneous tissue can be limb threatening and often leads to ligation of the access.<sup>2</sup>

Kozeny reported a novel fuzzy wale elastic textile that effectively moves water out of the subcutaneous fat in 2007.<sup>3</sup> We have extensive experience with fuzzy wale elastic compression to control edema after hemodialysis arterial venous fistula.

This case report asks two questions. Does fuzzy wale elastic compression used to control edema cause hemodialysis fistula to clot? Does fuzzy wales elastic textile improve healing when wound complications occur after access procedures?

### **Methods**

One hemodialysis patient with a Left arm surgical incision dehiscence directly above the Gortex graft to brachial artery anastomosis. If the suture line below an open wound becomes infected and fails massive bleeding ensues. Negative Pressure Wound Therapy with foam and fuzzy wale elastic compression stockinet was used to control forearm edema.

## **Results**

Photos document details of hemodialysis access wound complications, including vessels exposed, treatment details, and outcomes. Wound healed.

## **Conclusions**

Fuzzy wale elastic compression therapy appears to be: (1) safe for the control of edema resulting from venous hypertension, and (2) effective to decrease inflammation/cellulitis, and speed the healing of the surgical incision.

## **References**

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3. Kozeny, D., Stott, K., "Longitudinal yarn compression textile: An innovative treatment for leg swelling." *Journal of Vascular Nursing*, Volume 25, Issue 3, Pages 62-62, September 2007

\*EdemaWear®, Compression Dynamics, LLC, Omaha, NE