

**Use of a non-electrically powered topical negative pressure device as a bolster for skin grafting: a case report**

Adam L. Isaac, Jessica Rose, David G. Armstrong

Department of Surgery, University of Arizona College of Medicine, Tucson, AZ USA

**Introduction:** The use of negative pressure wound therapy (NPWT) as a bolster for split-thickness skin grafts (STSG) has been well documented in the literature. It facilitates the removal of transudate, which can result in the formation of seroma, and it mitigates shear stress, which can detach the graft from the underlying wound bed. Its widespread use may be limited by factors such as increased cost and length of hospitalization. Recently, non-electrically powered mechanical devices (SNaP, Spiracur, Inc., Sunnyvale, CA) have been reported as showing promise in healing wounds with outcomes surprisingly comparable to standard NPWT in the populations studied. We are unaware of any reports in the literature that have detailed the use of a non-electrically powered NPWT device to serve this purpose. Therefore, the purpose of this case report was to describe the use of the mechanically-powered system as a bolster for STSG. Because the device is available for off-the-shelf use, it does not require hospitalization in the immediate postoperative period. **Case Report:** A 58 year old male with type 2 diabetes presented to our clinic with a large fluctuant abscess over the lateral malleolus on the right ankle. The abscess was emergently drained and the underlying wound was debrided down to the level of the peroneal tendons. NPWT was initiated in the form of SNaP, and was continued for the next four weeks, at which time a STSG was applied. The SNaP device was used a bolster dressing, set to 125 mm Hg, and kept in place for four days. Upon the first postoperative visit, the graft appeared to be healthy and well-adhered to the underlying wound bed and NPWT was discontinued in favor of a compressive dressing. After four weeks the wound demonstrated complete epithelialization. **Conclusion:** Further studies are needed to address the efficacy of using NPWT as a bolster dressing for STSG. In particular, a comparative study with SNaP and standard bolster dressings, or other NPWT devices may be useful. The use of SNaP as a bolster dressing following skin grafting could represent a groundbreaking way to improve graft take while maintaining patient comfort and reducing overall costs.