P#18

Abstract Title:	**Outcomes Following Use of Negative-Pressure Wound Therapy Over Autologous Meshed and Non-Meshed Skin Grafts**
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Objective:	Upon completion of the lecture, attendees should be better prepared to: ▪ Recognize negative pressure wound therapy over autologous skin grafts may lengthen hospital stay • Discuss non-meshed autologous skin grafts may have a shorter length of hospital stay than meshed • Describe negative pressure wound therapy with non-meshed grafts does not worsen seroma rates
Abstract:	**Introduction:** Negative pressure wound therapy (NPWT) use for management of complex wounds function by controlling exudate, decreasing infections, and controlling microdeformation and macrodeformation1,2.NWPT has been shown to improve perfusion in partial thickness burns when used over a skin graft, and improve the rate of revacularization when used over a dermal substitute3. Previous studies have shown that NPWTs can help prepare a wound bed to accept a skin graft at a later time by increasing granulation tissue3. Furthermore, NPWT over an autologous micrograft can reduce pain, increase skin graft survival, and increase the time between surgery and first postoperative dressing change4. The mean survival of skin grafts dressed with NPWT ranges in the literature from 96-97%4,5. Despite these results with use of a NPWT over skin grafts, no study specifically addresses differences in outcomes between meshed and non-meshed skin grafts dressed with NPWT. Out study aims to characterize patient outcomes with respect to two groups: meshed and non-meshed split and full thickness autologous skin grafts. **Methods:** Data was obtained on patients undergoing autologous skin grafting between January to March 2018 by the appropriate CPT codes. Twenty-three patients were found to have met inclusion criteria (burn injury of any TBSA requiring autologous skin grafting with or without NPWT dressing). Patients requiring xenografts were excluded. Through retrospective chart review, data on injury type, use of NPWT, graft take and type (full or split thickness), meshed or non-meshed, and graft size was collected. Patient outcome measures consisted primarily of length of hospital stay. **Results**: Our study consisted of a 57% male, 57% Caucasian cohort with an average age of 41 years. Burn injury etiologies consisted of scald (55%), chemical (25%), flame

(15%), and contact (5%). Average 2nd degree TBSA in our cohort was 2.34%, 3rd degree TBSA 1.15%, and total TBSA 2.81%. Ninety-one percent of patients received a split-thickness skin graft (STSG), and 9% received a full-thickness skin graft (FTSG). The average graft size in our cohort was 120.5 square centimeters. There was 100% graft take in all patients. Of FTSGs, 100% received a NPWT dressing and had an average length of stay (LOS) of 15 days. Of STSGs, 38% received a NPWT dressing. Those with the dressing had an average LOS of 14.8 days, whereas those without the NPWT dressing had an average LOS of 11.7 days. Of those with a STSG, 66.7% were non-meshed and these patients had an average LOS of 11.7 days versus 33.3% meshed with an average LOS of 13.8 days. There was a 0% seroma formation rate with non-meshed skin grafts even with a NPWT dressing over it.

Conclusions: There exist many options for dressings after repair of burn injuries, each with its own unique advantages. Using a NPWT over a STSG, and using a meshed graft resulted in a slightly longer LOS than their respective counterparts in our study. There were, however, no differences in graft take in using a NPWT dressing. Some surgeons may be hesitant in using a NPWT dressing over a non-meshed graft because it may be more difficult to extract any residual fluid, but our data shows that there is no increased seroma rate by this method.

References and Resources:

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Disclosure:

Alap U. Patel – No Relevant Financial Relationships to Disclose
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