

Utilization of a Short-Term Negative Pressure Wound Therapy (NPWT) System To Enhance Rapid Wound Reduction in Hard-To-Heal DFU's

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Introduction

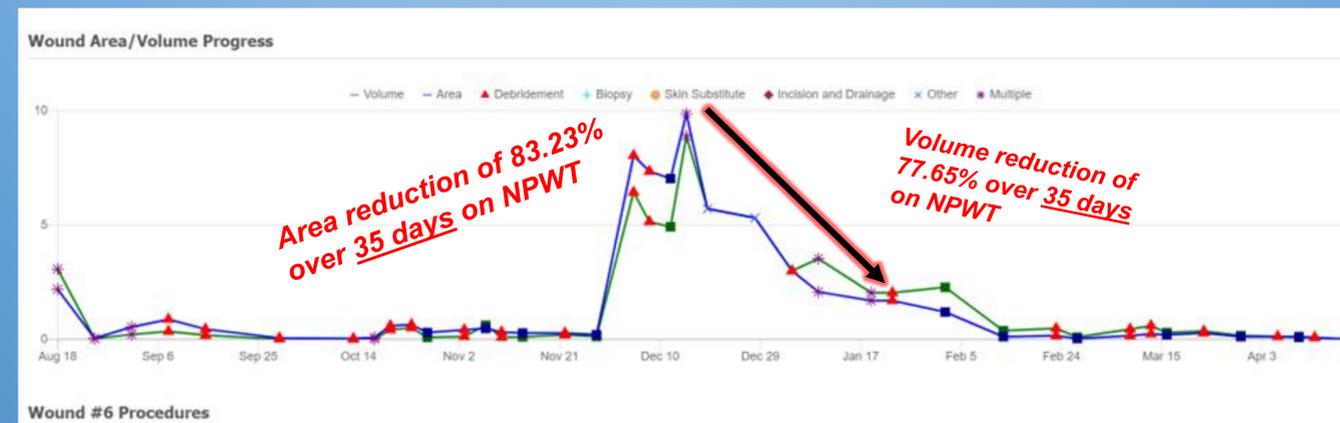
- The first mention of Negative Pressure Wound Therapy (NPWT) was in 1550 BC, in an ancient Egyptian medical text known as the Ebers Papyrus¹.
- NPWT is known to improve healing through the promotion of angiogenesis and cell proliferation, improvement of blood flow and clearance of intrinsic inhibitory wound fluid².
- Diabetic foot ulcerations (DFU's) account for more than 85% of all non-traumatic lower extremity amputations³. Wound care practitioners should explore the use of advanced modalities such as NPWT, whenever possible.
- In this case series, we will examine the short-term application of NPWT on four patients with chronic hard-to-heal DFU's.

Methods

- Four patients with chronic, hard-to-treat diabetic foot ulcers were treated with NPWT.
- All four patients had a different vacuum pump pressure ranging from 100-200mmHg.
- All four patients had a continuous pressure setting on the pump.

Results

- Four patients were treated with NPWT for an average of 36.75 days.
- The four patients had pressure settings of 100, 125, 150 and 200mmHg respectively.
- The range of application was between 21-49 days.
- Across all four patients, the average reduction in wound area was 73.89%.
- The average reduction in wound volume was 77.91%



Discussion

- NPWT should be considered for the treatment of chronic, hard-to-heal DFU's.
- The pressure settings should also be modified in different patient populations to encourage rapid wound reduction and increased compliance.
- All patients treated with multi-pressured NPWT achieved a substantial reduction in wound area and volume in a short period of time.

Conclusion

- The rapid rates of both area and volume reduction in chronic wounds using NPWT are very promising.
- Our mean healing time was 36.75 days which is almost 3 times less than the mean healing time for a diabetic foot ulcer without NPWT, which is 113 days⁴.
- NPWT should be at the forefront of treatment modalities for most hard-to-treat DFU's.

References

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