

Patient Series with Negative Pressure Wound Therapy System That Exceeds the Standard

David Davidson, DPM; Pat Schwab MS, MBS; and Rey Paglinawan, MSc

Introduction:

The standard of care for NPWT systems as defined by the European Wound Management Association (EWMA) in 2017 consensus review on NPWT systems states that NPWT devices have an electronically controlled feedback system to maintain the set NPWT pressure at the wound. This standard of care is essential to ensure the prescribed pressure is accurately delivered and maintained at the wound bed but is not implemented in all currently available systems¹. The purpose of this patient series was to compare two systems, the Novel NPWT System[‡] and a Common NPWT System[^], who both meet the standard of care consistent with the EWMA consensus and evaluate healing outcomes.

Methods:

Wound outcomes were compiled for 10 diabetic patients with neuropathy who had lower extremity wounds being treated with either the Novel NPWT System[‡] or a Common NPWT System[^]. Wound types included chronic wounds and dehisced wounds post-amputation.

Results:

Wound reduction for all patients using the Novel NPWT System[‡] and a Common NPWT System[^] ranged from 100% - 83% and weeks on NPWT ranged from 31 weeks to 13 weeks. The Novel NPWT System[‡] time on therapy was 14 weeks compared to 18 weeks for the Common NPWT System[^].

Discussion:

The Novel NPWT System[‡] and Common NPWT System[^] had comparable reduction in wound volume and time on therapy. However, staff noticed that patients utilizing the Novel NPWT System[‡] routinely came to the clinic with the system powered and working. Patients commented that it was easy to comply with treatment due to the light weight of the device and simple operation. This high level of compliance to the Novel NPWT System[‡] was unusual, as staff reported that patients with the Common NPWT System[^] were not as compliant.

Conclusions:

The Novel NPWT System[‡] and Common NPWT System[^] both meet the standard of care consistent with the EWMA consensus review. Additionally, both demonstrated comparable reductions in wound volume and time on therapy. However, the patients utilizing the Novel NPWT System[‡] had increased patient adherence to therapy and improved perceived patient satisfaction. The impact that an improved patient experience has on healing outcomes should be the focus of further investigation and additional patient data from the diabetic patient population is needed to confirm these initial results.

	Patient	M / F	Age	Weeks on NPWT	Initial Measurements L x W x D cm	Final Measurements L x W x D cm	Volume Reduction
Novel NPWT System [‡]	MP	Female	67	16	2.2 x 2.4 x 0.4	0 x 0 x 0	100%
	KM	Male	63	13	9 x 7 x 0.5	9 x 6 x 0.1	83%
	DH	Female	68	13	4.5 x 4 x 0.2	3.5 x 1.6 x 0.1	84%
Common NPWT System [^]	SK	Male	60	9	2 x 3 x 1.2	1.4 x 0.4 x 0.1	95%
	DD	Male	92	31	3 x 1 x 0.2	0 x 0 x 0	100%
	DM	Female	65	13	8 x 8.2 x 0.1	5.5 x 3.8 x 0.01	97%

1- Apelqvist, J., Willy, C., Fagerdah, A.M. et al. Negative Pressure Wound Therapy – overview, challenges and perspectives. J Wound Care 2017; 26: 3, Suppl 3, S1–S113.

‡ Invia® Liberty™ NPWT System; Medela AG
^ ACTIV.A.C.™ Therapy System; 3M+KCI

Authors:
David M. Davidson is Chief of Podiatry, Kaleida Health (Buffalo, NY) and Assistant Clinical Professor, Department of Orthopedics (University at Buffalo School of Medicine).
Patrick Schwab and Rey Paglinawan are employees of Medela, Healthcare.

Acknowledgments: The support of Medela AG (Laetlichstrasse 4b, 6340 Baar, Switzerland) for this project is gratefully acknowledged.

Presented at the Virtual WOCNext Conference, June 27-29.

Trademarks: Medela and Invia Liberty are registered in the U.S. Patent and Trademark Office and elsewhere.

CASE MP
Novel NPWT System[‡]

9/22/2020 1/5/2021

CASE SK
Common NPWT System[^]

6/18/2020 8/18/2020