Improving Patient Experience and Administrative Freedom with an Innovative Negative Pressure Wound Therapy Device

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STATEMENT OF THE CLINICAL PROBLEM

Negative pressure wound therapy (NPWT) is considered to be an effective wound treatment, yet research has repeatedly highlighted a need for improvement. Research has shown that patients feel NPWT has a positive impact on their wound, however, patients also reported challenges such as noise issues, and reduced mobility[1]. Clinical and support staff have been burdened with daily administrative distractions to micromanage pump usage, pump reprocessing and reliable pump inventory.

PAST MANAGEMENT

The previous NPWT system was determined to be noisy, hinder patient mobility, and required daily documentation additional to the facility charting system. Par level maintenance of the NPWT device was also outside of facility processes and reliability concerns were experienced.

CURRENT CLINICAL APPROACH

An innovative negative pressure wound therapy system that met the standard of care, as defined by EWMA, by maintaining set pressure at the wound site[2] was evaluated. This innovative system exceeded our expectations for clinical performance[3], reliability and significantly reduced the daily administrative burden for NPWT device management.

PATIENT OUTCOMES

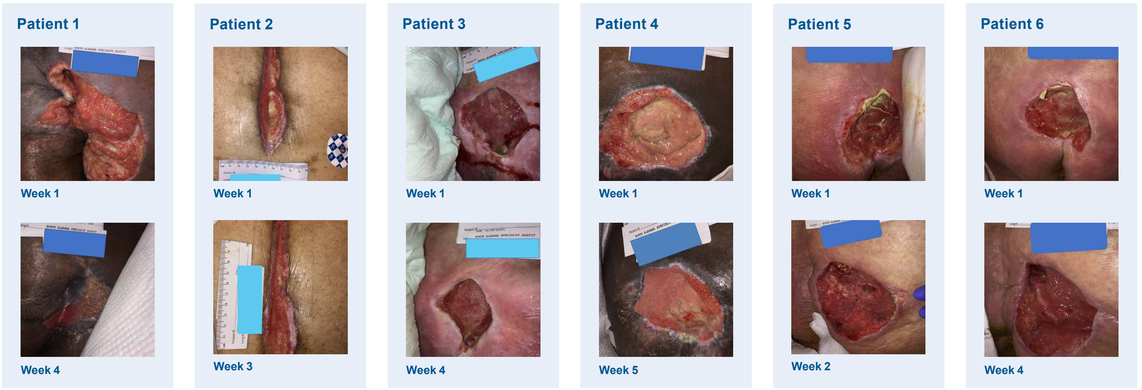
Six patient case series exhibiting a range of challenging wounds included necrotizing fasciitis, CABG dehiscence and osteomyelitis with exposed bone, Fournier's gangrene and pressure injuries. The innovative NPWT system was applied to patients. Dressings were changed 2-3 times weekly and wound measurements were taken. The staff noted their overall satisfaction with the device and provided notable patient feedback.

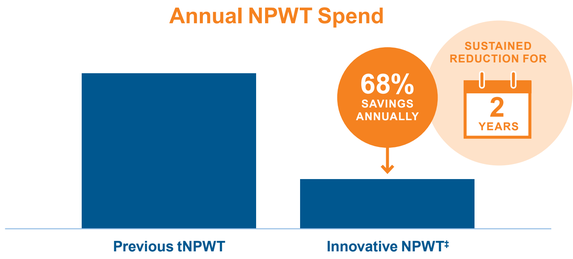
CONCLUSIONS

The results from six patients illustrated positive patient outcomes with an average wound reduction of 71%. Healing time on therapy averaged 3.7 weeks. Overall patient and staff satisfaction with the innovative device was high. The increased ease of use included the eradication of daily documentation outside of the facility charting system. A NPWT budget reduction of 68% over the prior year (six figures) from the previous NPWT device was achieved.

RESULTS

	Patient	M / F	Age	Weeks on NPWT	Initial Measurements (cm)	Final Measurements (cm)	Volume Reduction
Innovative NPWT System‡	1	Male	54	4	19.5 x 14.0 x 5.9	10.0 x 7.0 x 2.5	89%
	2	Male	68	3	17.0 x 2.2 x 2.4	15.0 x 2.0 x 1.0	67%
	3	Male	50	4	7.0 x 7.3 x 1.7	6.5 x 5.0 x 0.7	74%
	4	Male	70	5	8.0 x 10.0 x 1.0	5.6 x 7.0 x 0.3	85%
	5	Male	64	2	6.3 x 6.0 x 1.5	6.0 x 4.2 x 1.0	56%
	6	Female	63	4	12.2 x 9.0 x 3.5	9.1 x 7.1 x 2.6	56%
				3.7 Average			**71% Average**





- ✓ Increased quality
- ✓ Reduced troubleshooting
- ✓ Increased reliability of pumps on patients
- ✓ Eliminated rationing of NPWT due to lack of confidence

References:

1. Ubbink, D.T., Westerbos, S.J., Evans, D. et al. Topical negative pressure for treating chronic wounds. Cochrane Database Syst Rev. 2008; 16: 3, CD001898
2. 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.
3. Paglinawan R, Schwab P, Bechert K. Negative pressure wound therapy system Innovates standard of care via intelligent pressure control and dynamic exudate removal. Wounds. 2020;32(10):S1-S8.

‡Invia® Liberty™ NPWT System; Medela AG Presented at WOCNext June 5-6, 2022.

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