

A new negative pressure wound therapy pump: a case study reporting on the first global clinical evaluation

Melissa Gosse, RN, BN, IIWCC, Paulette Dugas, RN, Jo Handsaker RGN, Catherine McCarthy BSc(Hons), PGDip, RGN, DN, Mandy Spitzer MBA, RN, CWOCN, CFCN.

Background

A new traditional negative pressure wound therapy (tNPWT) pump is presented in this case study, which demonstrates safe and effective use in the management of a non-healing wound.

Case Study

History: A 43-year-old male with multiple comorbidities, including spina bifida, lymphedema and limited mobility, developed an unstageable pressure injury (PI) on the right heel.

The wound had been present for four weeks prior to specialist nurse involvement as there had been no notable healing progression. The patient had experienced recurrent wound infections including osteomyelitis which was treated with intravenous antibiotics.

Following a holistic and comprehensive wound assessment tNPWT* was commenced to accelerate healing, reduce the risk of external contaminants, and manage exudate.

All treatment was delivered at patient's place of residence in a long-term care facility.

Presentation of PI to right heel

Wound Dimensions L 7.0 W 5.2 D 1.4cm



tNPWT in situ over wound (the 'bridging technique' was not needed due to the 'soft port'[†] technology)



Wound following 3 weeks of tNPWT

Wound Dimensions L 6.5 W 3.5 D 1.0cm



Wound following 8 weeks of tNPWT

Wound Dimensions L 4.8 W 3.2 D 0.5cm



Wound following 10 weeks of tNPWT. At this assessment the wound was stepped across to sNPWT



Results

In total, NPWT was delivered for 12-weeks. As a result of this, wound measurements decreased with consistent wound edge contraction.

NPWT promoted the growth of healthy granulation tissue with new epithelial tissue recorded at each wound assessment.

After 12 weeks of tNPWT, the wound was suitable to be transitioned to a single use negative pressure wound therapy system[‡] (sNPWT). Following the step across to sNPWT, total wound closure was achieved.

Clinician and Patient Insights: Clinicians stated the soft port technology used alongside the new tNPWT pump eliminated the need for bridging.

Clinicians felt the combination of the pump and soft port[†] technology simplified dressing changes, which were reduced from three to twice a week.

The patient reported improved quality of life including: the device was quiet, lightweight and portable, had an extensive battery life and a near-field communication (NFC) tag which promoted and facilitated resident engagement in his own care.

Conclusion

tNPWT assisted with total closure of a non-healing PI, in conjunction with optimal wound care strategies. The use of the new tNPWT pump alongside the soft port technology eliminated the need to bridge the NPWT port away from the wound, reducing the complexity and number of dressing changes. Clinicians reported the new pump as user-friendly due to audible alarms and built-in tutorials for troubleshooting. The smaller, portable, and longer life battery facilitated a positive experience for the patient allowing him to engage as a resident.

*RENASYS[®] EDGE pump, Smith and Nephew, Hull, UK

[†]RENASYS[®] Soft Port, Smith and Nephew, Hull, UK

[‡]PICO[®]7, Smith and Nephew, Hull, UK