

+ Evidence in focus

PICO[®] Single Use Negative Pressure Wound Therapy System (sNPWT) is associated with significantly lower healthcare resource utilization (HCRU) costs and likelihood of dehiscence following orthopedic surgery compared to PREVENA[™] in real-world use

Smith+Nephew

Bashyal RK, Searle R, Nherera LM, Wright A. Effects of single-use negative pressure wound therapy on healthcare use: US analysis of a large claims database. *J Wound Care*. 2025;34(8):555–562.

Overview

- Retrospective review of the US PREMIER PINC AI Healthcare Database for patients receiving either PICO sNPWT or PREVENA[™] following orthopedic surgery between January 2017–June 2022
 - The study included and compared over 17,000 adult patients
- Study endpoints included clinical and HCRU outcomes
 - Clinical outcomes included surgical site complications (SSCs)
 - HCRU outcomes included length of stay and costs at admission and post-surgery

Results, compared to patients receiving PREVENA[™]

63.9% significantly lower odds of dehiscence with PICO sNPWT ($p < 0.05$)

- Patients that received PICO sNPWT following orthopedic surgery showed reduced odds ($p = ns$) of developing:
 - Surgical site infection (SSI) at 30 days
 - Superficial SSI at 30 days
 - Deep SSI at 90 days
 - Seroma at 30 days



29.7% significantly lower length of stay for patients receiving PICO sNPWT ($p < 0.0001$)

Methodology



PREMIER Healthcare Database



8,634 PICO sNPWT patients

8,634 PREVENA[™] patients



Orthopedic surgery

PICO sNPWT vs PREVENA[™]



Assess the effect of two sNPWT devices on HCRU and SSCs during real-world use

Significantly lower costs for patients receiving PICO sNPWT ($p < 0.0001$)



-21.7% reduced costs at admission



-20.67% reduced costs 30 days post-surgery



-20.78% reduced costs 90 days post-surgery

Conclusion

In real-world use, the implementation of PICO sNPWT following orthopedic surgery demonstrated significant reductions in the odds of developing dehiscence compared to patients receiving PREVENA[™]. Additionally, PICO sNPWT demonstrated significantly lower costs and reduced financial burden to healthcare providers following orthopedic surgery compared to patients receiving PREVENA[™].

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