

PICO[®] Single Use Negative Pressure Wound Therapy (sNPWT) significantly reduces the incidence of surgical site infection (SSI) in at-risk patients across surgical specialities when compared with standard care

James K, Glasswell A, Costa B. Single-use negative pressure wound therapy versus conventional dressings for the reduction of surgical site infections in closed surgical incisions: systematic literature review and meta-analysis. *Am J Surg*. 2023 Oct 21. [Epub ahead of print]

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Key points

Compared with standard care, using PICO sNPWT demonstrated:

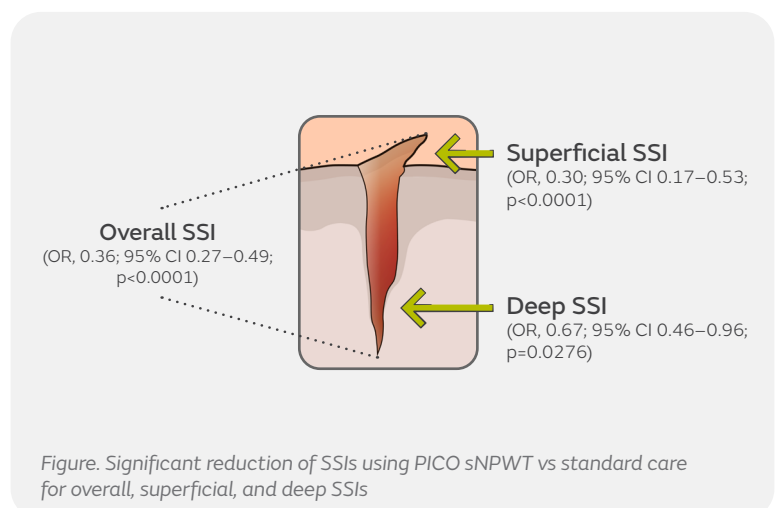


Overview

- Systematic literature review and meta-analysis of studies using PICO sNPWT for the management of closed surgical incisions in patients at-risk of developing SSI
- Inclusion criteria for the analysis included:
 - Articles published between January 2011 to April 2021 were identified using PubMed, Embase, Cochrane Library, and ClinicalTrials.gov databases
 - Patients were followed up for ≥ 30 days after their surgical procedure
 - Majority of patients ($>50\%$) treated with PICO sNPWT had ≥ 1 intrinsic or extrinsic risk factor for SSI development
- Final analysis included 14 randomised controlled trials (RCTs) and five non-randomised, prospective observational studies
 - 2,356 patients received PICO sNPWT
 - 2,587 patients received standard care
- Primary outcomes of the study included incidence of SSIs
 - Secondary outcomes of interest were incidence of SSI stratified by surgical specialty and wound classification

Results

- Significantly reduced the odds of developing overall, superficial, and deep SSIs (Figure)
- Significantly reduced the odds of developing overall SSIs across various surgical specialties:
 - General odds ratio (OR), 0.23; 95% confidence interval (CI) 0.11–0.49; $p=0.0001$
 - Gastrointestinal (OR, 0.32; 95% CI 0.11–0.93; $p=0.0357$)
 - Obstetrics and gynaecology (OR, 0.53; 95% CI 0.31–0.89; $p=0.016$)
 - Orthopaedics (OR, 0.45; 95% CI 0.23–0.89; $p=0.021$)
- Significantly reduced the odds of developing overall SSI in Class I and/or Class II wounds:
 - Class I (OR, 0.31; 95% CI 0.19–0.51; $p<0.0001$)
 - Class II (OR, 0.30; 95% CI 0.17–0.53; $p<0.0001$)
 - Class I, II and I/II (OR, 0.35; 95% CI 0.26–0.48; $p<0.0001$)



Conclusions

Compared with standard care, PICO sNPWT helped significantly reduce the odds of developing SSIs (overall, superficial, and deep) across a variety of surgical specialties and wound classifications.

For detailed product information, including indications for use, contraindications, precautions and warnings, please consult the product's applicable Instructions for Use (IFU) prior to use.