

Meta-analysis of comparative trials evaluating a prophylactic single-use negative pressure wound therapy system for the prevention of surgical site complications

This meta-analysis combines 16 articles, comprised of 10 randomized control trials and 6 observational studies, comparing outcomes for PICO® single-use Negative Pressure Wound Therapy system application to standard of care.



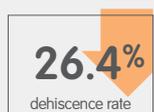
Evidence

- Level I evidence: A meta-analysis
- A weighted analysis of 16 articles involving 1863 patients (2202 incisions)
- The aim of this meta-analysis was to pool results from multiple studies to access the average effect of PICO application across varied surgical indications on surgical site infection (SSI), dehiscence or length of hospital stay in comparison to standard of care



Surgical Site Infection

- Application of PICO reduced rate of SSI by 58% (relative risk 0.43, $p < 0.0001$) compared to standard of care
- Reduced risk of SSI demonstrated by PICO was significant across various surgical specialties including:
 - Orthopaedic (relative risk 0.48, $p = 0.03$)
 - Abdominal (relative risk 0.44, $p < 0.0001$)
 - Colorectal (relative risk 0.29, $p = 0.0004$)
 - Caesarean section (relative risk 0.53, $p = 0.007$)



Dehiscence

- PICO significantly reduced rate of dehiscence by 26.4% (relative risk 0.71, $p = 0.01$) compared to standard of care



Length of stay

- PICO treated patients had significantly less hospital length of stay compared to standard of care (0.47 days $p < 0.0001$)

Authors:	V. Strugala & R. Martin
Title:	Meta-analysis of comparative trials evaluating a prophylactic single-use negative pressure wound therapy system for the prevention of surgical site complications
Aim of the study:	To access the effect of applying PICO single-use NPWT system for varied surgical indications on surgical site infection (SSI), dehiscence or length of stay (LOS) compared to standard of care
Study Type:	Meta-analysis study
Wound Type:	Closed surgical incision for a number of indications
Speciality/Indication:	Mixed surgery for a number of indications
Products:	PICO
Number of patients:	16 articles involving 1863 patients (2202 incisions)
Reference:	Surgical Infections (2017). DOI 10.1089/sur.2017.156
Details:	Open access Peer reviewed journal PubMed ID 28885895 Impact factor 1.139