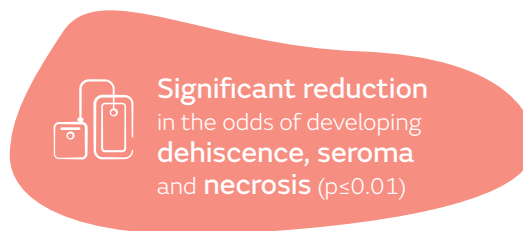
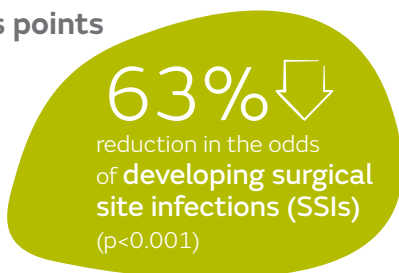


### Use of PICO<sup>o</sup> Single Use Negative Pressure Wound Therapy System (sNPWT) helped to significantly reduce surgical site complications (SSCs) and length of hospital stay compared with standard care in patients with closed surgical incisions

#### + Plus points

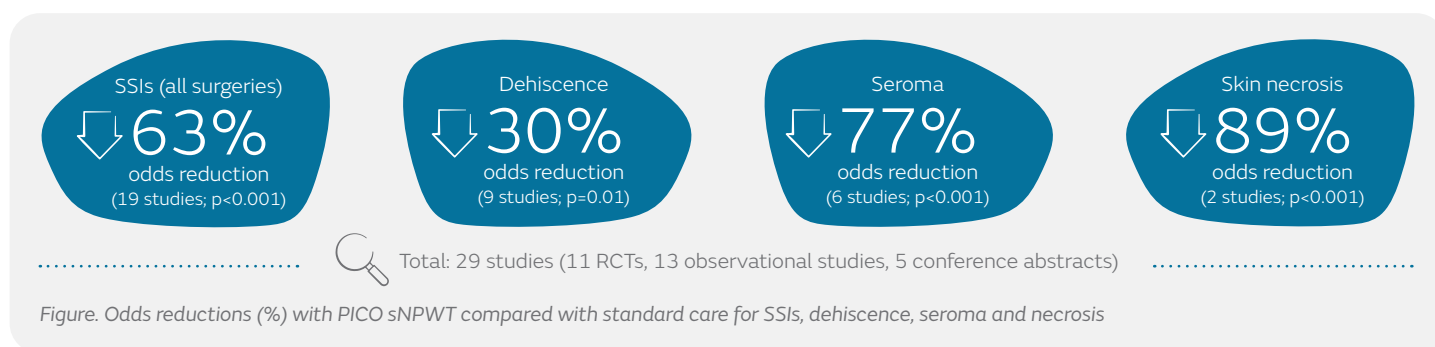


#### Overview

- Systematic literature review and meta-analysis of randomised controlled trials (RCTs) and retrospective/prospective observational studies to determine whether PICO sNPWT reduces the incidence of SSCs when compared with standard care
  - At least 10 patients in each treatment group where use of PICO sNPWT was compared with standard care (any non-NPWT dressing) for a closed incision following any type of surgery
- Articles published from January 2011 to August 2018 were identified from Embase ( $n=3,219$ ), PubMed ( $n=2,564$ ), the Cochrane Library ( $n=414$ ) and other sources ( $n=1$ )
  - The final analysis included 29 studies (5,614 patients) of which 11 were RCTs, 13 were observational studies and 5 were available as conference abstracts
- Literature review performed as part of an assessment of PICO sNPWT for the National Institute for Health and Care Excellence (NICE) in England and Wales

#### Results

- PICO sNPWT helped to significantly reduce the odds of developing SSIs by 63% versus standard care (Figure)
  - Significant reductions were achieved across several surgical specialities: breast ( $p=0.04$ ), obstetric ( $p=0.003$ ), orthopaedic ( $p=0.02$ ) and vascular ( $p=0.03$ ) surgery
- PICO sNPWT helped to significantly reduce the odds of dehiscence ( $p=0.01$ ), seroma ( $p<0.001$ ) and necrosis ( $p<0.001$ ) compared with standard care (Figure)
  - Results for other SSCs (haematoma, abnormal scarring, delayed healing) were similar in both groups
- Mean length of hospital stay was 1.75 days shorter with PICO sNPWT than with standard care ( $p<0.001$ )
  - Rates of re-admission and reoperations were similar in both groups



#### Conclusions

Compared with standard care, PICO sNPWT helped to significantly reduce the odds of developing SSIs, dehiscence, seroma and necrosis in patients with closed surgical incisions and reduced the length of hospital stay.

#### Citation

\*Saunders C, Nherera LM, Horner A, Trueman P. Single-use negative-pressure wound therapy versus conventional dressings for closed surgical incisions: systematic literature review and meta-analysis. *BJs Open*. 2021;5(1):1–8.

Available at: [BJS Open](#)

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