✚ Evidence in focus

Publication summary: Karlakki SL, et al. *Bone Joint Res* (2016)*

Smith+Nephew

PICO◊ Single Use Negative Pressure Wound Therapy System (sNPWT) helps to reduce the incidence of surgical site complications (SSCs) and length of stay (LoS) compared with standard dressings in primary hip and knee arthroplasty patients

✚ Plus points

x4 reduction in superficial SSCs with PICO sNPWT versus standard dressings (2.0 vs 8.4%; p=0.06)

Significantly fewer dressing changes with PICO sNPWT versus standard dressings (2.5 vs 4.2; p=0.002)

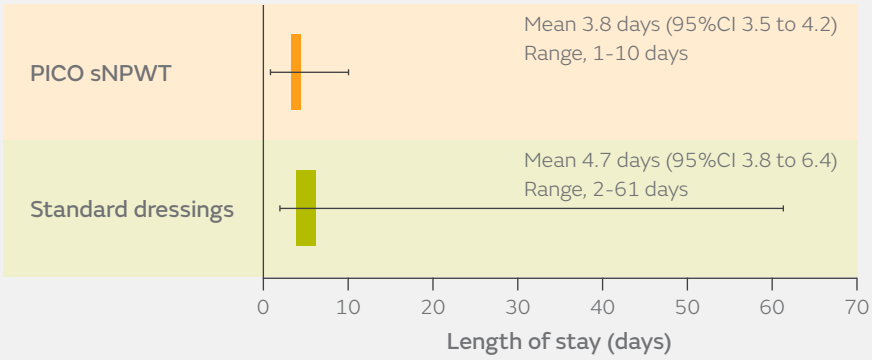
Significant reduction in extreme LoS versus standard dressings (p=0.003)

Overview

- A single center, open-label, randomized, parallel-group, controlled trial in patients undergoing elective primary total hip or knee arthroplasty in the UK
- Patients (mean age, 69 years) were recruited and randomized to either PICO sNPWT, used prophylactically (n=102), or standard dressings (n=107)

Results

- SSC incidence was reduced more with PICO sNPWT than with standard dressings at 6 weeks follow-up (2.0 vs 8.4%; p=0.06)
- Compared with standard dressings, PICO sNPWT redistributed grades of peak post-surgical wound exudate (Grade 4 exudate: 4 vs 16%; p=0.007) and required significantly fewer dressing changes (2.5 vs 4.2; p=0.002)
- Use of PICO sNPWT benefited high-risk patients with American Society of Anesthesiologists score ≥3 and BMI ≥35kg/m^2
- Mean LoS was reduced by 0.9 days with sNPWT compared with standard dressings (Figure)
  - PICO sNPWT also helped to significantly reduce extreme LoS (≥13 days; 0 vs 2%; p=0.003)



0.9 days (95%CI -0.2 to 2.5; p=0.07)

Figure: Mean LoS (and range) with PICO sNPWT and standard dressings

Conclusions

PICO sNPWT helped to reduce the incidence of wound complications and reduce LoS (including extreme LoS) compared with standard dressings in primary hip and knee arthroplasty. The authors suggest that reductions in the incidence of wound complications are a result of reducing edema and stabilizing wound edges.

Citation

*Karlakki SL, Hamad AK, Whittall C, Graham NM, Banerjee RD, Kupler JH. Incisional negative pressure wound therapy dressings (iNPWTd) in routine primary hip and knee arthroplasties. A randomised controlled trial. *Bone Joint Res*. 2016;5:328–337.
Available at: Bone Joint Research

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