

## PICO<sup>o</sup> significantly reduced: extreme lengths of stay, distribution of wound exudate and number of dressing changes in orthopaedic closed surgical incisions

This was a 220 patient Randomised Controlled Trial (RCT) of the PICO<sup>o</sup> single-use negative pressure wound therapy (NPWT) dressing, compared to standard care, in closed surgical incisions after planned primary hip or knee replacement surgery. The PICO<sup>o</sup> group showed an improvement in all areas investigated compared to the standard care group.



### Evidence

- Level 1 evidence and adequate number of patients
- A prospective, open label, parallel group, RCT with 6 weeks follow-up
  - Incisional NPWT (PICO<sup>o</sup>) versus standard care
- The aim of the study was to determine whether the addition of PICO<sup>o</sup> for closed surgical incision management could give more predictable lengths of stay by managing the wound better



### Patients with extreme lengths of stay (LOS) were significantly reduced by PICO<sup>o</sup> compared to standard care

- Range of LOS: PICO<sup>o</sup> 1-10 days; Standard care 2-61 days  
*Statistically significant (p=0.003)*
- Mean overall reduction in LOS was 0.9 days  
*Not statistically significant (p=0.07)*



### Wound exudate distribution in the dressing after surgery was significantly reduced by PICO<sup>o</sup> compared to standard care

- Grade 4 exudate: PICO<sup>o</sup> 4%; Standard care 16%  
*Statistically significant (p=0.007)*
- The distribution of wound exudate in the dressing was measured on a 5-point scale



### The number of dressing changes in the study was significantly reduced by PICO<sup>o</sup> compared to standard care

- Mean dressing changes: PICO<sup>o</sup> 2.5; Standard care 4.2  
*Statistically significant (p=0.002)*



### There were fewer surgical site complications (SSC) in the PICO group compared to standard care

- SSC: PICO<sup>o</sup> 2.0%; Standard care 8.4%  
*Not statistically significant (p=0.06)*

## COMMENTS:

The study was performed at a specialised elective-only orthopaedic hospital: Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, UK. Patients undergoing elective primary joint replacement surgery at the study site are under an Enhanced Recovery After Surgery (ERAS) pathway to improve predictability of discharge from hospital because this substantially improves efficiency at this hospital.

Statistical analysis suggests that PICO<sup>o</sup> would be most beneficial in patients with ASA score  $\geq 3$  and BMI  $\geq 35$ .

Based on the results of this RCT PICO<sup>o</sup> has been shown to have a beneficial role in primary hip or knee replacements to achieve predictable length of stay by reducing excessive hospital stay and minimising superficial wound complications. There were no deep prosthetic infections in any patients in this study.

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Title:	Incisional negative pressure wound therapy dressings (iNPWT) in routine primary hip and knee arthroplasties: A randomised controlled trial
Aim of the study:	The aim of the study was to test whether the addition of PICO <sup>o</sup> could give predictable length of stay by managing the incisional wound better after planned primary joint replacement surgery
Study Type:	RCT
Wound Type:	Closed Surgical Incision
Speciality/Indication:	Orthopaedic Primary Hip and Knee Arthroplasty
Products:	PICO <sup>o</sup>
Number of patients:	220 patients recruited in the RCT. (PICO <sup>o</sup> 102; Standard care 107)
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