

PICO^o Negative Pressure Wound Therapy significantly reduced: extreme lengths of stay, distribution of wound exudate and mean number of dressing changes in orthopedic closed surgical incisions for primary hip and knee patients, combined

This was a 220 patient Randomized Controlled Trial (RCT) of the PICO Single Use Negative Pressure Wound Therapy (sNPWT) dressing, compared to standard care, in closed surgical incisions after planned primary hip or knee replacement surgery. The PICO sNPWT 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) versus standard care (dry dressing)
- One of the aims of the study was to determine whether the addition of PICO sNPWT for closed surgical incision management could give more predictable lengths of stay by managing the wound better (other benefits observed)



Patients with extreme lengths of stay (LOS) were significantly reduced by PICO sNPWT compared to standard care

- Range of LOS: PICO 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)*
- In patients with extreme values of LOS, there was a significant reduction in the iNPWTd group (*Moses test, p = 0.00*)



Wound exudate distribution in the dressing after surgery was significantly reduced by PICO sNPWT compared to standard care *Statistically significant (p=0.007) for primary hip and knee patients, combined*

- Grade 4 exudate: PICO 4%; standard care 16%
- 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 sNPWT compared to standard care

- Mean dressing changes: PICO 2.5; standard care 4.2 *Statistically significant (p=0.002)*



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

- SSC: PICO 2.0%; standard care 8.4% *Not statistically significant (p=0.06)*

Comments:

The study was performed at a specialized elective-only orthopedic hospital: Robert Jones and Agnes Hunt Orthopedic 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 sNPWT would be most beneficial in patients with ASA score ≥ 3 or BMI ≥ 35 .

Based on the results of this RCT, PICO sNPWT has been shown to have a potentially beneficial role in primary hip or knee replacements in helping to reduce excessive hospital stays and superficial wound complications. There were no deep prosthetic infections in any patients in this study.

Authors: SL Karlakki, AK Hamad, C Whittall*, NM Graham, RD Banerjee, JH Kuiper

Title: Incisional negative pressure wound therapy dressings (iNPWT) in routine primary hip and knee arthroplasties: A randomized controlled trial

Aim of the study: Test whether the addition of PICO sNPWT could give predictable length of stay by managing the incisional wound better after planned primary joint surgery.

Study Type: RCT

Wound Type: Closed surgical incision

Speciality/Indication: Orthopedic Primary Hip and Knee Arthroplasty

Products: PICO sNPWT

Number of patients: 220 patients recruited in the RCT: (PICO 102; standard care 107)

Reference: Bone and Joint Research (2016) Vol 5 (Issue 8): 328-337 | Article first published online 5 AUGUST 2016 | DOI: 10.1302/2046-3758.58.BJR-2016-0022.R1

Details: Open Access | Peer Reviewed Journal | PubMed Listed | Impact Factor 2.425 | *Catherine Whittall now works within the Smith & Nephew UKI business

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.

©2019 Smith & Nephew, Inc. All rights reserved. * Trademark of Smith & Nephew. | Author: Vicki Strugala, Scientific & Medical Affairs, Global Advanced Wound Management

PCCE3-21937-1119