

A small retrospective study of hip or knee revision arthroplasty after the PICO[®] single use NPWT system was introduced

There was a statistically non-significant trend to a lower surgical site complication rate in the PICO cohort compared to the standard care cohort



Evidence

- Level 3 evidence
- Retrospective case note review of small cohort (n=36)
- PICO was introduced July 2013 and standard care was used before this date



Revision hip and knee arthroplasty surgery by single surgeon over 1 year period

- Standard care was used before July 2013 (n=18)
- PICO was used after July 2013 (n=18)



Surgical site complications assessed up to 6 weeks post-operatively

- PICO 1/18 (5.6%); Standard care 3/18 (16.7%)
- Not statistically significant p=0.14*



3 out of 4 surgical site complications were seen in patients with very high BMI

- BMI: 44, 48, 37

S.M.A.* COMMENTS:

This is the first published example of PICO being used in revision hip or knee surgery. The authors claim a 3 fold reduction in surgical site / wound complications in the PICO group compared to the standard care group despite this not being statistically significant or being of a sample size suitable to make a meaningful interpretation. It was clearly not of adequate power to robustly measure wound complications in a population with a wound complication rate of 2-5%.

This retrospective review of medical records was essentially a pilot study to evaluate if there were any device related adverse events or complications (such as blistering) with the use of the PICO single use NPWT system. There were no dressing related complications observed.

This is a hypothesis driving study in a high risk orthopaedic surgery to encourage further research and well-designed studies.

Authors:	Thomas Hester, Mahmood, Mofteh
Title:	Is single use portable incisional negative pressure wound therapy system suitable for revision arthroplasty
Aim of the study:	To determine utility of single use incisional NPWT in revision hip and knee replacement surgery
Study Type:	Retrospective case-control cohort
Wound Type:	Closed Surgical Incision
Speciality/Indication:	Orthopaedic Surgery – Revision Arthroplasty
Products:	PICO
Number of patients:	36 patients: (PICO n=18; Standard Care n=18)
Reference:	Advances in Orthopaedic Surgery (2015) Vol 2015 Article ID 247324, 4 pages doi: 10.1155/2015/247324 Article first published online 16 NOV 2015
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