

PICO^o dressing had a significant impact on wound healing problems after total ankle arthroplasty surgery

A retrospective chart review of patients before or after the routine use of PICO single use negative pressure wound therapy (NPWT) system



Evidence

- Level 3 evidence
- Retrospective comparative study in the form of an audit of consecutive patients
- Total ankle arthroplasty



Total ankle arthroplasty surgery performed by a single surgeon over 4.5 years in USA

- February 2009 – August 2013
- 74 sequential adult patients
- PICO implemented routinely from June 2012 for 6-7 days post-operatively
- 37 patients in standard care cohort and 37 patients in the PICO cohort



Wound healing problems were significantly reduced by implementation of PICO compared to historic control cohort

- PICO cohort 3%; standard care cohort 24%
Statistically significant (p=0.014)
- PICO reduces the risk of wound healing problems
Odds ratio 0.10 (95% CI 0.01-0.50)
Statistically significant (p=0.004)



Surgical site infections (SSI) were not significantly reduced by implementation of PICO compared to historic control cohort

- PICO cohort 3%; standard care cohort 8%
Not statistically significant (p=0.615)



PICO was well tolerated

- No dressing failure or skin problems

S.M.A.* COMMENTS:

Total ankle joint replacement (arthroplasty) is performed as a treated for end-stage ankle arthritis but has a high wound complication rate noted to be as high as 34%. The study was performed at Duke University Medical Centre (North Carolina, USA) and reviewed consecutive surgical patients by a single very experienced surgeon.

Wound healing problems were considered to be dehiscence, eschar or drainage within 3 weeks of surgery and were reduced when PICO was applied to the closed surgical incision. SSI was assessed according to the CDC definitions within 30 days of surgery. The small study size meant that SSI incidence was low and thus not surprisingly non-significant.

This small retrospective case-control cohort study shows that introduction of single-use NPWT reduced wound healing problems / surgical site complications.

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Title:	Use of negative pressure wound therapy on closed surgical incision after total ankle arthroplasty
Aim of the study:	To investigate the role of NPWT in decreasing the rate of surgical site complications in a specific surgical indication
Study Type:	Retrospective case note review before and after routine use of PICO
Wound Type:	Closed Surgical Incision
Speciality/Indication:	Orthopaedic Surgery – Ankle Joint Replacement
Products:	PICO
Number of patients:	74 patients: (PICO n=37; Standard Care n=37)
Reference:	Foot & Ankle International [2015] Vol 36 (Issue 7): 787-794 doi:10.1177/1071100715574934 Article first published online 3 MARCH 2015
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