

## PICO<sup>®</sup> had a significant impact on Surgical Site Complications (SSC) after spinal surgery, including dehiscence and surgical site infection

A retrospective chart review of 160 patients before or after the routine use of PICO single use Negative Pressure Wound Therapy (NPWT) system



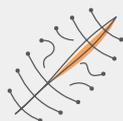
### Evidence

- Level 3 evidence
- Retrospective hospital record audit over 6 years
- PICO (for 3 days) implemented routinely from January 2012



### Thoracolumbar fusion surgery performed by a single surgeon over 6 years

- January 2007 – January 2013
- 160 sequential adult patients
- 114 patients in standard care cohort and 46 patients in the PICO cohort



### Wound dehiscence was significantly reduced by implementation of PICO compared to historic cohort

- PICO cohort 6.38%; standard care cohort 12.28%  
*Statistically significant (p=0.02)*
- Median time to wound dehiscence: PICO cohort 40 days; standard care cohort 14 days  
*Not statistically significant (p=0.07)*



### Surgical site infections (SSI) were significantly reduced by implementation of PICO compared to historic cohort

- PICO cohort 10.63%; standard care cohort 14.91%  
*Statistically significant (p=0.04)*

### S.M.A.\* COMMENTS:

Long-segment (multi-level >4 vertebra) thoracolumbar fusion (with pedicle screw and rods) is spinal surgery to correct a deformity. The study was performed at Duke University Medical Centre, North Carolina, USA.

SSC rate for spinal surgery ranges from 2% for simple procedures to 15% for large deformity surgery such as this described in this study. Obesity is an additional risk factor for SSC and 31% of this study population had BMI>30.

Although the paper does not name PICO specifically the description of NPWT utilised in the study suggests only PICO:

- small portable pump and dressing
- -80mmHg
- draws wound fluid into the dressing

This retrospective case-control cohort study shows that introduction of single-use NPWT significantly reduced surgical site complications (SSI and dehiscence).

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Title:	Negative Pressure Wound Therapy reduces incidence of post-operative wound infection and dehiscence after long-segment thoracolumbar spinal fusion: a single institutional experience
Aim of the study:	To determine if routing use of NPWT in elective spinal surgery would results in fewer post-operative complications
Study Type:	Retrospective case note review before and after routine use of PICO
Wound Type:	Closed Surgical Incision
Speciality/Indication:	Orthopaedic Surgery – Spinal Surgery
Products:	PICO
Number of patients:	160 patients: (PICO n=46; Standard Care n=114)
Reference:	The Spine Journal (2014) Vol 14 (Issue 12): 2911-2917   doi:10.1016/j.spinee.2014.04.011   Article first published online 23 APRIL 2014
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