Orthopedic surgery:

Hip and knee arthroplasties

Smith+Nephew

PICO◊
Single Use Negative Pressure Wound Therapy System

Our patient population is growing and we are seeing an increased number of elderly patients, higher rates of obesity and additional comorbidities. Post-operative surgery complications and hospital stays are increasing.[1]

A recent RCT found that patients undergoing primary hip and knee arthroplasties saw a reduction in superficial surgical site complications, compared to standard of care, helping to **significantly reduce length of hospital stays.[1]**

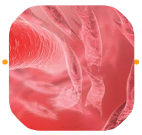
76%
Reduction in superficial surgical site complications*[1] (p=0.06)

Reduce extreme length of hospital stays*[1]

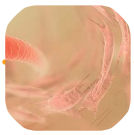
NPWT has multiple mechanisms of action that can help improve the speed, strength and quality of incisional wound closure.[2]

Helps protect the incision from external contamination[3]

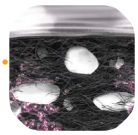
Helps hold closed incision edges together and helps reduce tension across the incision[4]



Helps support improved perfusion[5]



May help reduce edema[5]



May help reduce seroma and hematoma fluid collections[6,7]

*Reduction in surgical site complications: 220 patient study, PICO sNPWT 2.0%; control group 8.4%.

Case Studies with PICO◊ System

Case 1: Knee replacement

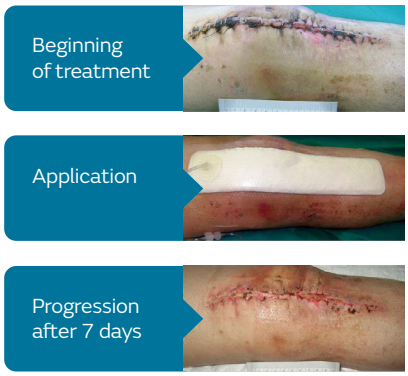
Background[8]

74-year old female with type II diabetes and arthritis, underwent her third knee replacement procedure following recurrent infections.

PICO intervention

- Patient developed a dehiscence and 14 days post-surgery the incision site failed to show signs of improvement
- The decision was made to apply the PICO System. After seven days of treatment with PICO sNPWT, the progression of the surgical wound was favorable
- All of the staples were removed, the PICO System was removed and the patient was discharged

Individual results will vary | When PICO sNPWT is used on infected wounds, more frequent dressing changes may be required. Regular monitoring of the wound should be maintained to check for signs of infection.



Case 2: Hip implant

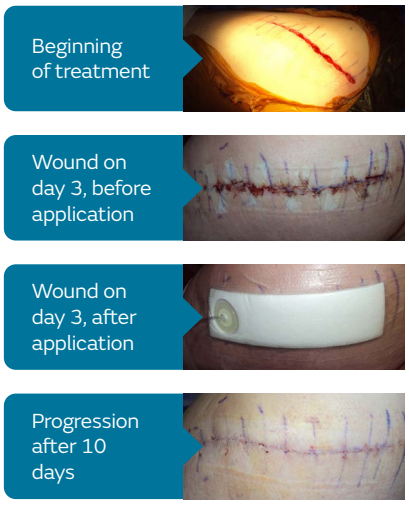
Background[9]

A 53-year old man suffering from osteoarthritis had surgery for a hip implant. His wound, closed by suture and Steri-StripsTM measured 17.5cm x 0.5cm.

PICO intervention

- He was given a PICO System with the dressing measuring 10cm x 30cm
- A routine dressing change was performed on day three
- At this point, his wound was progressing to closure with no infection and light exudate
- The patient remained comfortable, although on day five, some bruising was noted around the lower aspect of the dressing, which remained for a few days
- At the routine dressing change on day ten, the wound was found to be closed
- Overall the clinician was very satisfied with the treatment

Individual results will vary | Sharp edges or bone fragments in a wound must be covered or removed prior to using PICO sNPWT due to the risk of puncturing organs or blood vessels while under negative pressure.



Key studies to reference:

Karlakki et al., (2016) Incisional Negative Pressure Wound Therapy dressings (iNPWTd) in routine primary hip and knee arthroplasties: a randomized control trial

Nherera et al., (2017) Cost-effectiveness analysis of single-use negative pressure wound therapy dressings (sNPWT) to reduce surgical site complications (SSC) in routine primary hip and knee replacements

The information herein is intended for healthcare professionals. The PICO pumps contain a MAGNET. Keep the PICO pumps at least 4 inches (10 cm) away from other medical devices at all times. As with all electrical medical equipment, failure to maintain appropriate distance may disrupt the operation of nearby medical devices.

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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.

References: 1. Karlakki L, et al. Incisional negative pressure wound therapy dressings (iNPWT) in routine primary hip and knee arthroplasties: A randomized controlled trial. Bone & Joint Research (2016) Vol 5 (Issue 8): pp 328-337 doi:10.1302/2046-3758.58.BJR-2016-0022.R1. 2. Gomoll AH, Lin A, Harris MB. Incisional vacuum-assisted closure therapy. J Orthop Trauma. 2006;20(10):705–709. 3. Lumb H. Bacterial barrier testing (wet-wet) of PICO dressing with a 7 day test duration against S. marcescens. 4. Wilkes RP, Kilpad DV, Zhao Y, Kazala R, McNulty A. Closed incision management with negative pressure wound therapy (CIM): biomechanics. Surg Innov. 2012;19(1):67–75. 5. Karlakki S, Brem M, Giannini S, Khanduja V, Stannard J, Martin R. Negative pressure wound therapy for management of the surgical incisions in orthopaedic surgery: A review of evidence and mechanisms for an emerging indication. Bone Joint Res. 2013;2(12):276–284. 6. Canonico S, Campitiello F, Della Corte A, et al. Therapeutic possibilities of portable NPWT. Initial multidisciplinary observations with the negative pressure therapy device. Acta Vulnol. 2012;10(2):57–66. 7. Selvaggi F, Pellino G, Sciaudone G, et al. New advances in negative pressure wound therapy (NPWT) for surgical wounds of patients affected with Crohn's disease. Surg Technol Int. 2014;24:83–89. 8. PICO Case Study Book PCCE-01-0511-NAE 9. Lerate PR, de la Corte PM. Application of the PICO Single Use Negative Pressure Wound Therapy system to prevent complications from the surgical wound for at-risk patients. Data on file; 2013: case study 45208.