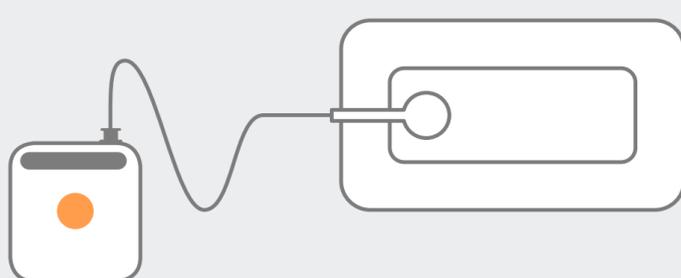


# Understanding the PICO<sup>◇</sup> Single Use Negative Pressure Wound Therapy (sNPWT) meta-analysis and its results

Strugala V and Martin R. *Surg Infect* (2017)<sup>1</sup>



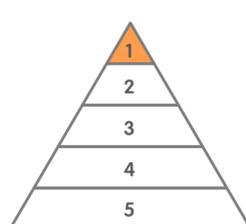
## What is a meta-analysis?

It's a statistical analysis of multiple scientific studies to find out how well an intervention works<sup>2</sup>



### First meta-analysis on surgical site complication (SSC) rates

First meta-analysis to assess the benefit of a specific brand of sNPWT on SSCs<sup>1</sup>



### Highest possible level of evidence<sup>3</sup>

1. Meta-analysis and systematic reviews
2. Randomised controlled clinical trials
3. Cohort studies
4. Case-controlled series and case studies
5. Expert opinion

## How was it done?

A comprehensive literature search of PubMed, key wound and surgical conferences, and national and international clinical trial registration sites (e.g. [www.clinicaltrials.gov](http://www.clinicaltrials.gov)) for studies about **PICO** sNPWT<sup>1</sup>



**154 articles identified**

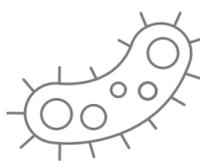


**26 articles reviewed in detail**



**16 articles included & analysed**

## What were the main results?



### Surgical site infections (SSIs) reduced

**58% ↓**

**PICO** sNPWT helped to reduce SSIs by 58% versus standard care alone (relative reduction;  $p < 0.0001$ )<sup>1</sup>

Meta-analysis included 10 randomised controlled trials and six observational studies. Reduction in SSI: 1,839 patients (2,154 incisions); PICO sNPWT 5.2%; control group 12.5%<sup>1</sup>



**PICO** sNPWT was most likely to reduce the risk of SSIs versus standard care for<sup>1</sup>:

**abdominal\*** (seven studies;  $p < 0.0001$ )

**colorectal** (four studies;  $p = 0.0004$ )

**caesarean section** (three studies;  $p = 0.007$ )

and **orthopaedic** (five studies;  $p = 0.03$ ) surgeries

\*A combination of the caesarean section and colorectal surgery groups

## Dehiscence reduced

**PICO** sNPWT helped to reduce the risk of dehiscence by 26.4% versus standard care alone (relative reduction;  $p = 0.01$ )<sup>1</sup>



**26.4% ↓**

Results based on six studies including 1,068 patients and 1,291 incisions; PICO sNPWT 12.8%; control group 17.4%<sup>1</sup>

## Length of stay reduced

**5.1 days ↓**

**Colorectal / laparotomy surgery subgroup ( $p < 0.00001$ )**



**0.47 days ↓**

**Overall ( $p < 0.0001$ )**

Results based on three studies including 149 patients<sup>1</sup>

Results based on eight studies including 725 patients<sup>1</sup>

with **PICO** sNPWT versus standard care<sup>1</sup>

## What did it demonstrate?



**PICO** sNPWT helped to significantly reduce the incidence of SSIs, wound dehiscence and length of stay, compared with standard care, when used prophylactically in patients with surgically closed incisions<sup>1</sup>