



AB144. 228. Negative pressure wound therapy versus conventional wound dressings in total hip and total knee arthroplasty—a systematic review of the literature

Ara Francis, Geoffrey Crozier Shaw, Eanna Ryan, Patrick Kenny

Department of Trauma & Orthopaedics, Connolly Hospital, Blanchardstown, Dublin 15, Ireland

Background: Surgical site infections post hip and knee arthroplasty are relatively rare but can have potentially devastating complications such as progression to periprosthetic joint infection. This study aimed to compare Negative Pressure Wound Therapy versus Conventional Dry Dressings and their impact on surgical site infections using data from Randomised Controlled Trials only. Secondary aims evaluated the incidence of other wound complications e.g. blistering, readmission and reoperation

Methods: A systematic literature search was performed through PubMed/MEDLINE, Embase and the Cochrane Central Register of Clinical Trials to identify randomised controlled trials (RCTs) that compared patients

getting NPWT versus Conventional Dry Dressings after undergoing total hip or knee arthroplasty. Data extraction was performed according to the guidelines and recommendations from the preferred reporting items for systematic reviews and meta-analyses checklist (PRISMA). The methodological quality of the included studies was assessed systematically (GRADE criteria) and a meta-analysis was conducted.

Results: After removal of duplicates and unsuitable studies—five RCTs were identified from 106 potential studies. The analysis included 1,073 patients of which 387 (36%) had NPWT. Overall, there was a significantly lower incidence of surgical site infections in those who had NPWT (RR 0.35; 95% CI: 0.17–0.75; $P=0.006$). Reoperation rates in the NPWT group were significantly lower (RR 0.38; 95% CI: 0.15–0.95; $P=0.04$) however there was no difference observed in other wound complication rates (RR 0.65; 95% CI: 0.19–2.22; $P=0.49$) and readmission to hospital (RR 0.89; 95% CI: 0.31–2.59; $P=0.84$).

Conclusions: This meta-analysis demonstrates that NPWT used after Total Hip and Knee Arthroplasty can reduce the incidence of surgical site infections and rate of reoperation. NPWT is also as safe to use as Conventional Dry Dressings with no difference seen in other wound complications.

Keywords: Arthroplasty; hip; knee; negative pressure; infection

doi: 10.21037/map.2019.AB144

Cite this abstract as: Francis A, Shaw GC, Ryan E, Kenny P. Negative pressure wound therapy versus conventional wound dressings in total hip and total knee arthroplasty—a systematic review of the literature. *Mesentery Peritoneum* 2019;3:AB144.