Does removal of the wound dressing early increase the potential for surgical site infections in patient’s with clean, clean/contaminated wounds?

Rebecca Radford, Clinical Nurse, Internal Medicine RBWH; Nicole Marsh, Nursing Director of Research, RBWH.

Purpose
Surgical site infections (SSI’s) are a post-operative complication which can be caused by microorganisms invading the surgical incision. There are several strategies employed to minimize the occurrence of SSI’s post operatively, one being to apply a sterile dressing over the incision site. This review evaluates the effectiveness and incidence of SSI’s for early dressing removal (≤ 48hours) versus delayed removal in patients with post-operative clean or clean contaminated surgical wounds.

Methods
A search of electronic databases, including the Cochrane Central Register of Controlled Trials, PubMed and CINAHL was conducted on the 27th February 2020 to identify randomised controlled trials evaluating time of post-operative wound dressing change. The search was limited to English language and included MeSH terms and keywords such as: bandage, dressing, surgical would infection, expose and remove. Two review authors independently screened, extracted data and performed quality assessment for included studies.

Results
Eight trials involving a total of 2891 participants were included in this review. Several different surgeries were performed (abdominal, thoracic, cardiac, breast) and types of dressings varied, however all trials measured surgical site infections in clean, clean contaminated wounds against different removal timeframes. The studies showed no statistically significant difference in surgical site infection between early and delayed removal of dressings (OR 1.19; 95% CI 0.83 - 1.73; P=0.34).

Conclusion
This review found there is no statistical difference in surgical site infections and wound healing when dressings are removed ≤ 48hours compared with a delayed removal. Further high quality randomised controlled trials with larger numbers of participants are needed and these studies should also focus on measuring costs (staff and products) and measure hospital length of stay. This will help determine if the routine dressing of clean, clean contaminated surgical wounds is based on tradition or scientifically supported evidence.