***CORR* Insights®: No Infection Reduction Using Chlorhexidine Wipes in Total Joint Arthroplasty**

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Where Are We Now?

Periprosthetic joint infection (PJI) remains among the most vexing challenges in total joint arthroplasty. Prevention of this complication is desirable, given the morbidity, mortality, and overall costs associated with its treatment. However, considerable controversies remain about which approaches may help us achieve this important goal. There are numerous proposed interventions to reduce PJI, such as patient screening for *Staphylococcus aureus*, various skin preparation techniques, the use of dilute betadine lavage, and antibiotic loaded cement. All of these interventions are associated with some monetary cost, as well as physician and/or patient time and effort. Additionally, it is unclear

what effect patient-related factors such as obesity, diabetes, nutritional status, or even genetics contribute to the frequency of this complication. It remains uncertain whether these factors are more or less important than specific strategies for prevention.

Where Do We Need to Go?

In the study by Farber et al., the authors examined the efficacy of chlorhexidine wipes, administered by a nurse in the holding area approximately 1 hour preoperatively in a large, retrospective study of 3715 patients. The authors compared the risk of PJI at 1 year between 1891 patients who received the wipes and 1824 patients who did not, as they underwent surgery prior to initiation of the protocol. The authors concluded that chlorhexidine wipes did not reduce the risk of PJI. The authors noted in their discussion that although the study was large, they may still have been underpowered to identify a difference in the risk of PJI, given both the number of patients available for the study and the low rate of infection prior to initiating the chlorhexidine protocol.

How Do We Get There?

This study highlights many of the challenges involved in determining the best strategies for reducing the risk of PJI, including the need to study large patient populations. Ideally, these studies should be randomized controlled trials, which are both expensive and difficult to administer if for no other reason than patients in the US healthcare system are often-times hesitant to participate in these kinds of trials.

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Organizations such as the Musculoskeletal Infection Society and other specialty societies may be well-positioned to help direct and organize future studies that help us to determine the optimal approaches for reducing the prevalence of PJI. Finally, future studies that help us determine which patient-related factors are most strongly associated with PJI are

needed. The goal would be to disseminate and use those practice-based interventions that work (such as preincisional antibiotics or the use of skin clippers as opposed to razors), and to better understand in the future which patient-related factors can be modified (such as glycemic control or nutritional status) to reduce the risk of PJI.