

Warm Saline Irrigation Protocol Decreases Cement Curing Time in Hip Arthroplasty

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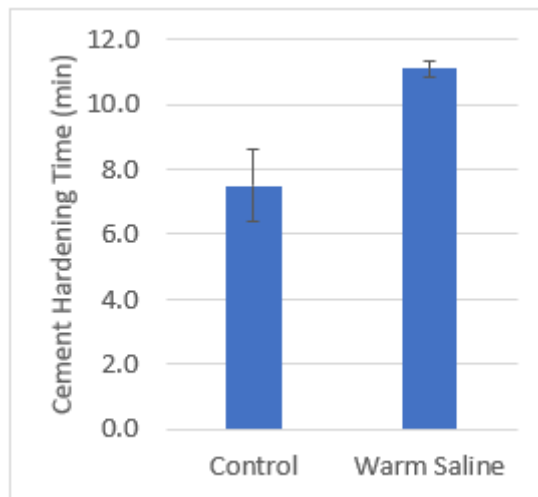
Purpose: Cementation in hip arthroplasty is a common and reliable technique for achieving a stable bone-component interface. However, there are significant costs and risks to the patient, surgeon, and hospital related to the use of cement. It has been previously demonstrated that increasing ambient temperature and femoral component temperature decreases cement curing time.

Methods: Patients undergoing cemented hip arthroplasty were enrolled. A protocol utilizing 100°F warmed saline irrigation within the surgical field and a bath for the femoral component was developed. Time from cement mixing to curing was recorded. Completed curing was defined as the inability of a fresh 15-blade scalpel to indent the inserted cement against gravity resistance. We performed a comparative cohort study with a control group to investigate if this protocol reduced time to cement curing in an in vivo setting.

Results: Ten patients were enrolled in the experimental group and 11 patients in the control group. Time to cement curing was significantly lower in the experimental group (7.5 min vs 11.1 min, $P < 0.0001$, Fig. 1). A post hoc power analysis showed that with the current sample size, there was >99% power to detect the observed mean difference of 3.6 minutes in cement curing time.

Conclusion: The use of a simple and inexpensive warmed saline irrigation protocol during cemented hip arthroplasty decreases time to cement curing by 32%.

TECHNICAL TRICKS AND TIPS



See the meeting app for complete listing of authors' disclosure information. Schedule and presenters subject to change.