

Results of an Early Wound Bathing Protocol (3 days Post-op) After Orthopaedic Trauma Surgery

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INTRODUCTION:

The time from surgery to the allowance of bathing surgical wounds is typically at surgeon discretion and is without a standard. Delayed bathing (i.e. after suture/staple removal) and early bathing (i.e. prior to suture/staple removal) of surgical wounds each have theoretical advantages and disadvantages. Little clinical evidence exists regarding the safety of early bathing in orthopaedic trauma patients. Therefore, this study aimed to evaluate the outcomes of a protocol of early (3 days post-op) bathing of acute surgical wounds.

METHODS:

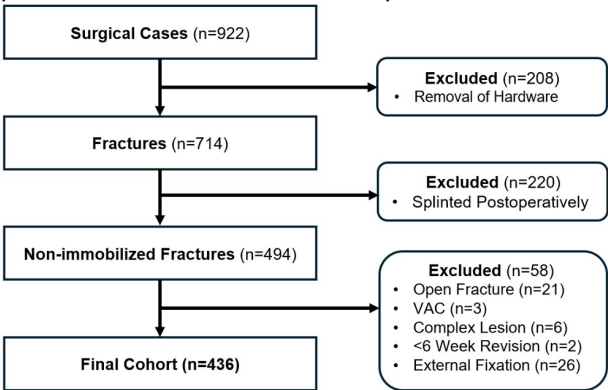
After IRB approval, all patients operatively treated by the senior author at a single institution between September 2017 and September 2023 with a standard post-operative protocol that called for bandage removal and bathing over acute uncomplicated surgical wounds were retrospectively reviewed. Excluded were patients with complicated wounds defined as those associated with open fractures, revision surgery through recent (< 6 weeks) surgical wounds, and acute traumatic local skin abrasions or lacerations, as these patients were not treated with the early bathing protocol. Also excluded were patients with immobilization (e.g. splints) precluding wound access at 3 days post-op, with known prior infections and those without 3 months of follow-up. The primary outcome was re-operation within 3 months for wound or infectious complications.

RESULTS:

A total of 922 patients were treated and reviewed in the included time frame. Following screening, 486 patients were excluded based on eligibility criteria, leaving 436 studied patients (mean age 57 years (range 18–95), 60% female); (**Figure 1, Table 1**). Re-operation for a wound or infectious complication occurred in 0.9% (4/436) of patients, including 1.3% of patients treated for acute fractures and/or dislocation (4/302), and 0% each for those treated for nonunion or malunion (n=111), acute soft tissue injury (n=10), or other reasons (n=13).

DISCUSSION AND CONCLUSION:

A protocol of dressing removal and bathing over acute uncomplicated surgical wounds at 3 days was associated with re-operation for a deep infection or wound complication in 0.9% of patients. This complication rate is favorable relative to published norms after orthopaedic trauma surgery supporting the safety of an early bathing protocol.



Variables	N (%)	Mean (SD)	Range
Total Patients			
436			
Sex			
Male	171 (39%)		
Female	265 (61%)		
Age		57 (17)	18-95
Case Type			
Acute Fracture	302 (69%)		
Nonunion/Malunion	111 (26%)		
Soft Tissue Injury	10 (2%)		
Other	13 (3%)		
Reoperation			
Infectious Complications	4 (0.9%)		

Table 1: Patient characteristics of final cohort.

Figure 1: Flow chart explaining study inclusion and exclusion criteria. Ultimately resulting in 436 cases in the final cohort.