## Saline Load Test for Traumatic Arthrotomies

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Traumatic arthrotomies are periarticular traumatic injuries to the skin and soft tissue that violate the joint capsule. This type of injury was first described in 1915. Subsequent literature describes late sequala of missed injuries including septic arthritis, sepsis, osteomyelitis, and the potential need for amputation though these complications were reported mostly in wounded soldiers from WWII and the Vietnam war that had grossly contaminated wounds. To date, the gold standard for diagnosis is the saline load test where in sterile normal saline is injected into the joint away from the zone of injury to evaluate for egress of saline from the open wound. Recent comparative clinical data published in the Journal of Orthopaedic Trauma supports the use of CT to detect traumatic arthrotomies of the knee with sensitivity and specificity reported as 100%. Furthermore, three cadaveric studies support its use in the elbow with sensitivity and specificity reported at 100%. However, to date, the only clinical paper describing the use of CT to evaluate for traumatic arthrotomy of the elbow is a single case report of a patient involved in a motorcycle collision with negative CT findings who subsequently developed septic arthritis and a traumatic arthrotomy was identified intra-operatively during treatment. Thus, the saline load test is still used in clinical practice. If the test is positive, treatment can include both formal operative debridement or bedside irrigation and lavage in those patients with small, minimally contaminated, traumatic arthrotomies with no associated fracture.