

### **Utilization of the Dedicated Orthopaedic Trauma Room for Open Tibia and Femur Fractures: Does It Make a Difference?**

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**Purpose:** This review was conducted to determine the effect of the dedicated orthopaedic trauma room (DOTOR) on the management and outcomes of open tibia and femur fractures.

**Methods:** A retrospective review was performed to identify patients with open tibia and femur fractures managed between 2006 to 2011 at our rural academic Level 1 trauma center. Patients were divided into those managed in the DOTOR and those managed in the on-call operating room (OCOR). Data points collected included: patient demographics, ISS, mechanism of injury, operating room parameters including time to operative debridement, and patient outcomes such as union, malunion and infection rates, unplanned operations, and amputation.

**Results:** 297 patients with 347 open tibia and femur fractures were identified. 154 patients with 174 open tibia and femur fractures were in the DOTOR group and 143 patients with 170 fractures were in the OCOR. The average time to initial operative debridement was significantly longer in the DOTOR group (12 hours and 57 minutes) when compared to the OCOR group (5 hours and 22 minutes). The DOTOR group was 9 times less likely to undergo debridement within 6 hours. Both groups had a similar number of patients debrided within 24 hours (90% DOTOR vs 96% OCOR). The DOTOR group had a significantly higher rate (73.2%) of primary fracture union (56.6% OCOR). The OCOR group was twice as likely to have an unplanned surgery. Rates of infection, nonunion, and amputation were similar.

**Conclusion:** Over 5 years, a similar number of patients were treated for open tibia and femur fractures in the OCOR and the DOTOR. Fractures managed in the OCOR were 9 times more likely to undergo initial operative irrigation and debridement within 6 hours. Despite early access to the operating room, there was no difference in rates of infection and the OCOR patients were twice as likely to have an unplanned surgical procedure. On the other hand, fractures managed in the DOTOR were twice as likely to go on to uncomplicated fracture union.