

The Drape Tower: A “Hands-Free” Draping Technique for Intraoperative Lateral Fluoroscopy Views

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Purpose: Lateral imaging during fracture fixation requires the surgeon to cover the x-ray tube with a drape. Here we describe a novel draping setup that maintains coverage in a “hands-free” manner. The technique uses widely available tools, does not require a person to manage drape coverage, and allows the surgeon to proceed more efficiently with surgery.

Methods: A 3/4 drape is used to cover the x-ray tube during the first lateral fluoroscopic view. The drape is taped or clipped to the edge of the operating room (OR) table in the surgical field. A sterile Mayo stand is elevated to the same level as the highest point of the drape and brought to approximately 4-6 inches from the end of the x-ray tube. The most lateral edge of the drape is brought up as a fold to just cover the edge of the Mayo stand. This folded edge is then secured with an adhesive surgical drape. The drape remains in an elevated position forming a sterile tower even when the fluoroscopy unit is rotated back to the upright position (Fig. 1). This draping technique is best used for lower extremity procedures during which the surgeon and personnel are primarily at one end or the other of the operative limb such as tibial nailing, retrograde or antegrade femoral nailing, hindfoot nailing, or fibular nailing.

Results: A total of 46 lower extremity fracture cases between January 2017 and December 2018 were followed. 11 cases were excluded because of <30-day follow-up, leaving a total of 35 cases. The average follow-up was 14 months (range, 1-32). There was 1 (3%) postoperative infection, and 2 (5%) unplanned reoperations.

Conclusion: Maintenance of sterility requires constant vigilance and drape manipulation during fracture fixation. The “drape tower” improves OR efficiency and is well-suited for lower extremity nailing.

Figure 1a: fully assembled drape tower with fluoroscopy in upright position. **Figure 1b:** C-arm moved to lateral position without requiring manual repositioning of drape. **Figure 1c:** additional view of the C-arm in the lateral position. The area under the mayo stand is considered non-sterile

