

**Posterior to anterior distal locking of humeral intramedullary nails**

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**BACKGROUND**

Distal locking of long intramedullary humeral nails is achieved using a freehand technique. Both anterior-posterior and lateral-medial locking techniques have been linked to neurovascular complications including radial and lateral cutaneous nerve injuries.<sup>1-5</sup> We describe a technique that is simple to adopt and avoids these complications.

**TECHNIQUE**

Humeral nailing is performed with the patient in the lateral decubitus position with the image intensifier at 90° to the patient (Fig 1). During freehand distal locking, the patient's arm rests on his or her body and the forearm is rested on the anterior pelvic support on sterile padding. By changing the amount of padding, arm rotation can be adjusted to give a perfect view of the distal locking hole without requiring an assistant. In this position, we then perform distal locking in a posterior-anterior direction.



**Figure 1** Operative setup for posterior to anterior distal locking

**DISCUSSION**

At the level of humeral nail distal locking, there are no major neurovascular structures at risk in the posterior aspect of the arm.<sup>4</sup> Only by drilling through the anterior cortex and the brachialis, potentially damaging the brachial artery and median nerve, could a neurovascular structure be injured using this method. At this level, the posterior humerus has a flatter surface than laterally or anteriorly, reducing the tendency of the tip of the drill to slide and cause iatrogenic injury. This method has technical and safety advantages over other techniques.

**References**

1. Rupp RE, Chrissos MG, Ebraheim NA. The risk of neurovascular injury with distal locking screws of humeral intramedullary nails. *Orthopedics* 1996; **19**: 593-595.
2. Vécsei N, Kolonja A, Mousavi M, Vécsei V. Intramedullary fixation of humerus shaft fractures. An analysis of complications of 2 implants with special reference to outcome after management with the unreamed humerus interlocking nail. *Wien Klin Wochenschr* 2001; **113**: 597-604.
3. Blyth MJ, Macleod CM, Asante DK, Kinninmonth AW. Iatrogenic nerve injury with the Russell-Taylor humeral nail. *Injury* 2003; **34**: 227-228.
4. Noger M, Berli MC, Fasel JH, Hoffmeyer PJ. The risk of injury to neurovascular structures from distal locking screws of the Unreamed Humeral Nail (UHN): a cadaveric study. *Injury* 2007; **38**: 954-957.
5. Rommens PM, Kuechle R, Bord T *et al*. Humeral nailing revisited. *Injury* 2008; **39**: 1,319-1,328.

**Foleys protection caps: inexpensive alternative in Ilizarov fixation**

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Use of a hybrid type of Ilizarov ring fixator is popular in complex orthopaedic trauma, typically comprising Schanz screws at each ring and tensioned wires. The Schanz screws are cut to the size of the ring but their cut ends may subsequently injure the other leg or damage garments and bed sheets. Custom made protective caps are available but a good alternative is a 22/24Fr Foley catheter, cut and rolled over the sharp ends of screws (Fig 1). These are readily available in theatres and provide remarkable protection even when direct pressure is applied over the cut screw ends.



**Figure 1** Foley catheter cut and rolled over the sharp ends of Schanz screws on an Ilizarov ring fixator