

## A Novel Technique for Obtaining Neutral Entrance Angle During Suprapatellar Nailing of Tibial Shaft Fractures

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**Purpose:** Our purpose was to describe a novel use of a curved, cannulated awl to improve the ease and accuracy of obtaining the correct starting point and neutral entrance angle in suprapatellar nailing of tibial shaft fractures.

**Methods:** A standard incision is made approximately 1 cm proximal to the superior pole of the patella for suprapatellar nailing. After splitting the quadriceps tendon, the working cannula and trocar are inserted in the usual manner in order to protect the patellofemoral joint. The cannulated trocar is then replaced with the curved awl in order to obtain the proper starting point of just medial to the lateral tibial eminence with a neutral entrance angle (Fig. 1) on the proximal tibia. The working tube is pinned into place to protect the patellofemoral joint throughout the rest of the procedure. The terminally threaded 3.2-mm guidewire is then placed through the cannulated awl into the proximal tibia at a neutral entrance angle. After proper placement of the guidewire, the awl is removed and the case can proceed as customary with entry reaming, followed by a ball-tipped guidewire passed across the fracture site, reaming, and finally nail insertion. Interlocking screws are placed distally and proximally through the nail as deemed necessary

**Results:** Use of the standard working cannula and trocar may be problematic in patient with smaller and less mobile patellofemoral joints. Since the standard instruments are straight, it can be difficult to obtain a neutral entrance angle. Replacement of the cannula with a curved cannulated awl offers increased control and ease in obtaining a neutral entrance angle by utilizing its smaller, curved profile within the patellofemoral joint.

**Conclusion:** Use of a curved, cannulated awl can help a surgeon obtain a correct starting point and neutral entrance angle more easily, and is a novel technique that surgeons can employ when treating tibial shaft fractures with suprapatellar nailing.

