

Our Hands-on Experience with Suprapatellar Tibia Nailing (SPTN)

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INTRODUCTION:

In the past century, considerable progress has been made in the Orthopaedic field regarding the treatment of tibial fractures. Suprapatellar tibia nailing (SPTN) has recently emerged as an alternative technique for inserting tibia nails, in contrast to the conventional infrapatellar method. Hereby, we discuss indications and benefits of employing suprapatellar tibia nailing in our patient care.

REPORT:

Our first patient in presented with a posterior hip fracture dislocation with concomitant ipsilateral distal third tibia fracture. We utilized Kocher Langenbeck approach for hip reduction and fixation, followed by SPTN for the tibia fracture. The second patient suffered open fracture proximal third tibia and fibula. We performed debridement and tibia fixation using SPTN. Third patient had proximal third tibia and fibula fracture, with ipsilateral bimalleolar ankle fracture dislocation. We conducted ankle reduction and lock plate fixation, followed with SPTN. No immediate perioperative complications were encountered, and fracture united within anticipated timeframe.

DISCUSSION:

Due to its higher cost of SPTN compared to the infrapatellar tibia nail, we implement strict criteria when selecting patients for SPTN in a government setting. SPTN insertion was carried out with the knee in a semiextended position. This approach spared us from the need to hyperflex both the knee and hip, which could potentially compromise the reduction of the hip in first patient. Maintaining a static leg position throughout the SPTN procedure prevents the application of varus stress onto simultaneously fixed ankle fracture dislocation. The use of SPTN can prevent nail insertion through a debrided open wound, as observed in the second case described.

During follow-up, none of the patients exhibited anterior knee pain or extensor lag resulting from the quadriceps tendon incision. These findings align with the conclusions drawn from the literature review.¹



Figure 1: Pre and postoperative radiograph of first patient



Figure 2: Pre and postoperative radiograph of second patient



Figure 3: Pre and postoperative radiograph of third patient

CONCLUSION:

Based on our own firsthand experience with SPTN, we believe that SPTN will become the future for most tibial nailing procedures, regardless of fracture pattern. Our observations include improved alignment in both proximal and distal fracture patterns, decreased radiation exposure and operative time, relaxation of the deforming forces, ease of imaging, and static positioning of the leg. These advantages prove beneficial for surgeons working independently.

REFERENCES:

1. Ciminero M, Elsevier H, Solarczyk J, Matityahu A. Suprapatellar Tibial Nailing: Future or Fad J Clin Med. 2023 Feb 23;12(5):1796.