

## Removal of bent intramedullary nail : man vs metal

Omar, MN; Ismail FM; Shunmugam P; Pritam Singh AS; Johari J  
Orthopaedic Department, Hospital Universiti Sains Malaysia, Kubang Kerian, Kota Bharu

### INTRODUCTION:

It may be difficult to get a bent intramedullary (IM) nail removed. As a result, several techniques for nail extraction following femoral refracture have been published. We would like to discuss our succesful treatment.

### REPORT:

A 24-year-old male involved in a motorcycle accident sustained a closed fracture of right femur and was treated with an IMN. During the postoperative period and follow-up, the fracture healed and patient returned back to his previous level of activity within 6 months.

. 9 years later, he sustained another serious motorcycle accident and admitted to our emergency department with a deformity of his previously operated leg. On physical examination, there was a fixed varus deformity of his thigh.

Both knee and ankle range of motion were normal, and neurovascular status was intact. Plain radiographs showed a fracture of the femur and 50 degree of angulation of the nail in the coronal plane (Fig. 1).

Under spinal anesthesia, patient in lateral position, a manual straightening of the nail was first attempted under fluoroscopic control but resulted with failure. A longitudinal incision was made over lateral aspect of thigh and the fracture was exposed. The nail was visible between the fracture fragments. A partial resection (approximately half of its diameter) of the nail was done using diamond-tipped drills over the apex. During drilling, metal debris were collected with frathen was straightened easily with manual reduction. Correction of the nail was checked with fluoroscopy. Distal locking screws were removed and the nail was extracted with standard technique. The wound was closed following copious irrigation. The fracture was reduced under fluoroscopy and fixed with reamed IMN.

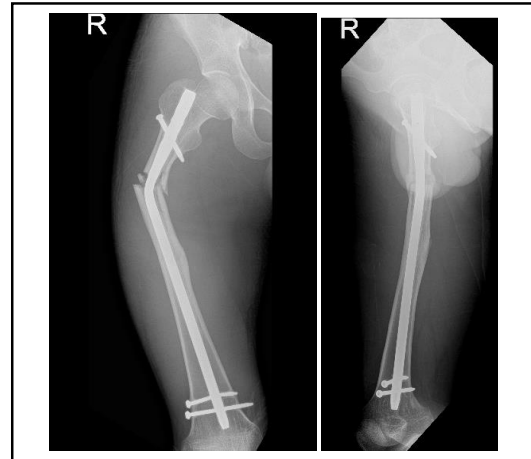


Figure 1 : Post trauma radiograph

Figure 2 : Postoperative radiograph

### CONCLUSION:

Removing of IMN can be difficult. Degree of angulation on both projections, localization of angulation, thickness of the nail, material of the implant, pattern of fracture and presence of osteoporosis should be assessed to choose the proper method.

Equipments and the opportunities of the operation room and the surgeon's expertise are also important.

### REFERENCES:

1. Suh YS, Lee WS, Ahn J, Choi HS, Baek MJ, Choi SW. Removal of bent intramedullary nail: Two case reports. *Medicine (Baltimore)*. 2020 May;99(20):e19935.