

A TECHNIQUE OF REMOVAL FOR BROKEN INTRAMEDULLARY NAIL

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INTRODUCTION:

Interlocking nails (ILN) has biomechanical advantages compared to internal fixation with plates. Delayed union or nonunion of fractures associated with breakage of the nail. Removal of the broken nail is a challenging procedure and we report a unique technique of removal.

REPORT:

A 57-year-old male presented with pain over the right thigh and was been treating for non-union of the right femur. Plain radiographs showed a broken nail at the non-union site with an exuberant callus around it (Figure 1) and diagnosed as non-septic hypertrophic nonunion after reviewing blood parameters. An exchange nailing and bone graft insertion was planned. During the surgery, the patient was placed in supine position using the traction table. The incision was made over the proximal scar at the level of greater trochanter. The proximal locking screw was removed followed by the proximal broken nail segment and the distal locking screws. Then an incision was made over the fracture site to visualize the distal broken nail. Uni-cortical drilling was done over the lateral aspect of the femur to create a window (Figure 1).



Figure 1: Uni-cortical window done

Next, a hole was made on the nail around 0.5-1cm from the tip of the exposed end with a carbide drill for insertion of the k-nail remover (Figure 2). The remover hook was oriented to catch onto the hole and the distal nail segment was removed (Figure 3). There were no postoperative complications upon follow-up.

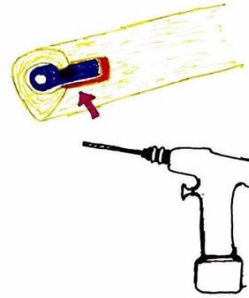


Figure 2: Drilling done over the broken nail

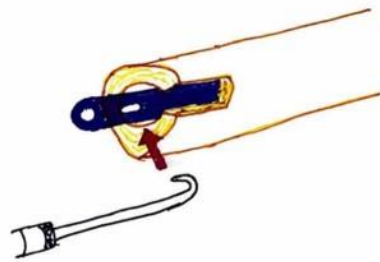


Figure 3: K-nail remover was hooked at the hole on the femoral nail

CONCLUSION:

This technique has the advantage of removal when no access to distal joints like in the humeral or tibial nail and also does not violate the knee joint during femoral nail removal.

REFERENCES:

1. Blake SM. A technique for the removal of the distal part of a broken intramedullary nail. *Ann R Coll Surg Engl.* 2009; 91(2):169-70.