

**Removal of Broken Nails Using Mini-Fragment Screws**

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**Purpose:** Removal of metalwork such as intramedullary nails can be surgically challenging, particularly if they are broken. We present an effective technique for removing the distal end of a broken tibial nail.

**Methods:** After removing the proximal part of the tibial nail, remove the distal locking screws, leaving the broken distal end of the nail in situ. Pass the olive tip guidewire to the end of the distal nail. Depending on the diameter of the nail and the olive tip guidewire, select an appropriate screw that will fit into the distal locking hole of the nail with the guidewire in situ. For example, for a standard olive tip guidewire in an 8-mm tibial nail, we found a 2-mm screw to be the ideal size. In addition, ensure the screw length is the same as the nail diameter. Tie the screw head using a 2/0 Vicril suture (for easy retrieval if required) before mounting it on a screwdriver. Gently tap the 2 × 8-mm screw into the distal locking hole using a mallet under fluoroscopic guidance. Once the screw is in, the guidewire can be carefully pulled back until it gets jammed with the 2-mm screw.

**Results:** This then allows the guidewire together with the broken nail to be removed by gentle taps on a T-handle (Fig. 1).

**Conclusion:** We have demonstrated a technique for removing a broken tibial nail that is both safe and effective without any need for additional surgical exposures, therefore minimizing trauma to the soft tissues and bone.



TECHNICAL TRICKS AND TIPS

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.