

Removing broken locking bolts

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Removal of broken locking bolts requires careful planning. The following tips facilitate the procedure and reduce operation time.

Positioning the patient supine without traction allows optimal adduction. Early screw removal will leave the nail rotationally unstable; apply the jig beforehand. If direct palpation is not possible, access the end cap by a guided drill (Fig 1). Use screw holders (Fig 2). Retract the nail to realign the broken screw with the nail hole. Tap the fractured screw to advance it into the far cortex for purchase (Fig 3). Screws can then be removed with a broken screw set (Fig 4).



Figure 2 Long length screw holding clip

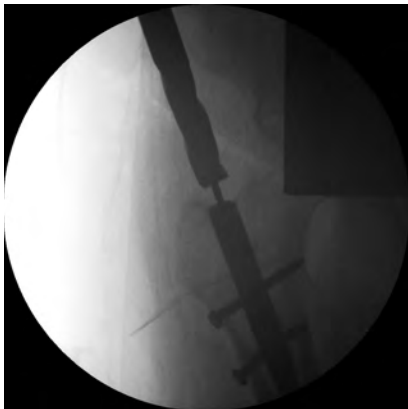


Figure 1 Use of a cannulated drill with guidewire to reach end cap

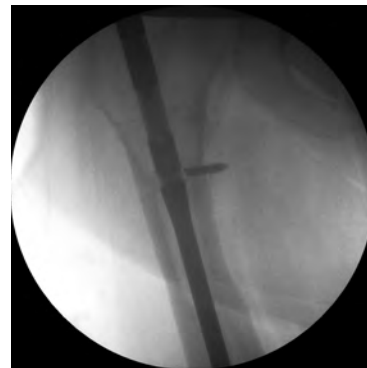


Figure 3 Nail retraction to aid broken screw into far cortex

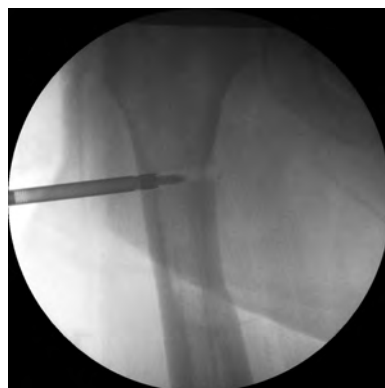


Figure 4 Broken screw extraction