

Intramedullary Nail Extractor

Designed to help remove broken Intramedullary (IM) Nails from long bone. It will also help remove IM Nails with stripped threads, or threads that are difficult to access. The IM Nail Extractor will remove both fluted and non-fluted nails as long as they are cannulated.

Procedure on Reverse Side

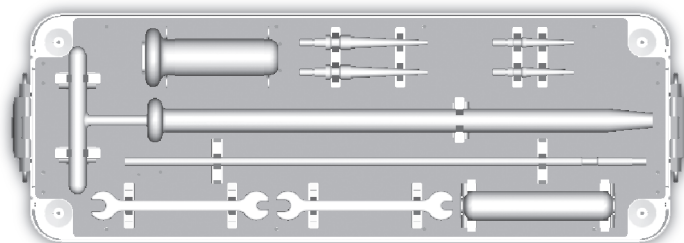
*Designed by
Gary L. Kerns, RT(R)*



Product No: 8730

Contents:

The Intramedullary Nail Extractor Set is composed of a heat-treated, satin finished stainless steel T-handled slap hammer. There are four removable extraction bits (two each of two sizes) that when combined with the slap hammer measures approximately 60cm in length. There is approximately 40cm of range on the sliding slap hammer. Near the T-handle is a 15mm double welded stopper plate. The gnurled sliding slap hammer is equipped with a pinch protector and is easily removed for cleaning and sterilization. At the opposite end is a tapered female left hand threaded slot to receive either one of the extraction bits. A 45cm long by 10mm diameter bendable extension rod and extraction bit will attach to the T-handled slap hammer for removing distal broken nails. The extraction bit is a conical shaped, fluted tool. This is the part of the system that will obtain a purchase on the inner-diameter of the IM Nail to be removed. An included screwdriver handle fits on the proximal end of the extension rod for easier manipulation and placement of the extraction tip. The extraction bit and extension rod are slotted for easy wrench disassembly. Two wrenches are also included in the set.



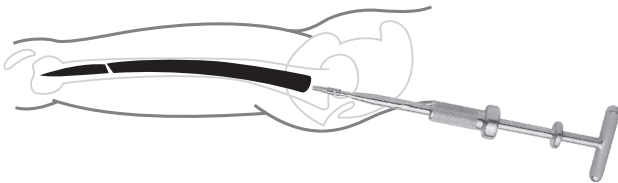
How It Works:

Most IM nails are composed of titanium and aluminum alloys. The stainless steel tip on the extraction bit is designed to displace the metal on the IM nail, causing a wedging effect to occur when turned counter-clockwise. It is important to determine the size of the extraction bit needed prior to its usage since there are varying sizes of IM Nails. This can be accomplished by estimating the size of the inner-diameter of the IM Nail. Since there are only two extraction bits the choice should be fairly obvious. In order to optimize the performance of this instrument, the extraction bit should be changed after each use. This will ensure maximum purchase for every case.

Procedure: Removing A Broken Intramedullary Nail

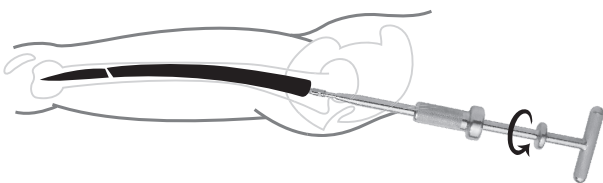
Step One

Expose the greater trochanter and insert the larger extraction bit under fluoroscopy. Turn the T-handle counter-clockwise until the extraction bit is firmly seated within the IM Nail. If the proximal screw or screws do not allow good purchase on the IM Nail, remove them before tightening.



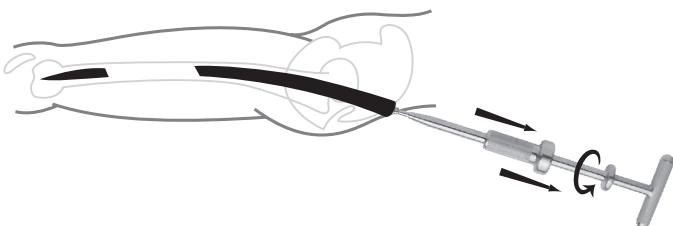
Step Two

Once the bit is firmly in place, remove the proximal screws if this has not already been done.



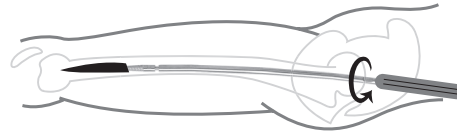
Step Three

While holding the T-handle with one hand, take the sliding slap hammer with the other hand and strike the welded stopper plate. It may be necessary to strike the stopper plate several times for complete removal. It is important to maintain continuous counter-clockwise torque on the T-handle until the nail is removed.



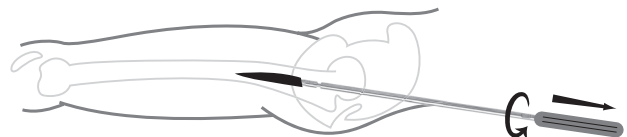
Step 4

After removal of the broken portion of the nail, it may be helpful to ream the femoral shaft. This will ensure the fragments and debris will not inhibit the removal of the distal broken portion of nail.



Step Five

Manipulate the screwdriver handle, extension rod and smaller extraction bit through the femoral shaft. Under fluoroscopy, guide the extraction bit into the hollow broken nail. Turn the screwdriver handle counter-clockwise until the bit is seated firmly in place. Remove the distal screws.



Step Six

While maintaining continuous counter-clockwise torque on the screwdriver, pull back to remove the distal portion of the nail. If the nail does not come out easily, remove the screwdriver handle from the extension rod and attach the T-handled slap hammer. Repeat step three.



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