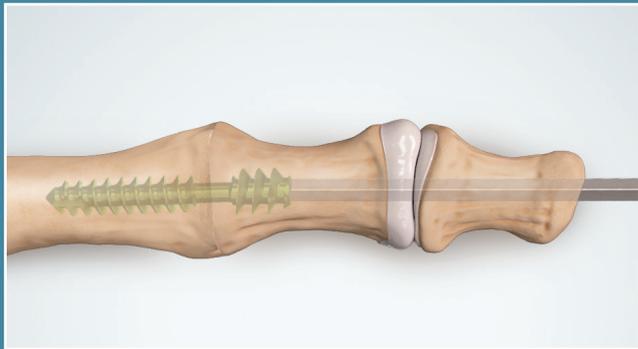
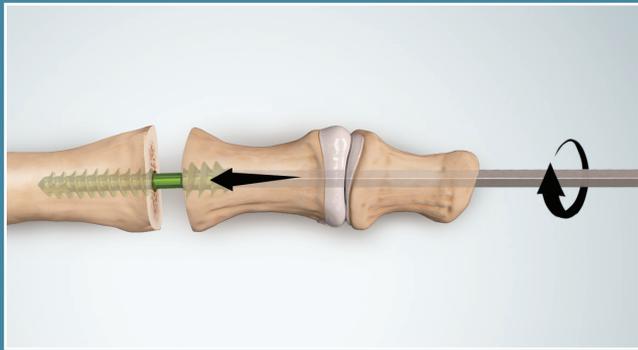
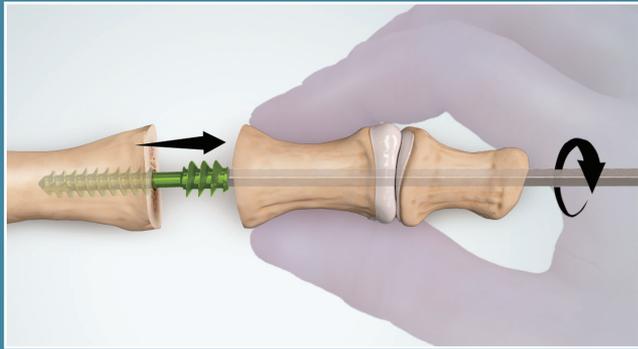
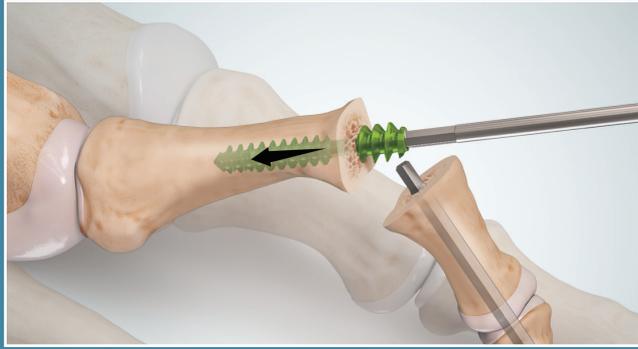




RetroFusion™ Implant for  
PIP Joint Arthrodesis

Surgical Technique

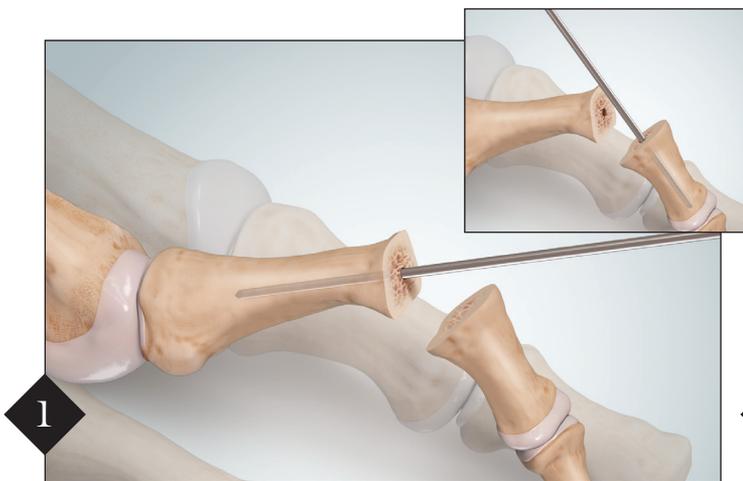


# RetroFusion Implant Technique

## RetroFusion™ Implant

Not just an ordinary headless implant, the RetroFusion implant is a headless implant designed for PIP arthrodesis which provides compression and strength across the joint. The implant's proximal and distal threads are arranged in opposite directions which pull the joint together when the implant is inserted. The patent pending technique and instrumentation allow for easy reproducible insertion of the implant without having to leave the implant across the DIP joint. Because the implant provides compression of a hard-to-fuse joint it can potentially lead to higher fusion rates and less postoperative swelling\*.

- Opposing threads on implant pull the joint together for maximum compression of the PIP joint
- Better fixation of the joint due to actual compression achieved
- Simple technique which also allows for flexed fusions without violation of the DIP joint



Prepare the joint as usual for PIP arthrodesis. Ensure that there is sufficient joint resection for placement of the implant. Also, the subchondral bone of the proximal end of the middle phalanx **must be resected adequately** to allow for the distal threads of the implant to engage during fixation. A guide pin is used to find the canal of the proximal phalanx and to create a track of the implant distally. The distal alignment of the toe is dependent on the track of this pin.



The diaphyseal canal of the proximal phalanx is drilled to at least the first laser line. This can be done by hand or using a power drill. The laser lines correspond to the proximal thread lengths of the different size implants. Drilling the phalanx by hand allows for a more precise determination of canal diameter and will help reduce the likelihood that penetration of the cortex will occur.



The same drill is used to drill out the middle and distal phalanges. The drill is driven out (prograde) the distal end of the toe until the driver end is left in the proximal interphalangeal joint (inset).

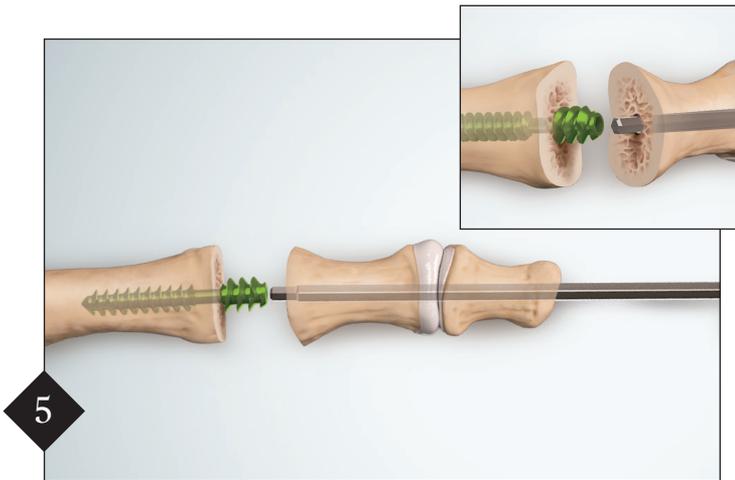
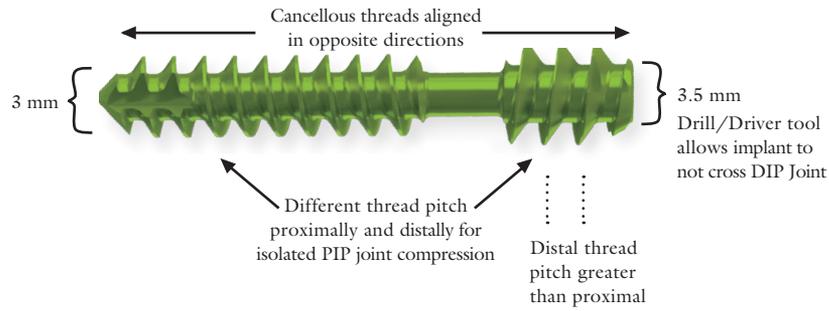


Using the extra driver in the kit, place the implant in the proximal phalanx until the distal threads meet the bone. It is advisable to insert the implant as far as possible to allow for space to engage the drill/driver distally.

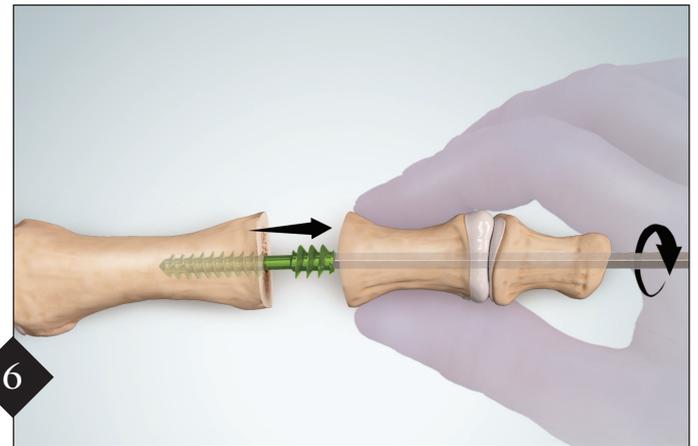
*Note: If resistance is met during insertion into the proximal phalanx, the implant should be removed and the hole should be enlarged.*

# Surgical Technique

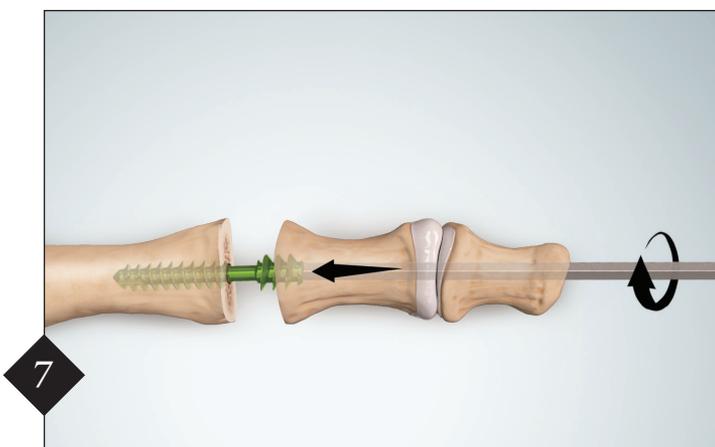
*The RetroFusion™ Implant was developed in conjunction with William Granberry, MD*



5 Attach the handle distally and engage the driver into the implant (retrograde). The joint may need to be distracted slightly to ensure proper engagement of the driver. The driver tip is rounded off lightly to aid in placement.

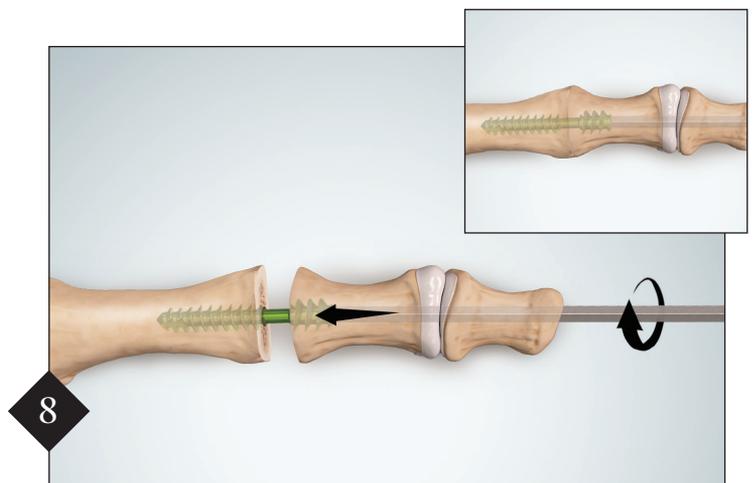


6 Once the implant is engaged with the driver, hold the middle phalanx steady with thumb and forefinger and turn the driver **counterclockwise** to bring the distal threads into the middle phalanx. During this maneuver, the implant is backed out of the proximal phalanx. This should tighten the collateral ligament structures and force the distal end of the implant into the middle phalanx. **If there is inadequate purchase in the proximal phalanx, a larger drill can be chosen. If there is inadequate resection of the middle phalanx, the threads may not catch into the hard subchondral bone.**



7 Once at least 1/2 - 3/4 of the distal implant threads are embedded in the middle phalanx, the driver is then turned **clockwise** again.

*Note: The threads of the implant proximally will typically be visible coming out of the proximal phalanx before compression.*



8 Turn the implant **clockwise** and the opposing threads will pull the two fragments together to compress the joint. Remove the driver once the joint is completely compressed.

## *Ordering Information*

### **Implants**

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20 mm RetroFusion™ Implant	AR-4157-20
24 mm RetroFusion Implant	AR-4157-24

### **Instrument Kit**

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Instrument Kit for RetroFusion Implant	AR-4157DS
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*This description of technique is provided as an educational tool and clinical aid to assist properly licensed medical professionals in the usage of specific Arthrex products. As part of this professional usage, the medical professional must use their professional judgment in making any final determinations in product usage and technique. In doing so, the medical professional should rely on their own training and experience and should conduct a thorough review of pertinent medical literature and the product's Directions For Use.*

*Developed in conjunction with William Granberry, MD*



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