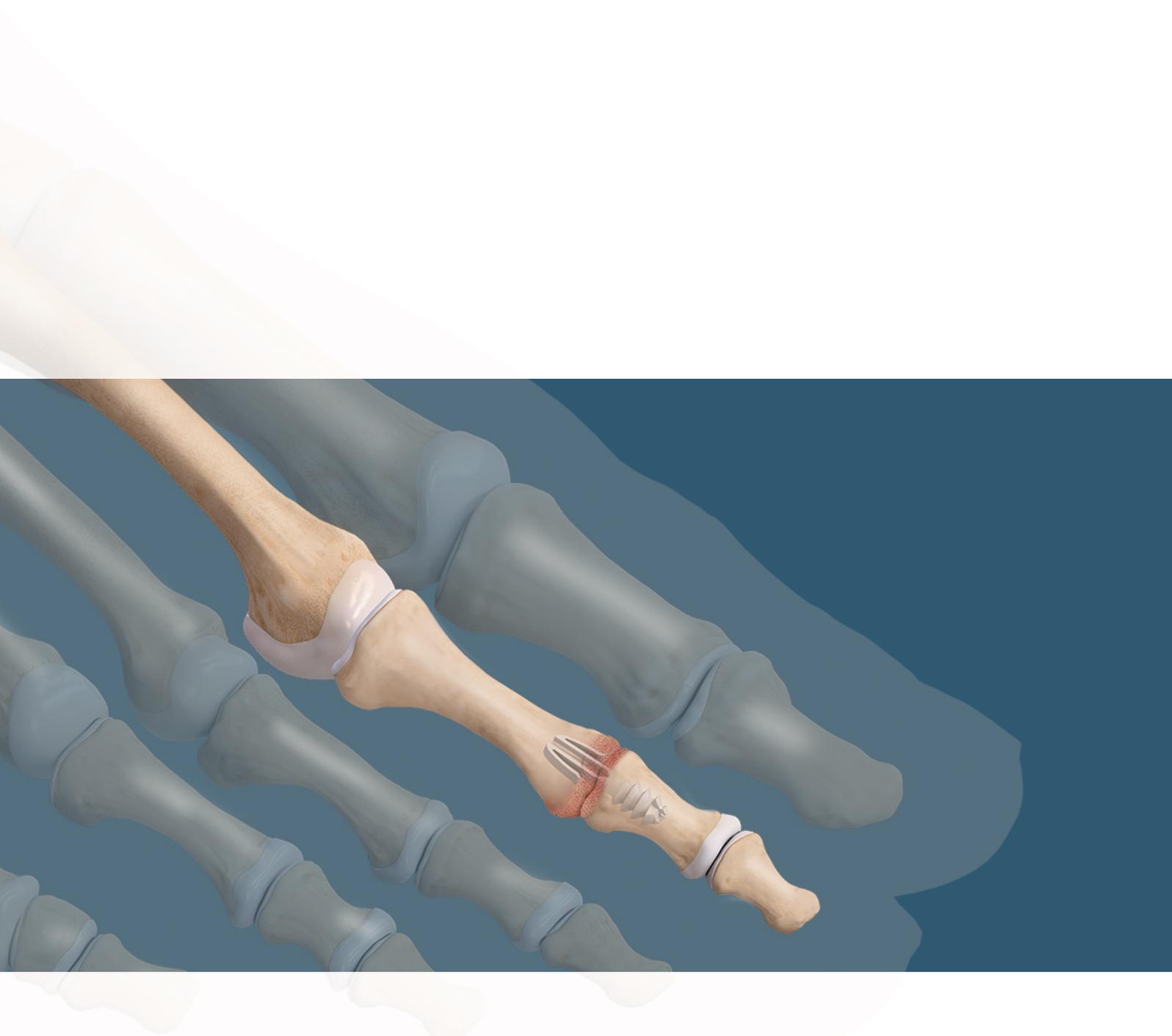


# DynaNite<sup>®</sup> PIP Hammertoe Implant

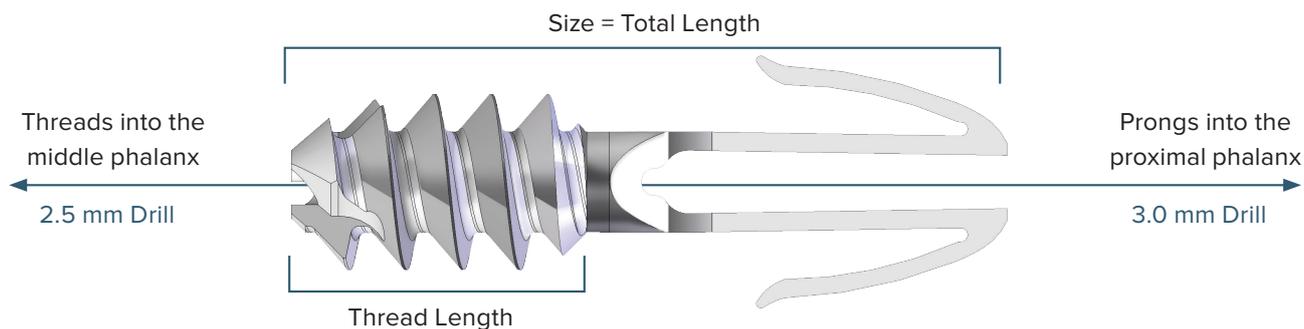
Surgical Technique



# DynaNite® PIP Hammertoe Implant

The PIP DynaNite hammertoe implant is the only threaded, cannulated Nitinol implant on the market. The implant barbs are extended by inserting a K-wire; cannulation allows for surgeons to cross the MTP joint with the K-wire if desired. Implants are offered in 12 mm, 14 mm, and 16 mm sizes (lengths and widths increase proportionally with straight and bent sizes).

Cannulation allows for precision of drilling and insertion of the implant. A 2.5 mm drill is used over the K-wire into the middle phalanx, where the threaded portion of the implant is then inserted. A 3.0 mm drill is used over the same K-wire in the proximal phalanx. The prongs are inserted into the proximal phalanx with the assistance of a hemostat if necessary. The K-wire is further pushed through the implant to extend the prongs, and provides surgeons the option of crossing the MTP joint. The material properties of Nitinol allow the prongs of the implant to engage into the proximal phalanx.



Size	12 mm	14 mm	16 mm
Thread Length	4.6 mm	5.6 mm	6.6 mm
Thread Width	4.0 mm	4.0 mm	4.0 mm
Barb Width	4.5 mm	5.1 mm	5.7 mm



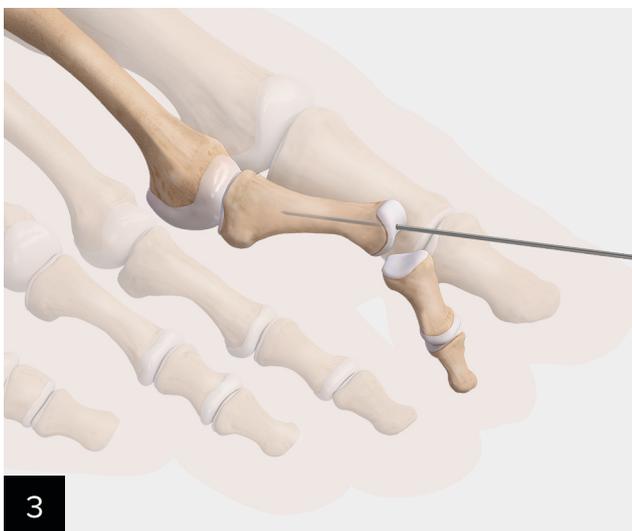
## Surgical Technique



Make a transverse incision over the PIP joint.



Bend the distal end of the toe 90° to access the joint.



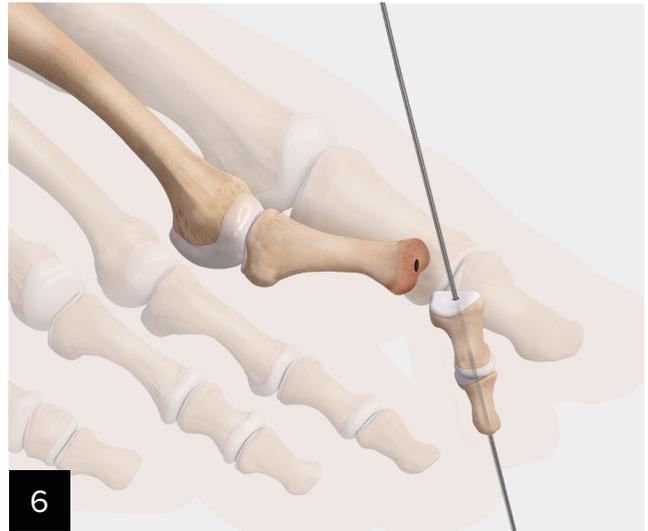
Insert a 1.1 mm K-wire into the central portion of the proximal phalanx.



Remove the cartilage of the proximal phalanx with the concave reamer. Alternatively, use a saw blade or a rongeur to resect the joint surface.



Use the 3.0 mm cannulated drill over the K-wire to drill into the proximal phalanx down to the laser line.



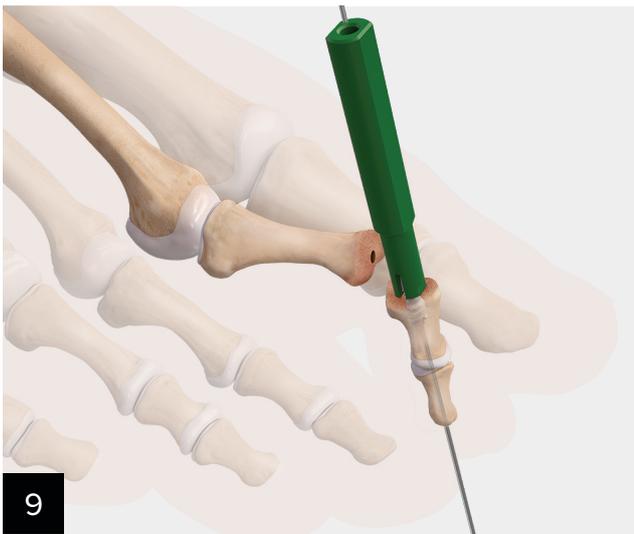
Advance the K-wire distally through the middle and distal phalanges.



Remove the cartilage on the middle phalanx with the convex reamer. Alternatively, use a saw blade or a rongeur.



Use the 2.5 mm cannulated drill over the wire to drill into the middle phalanx down to the laser line.  
**Note: Tap the middle phalanx if necessary.**



Insert the threaded portion of the implant into the middle phalanx until the inserter is flush to the bone and the flat notch on the inserter is facing upward.



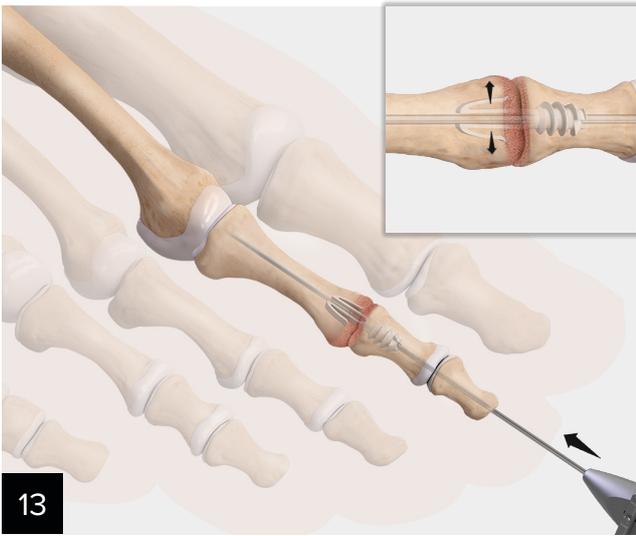
Retract the K-wire slightly into the middle phalanx so no portion is expanding the barbs. Leave the K-wire in the implant.



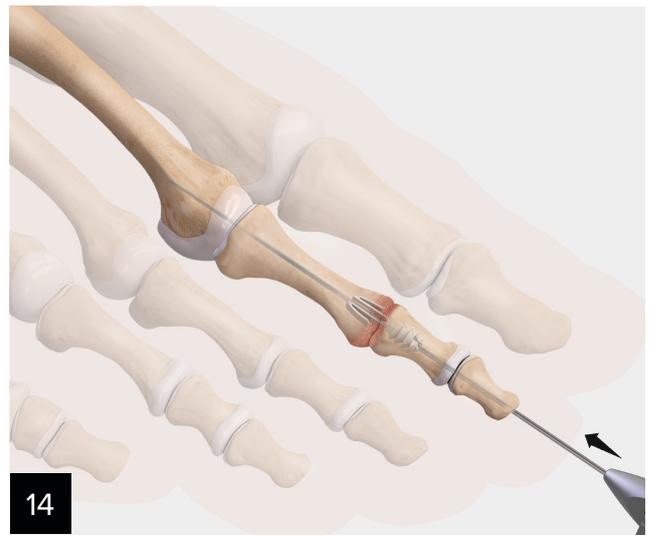
Insert the barbed portion of the implant into the proximal phalanx. **Note: if implantation is difficult, use a hemostat to compress the barbs and facilitate insertion.**



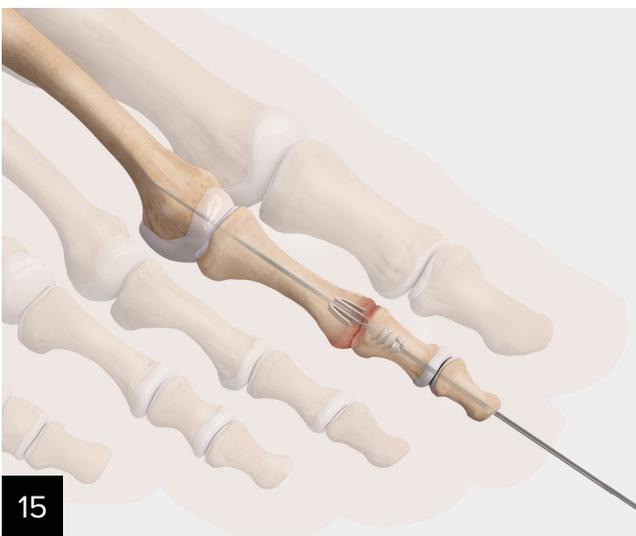
Use the cannulated toe tamp over the K-wire to fully seat the implant and impact the joint surfaces.



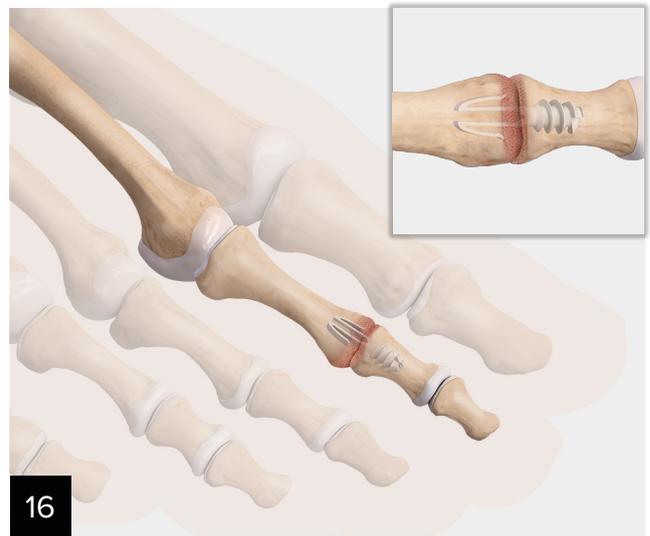
Advance the K-wire into the proximal phalanx to deploy the talons. The guidewire can be left in place or it can be removed completely at the surgeon's discretion.



The surgeon can also cross the MTP joint with the K-wire if desired.



Complete construct with K-wire.



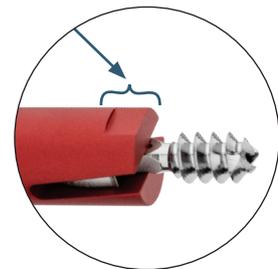
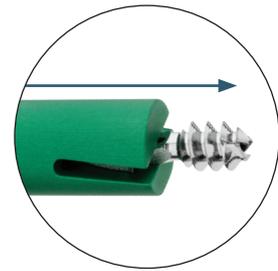
Completed construct.

## Tips and Pearls

- Be sure to check under fluoroscopy that the threads are not violating the DIP joint distally.

### For bent implants:

- The implant should appear linear in the inserter. If it is not, it must be rotated before insertion.
- Upon insertion of the threads, the flat, beveled side must end up dorsal to ensure the implant is bent in the right direction within the PIP joint.



## Ordering Information

### DynaNite® PIP Implant Instrument Set (AR-4158S)

Product Description	Item Number
<b>Instruments</b>	
Toe Tamp	AR-4158-01
Tap	AR-4158-05
Instrument Case	AR-4158C
<b>Implants</b>	
PIP Implant w/ Inserter, bent, 12 mm	AR-4158P-12B
PIP Implant w/ Inserter, straight, 12 mm	AR-4158P-12S
PIP Implant w/ Inserter, bent, 14 mm	AR-4158P-14B
PIP Implant w/ Inserter, straight, 14 mm	AR-4158P-14S
PIP Implant w/ Inserter, bent, 16 mm	AR-4158P-16B
PIP Implant w/ Inserter, straight, 16 mm	AR-4158P-16S
<b>Disposables</b>	
Drill Bit, calibrated, 2.5 mm, qty 2	AR-4158-02
Drill Bit, calibrated, 3.0 mm, qty 2	AR-4158-03
Guidewire, double trocar, 0.045 in, qty 6	AR-8933KD

Product Description	Item Number
<b>PIP Implant Disposable Kits</b>	
Drill Bit, calibrated, 2.5 mm	
Drill Bit, calibrated, 3.0 mm	
Tamp	
PIP Implant, straight,	
PIP Inserter, straight	
Guidewire, double trocar, .045 in	
12 mm, straight	AR-4158DS-12S
12 mm, bent	AR-4158DS-12B
14 mm, straight	AR-4158DS-14S
14 mm, bent	AR-4158DS-14B
16 mm, straight	AR-4158DS-16S
16 mm, bent	AR-4158DS-16B
<b>Optional</b>	
DynaNite PIP Tap	AR-4158T

### PIP Implant Disposable Kits\*



\*Does not include tap



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. Postoperative management is patient-specific and dependent on the treating professional's assessment. Individual results will vary and not all patients will experience the same postoperative activity level or outcomes.

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