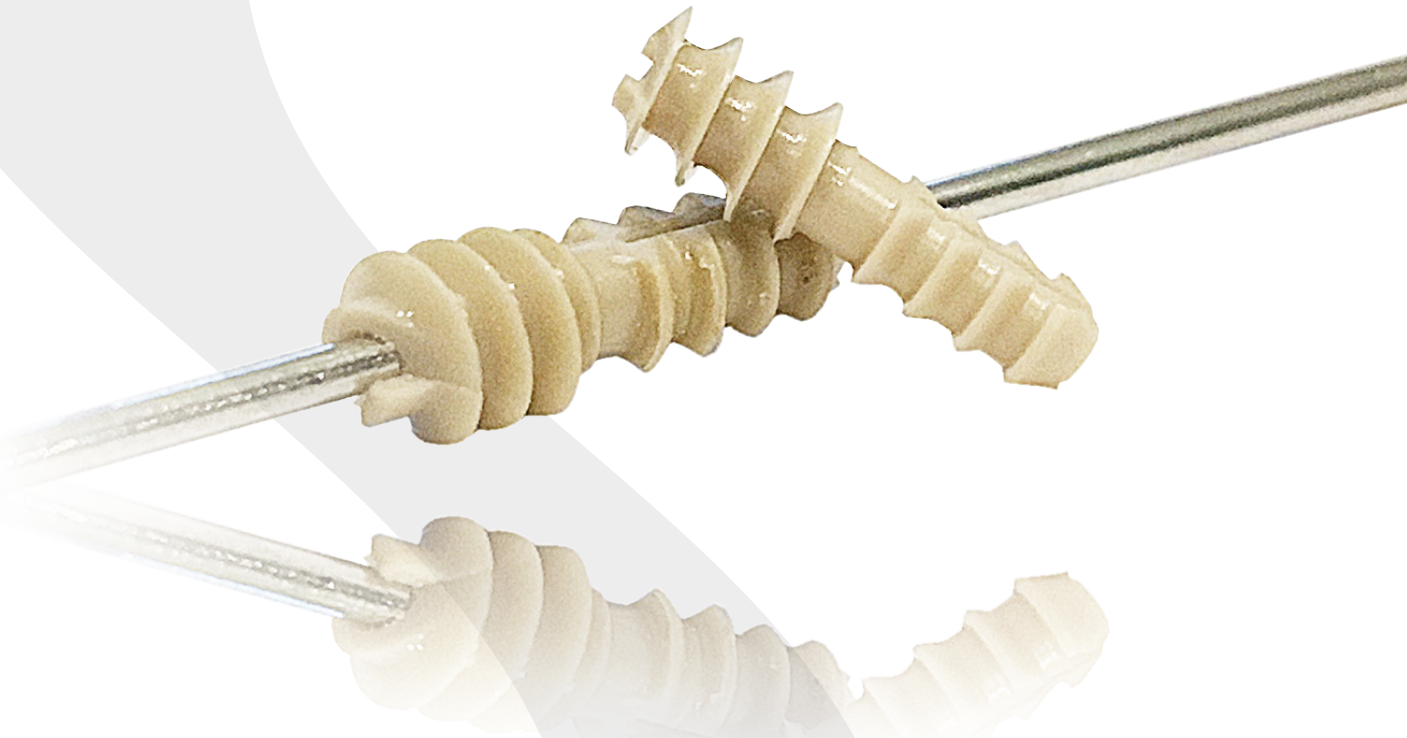


# HammerTech

Fixation System

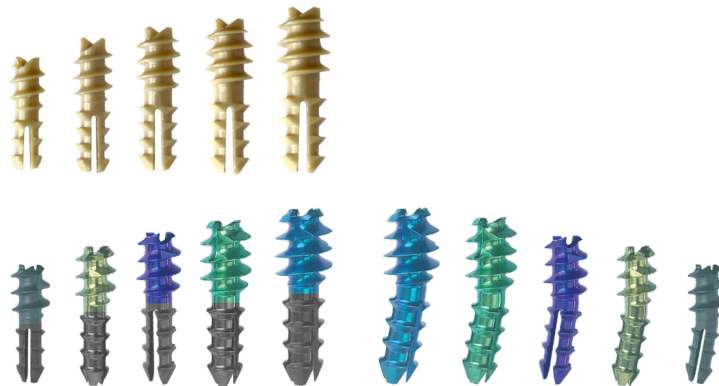


**Fusion**  
ORTHOPEDICS

PEEK, Ti Straight, Ti 10° Angled  
**Surgical Technique**

## DESCRIPTION OF THE MEDICAL DEVICE

The HammerTech Fixation System consists of PEEK (Polyetheretherketone (ASTM F2026)) and titanium alloy (Ti6Al4V ELI (ASTM F136)) threaded bone implants intended for fixation of the interphalangeal joints of the lesser toes. The device is offered in three configurations; straight cannulated PEEK, straight cannulated titanium, and angled solid titanium. Each configuration is offered in five different sizes to address to a variety of patient anatomy. The specialized instruments are made primarily of surgical grade stainless steel (ASTM F899). The implant and associated instrumentation is supplied sterile and non-sterile.



## INDICATIONS FOR USE

The HammerTech device is indicated for the fixation of osteotomies and reconstruction of the lesser toes following correction procedures for hammertoe, claw toe and mallet toe.

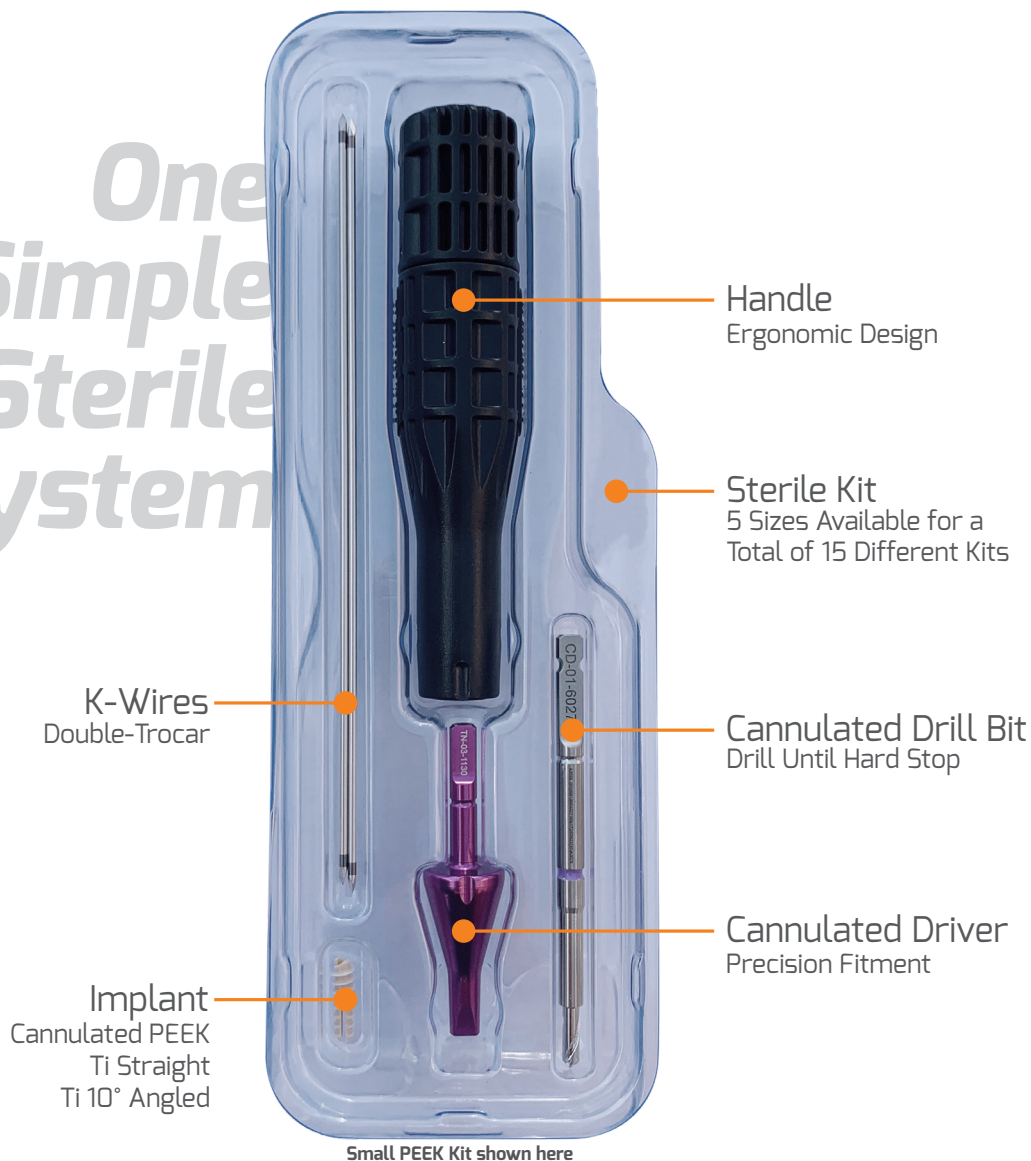
## CONTRAINDICATIONS

- Local or systemic, acute or chronic inflammation;
- Active infection or inflammation;
- Growing patients with open epiphyses;
- Growing patients with open epiphyses;
- Physiologically or Psychologically inadequate patients;
- Patients with high levels of activity

Implant & Instrument Kits

All Sterile Kits are One-Time Use

One  
Simple  
Sterile  
System



Add-Ons

Sterile Packed and Sold Separately



Awl  
Designed  
for joint  
preparation



Removal Tool  
For easy and  
efficient dislodge of  
PEEK implant



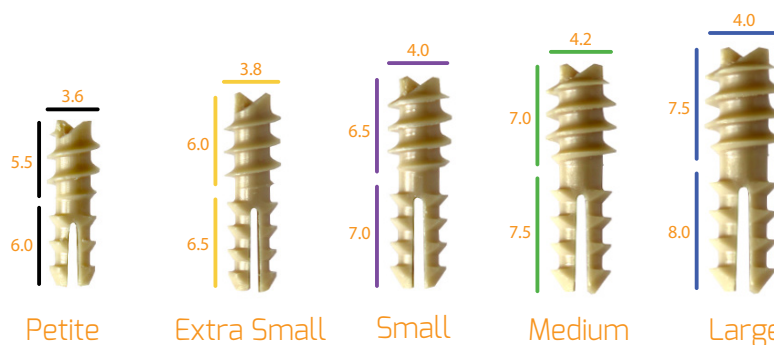
Cup & Cone Reamers  
Designed for  
increased  
contact surface



Sizer Wheel  
To determine  
optimal Implant  
fitting



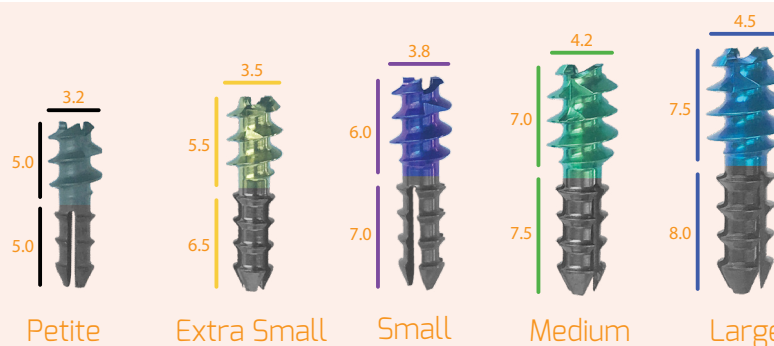
Implant Singles  
Additional  
Single-Packed  
Implants



Petite      Extra Small      Small      Medium      Large

All sizes shown are approximate and in mm

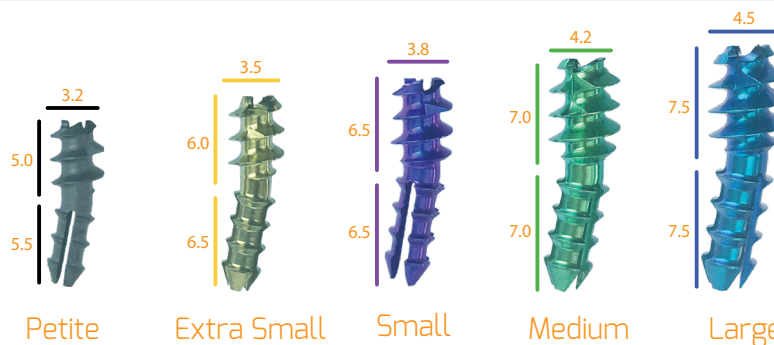
PEEK	Size	Kit Color	Drill	K-Wire
	Petite	<b>Black</b>	2.4mm	1.0mm
	Extra Small	<b>Gold</b>	2.4mm	1.0mm
	Small	<b>Purple</b>	2.75mm	1.4mm
	Medium	<b>Green</b>	2.95mm	1.4mm
	Large	<b>Blue</b>	3.25mm	1.6mm



Petite      Extra Small      Small      Medium      Large

All sizes shown are approximate and in mm

Ti Straight	Size	Kit Color	Drill	K-Wire
	Petite	<b>Black</b>	2.3mm	1.0mm
	Extra Small	<b>Gold</b>	2.4mm	1.0mm
	Small	<b>Purple</b>	2.8mm	1.4mm
	Medium	<b>Green</b>	3.0mm	1.4mm
	Large	<b>Blue</b>	3.2mm	1.6mm



Petite      Extra Small      Small      Medium      Large

All sizes shown are approximate and in mm

Ti 10° Angled	Size	Kit Color	Drill	K-Wire
	Petite	<b>Black</b>	2.3mm	N/A
	Extra Small	<b>Gold</b>	2.4mm	N/A
	Small	<b>Purple</b>	2.8mm	N/A
	Medium	<b>Green</b>	3.0mm	N/A
	Large	<b>Blue</b>	3.2mm	N/A

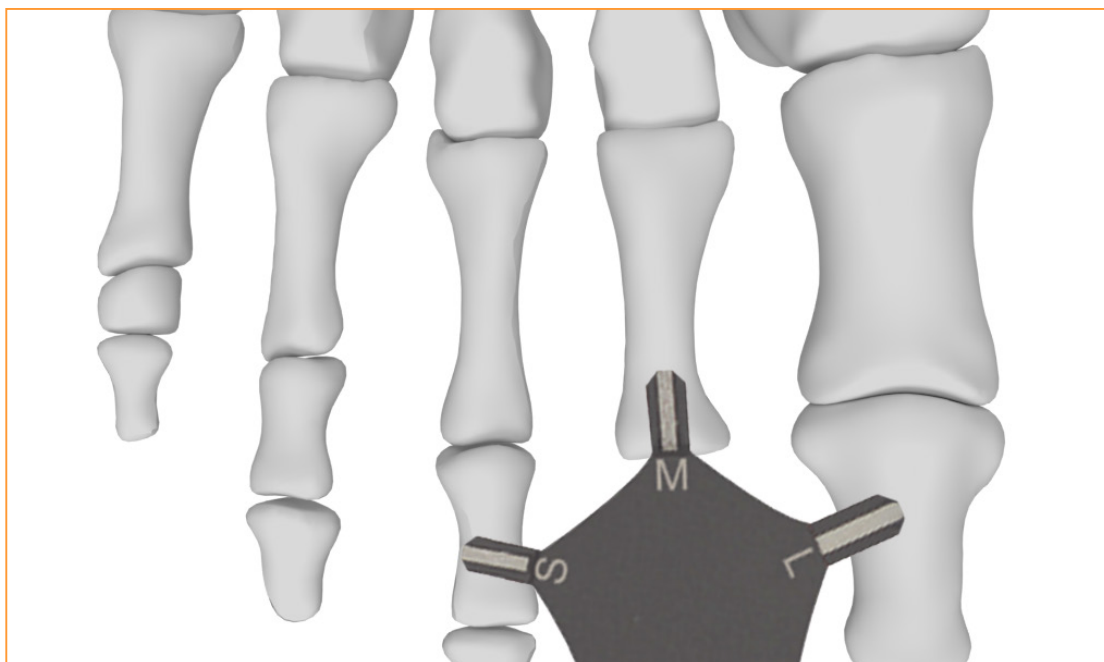
### Editor's Note:

The HammerTech PEEK, Ti Straight, and Ti 10° Angled utilize the same technique. For demonstration purposes the PEEK implant is primarily pictured through the following steps.



1

After creating an incision over the dorsal aspect of the PIP joint, perform soft tissue releases as necessary. Resect the required amount of the distal aspect of the proximal phalanx.



2

A template may be used intra-operatively to determine the optimal implant size. The length and width of the template correspond to the length and major diameter of the proximal barbed end of the implant. The implant should be sized to the proximal phalanx for proper fitment.



**3**

Denude the articular cartilage of the middle phalanx. The HammerTech Awl or Reamers may be used to denude if desired. During joint preparation, take care to avoid excessive resection, which may result in a shortened digit.



Use of the K-wire for placement and fixation may be according to surgeon preference.

**4**

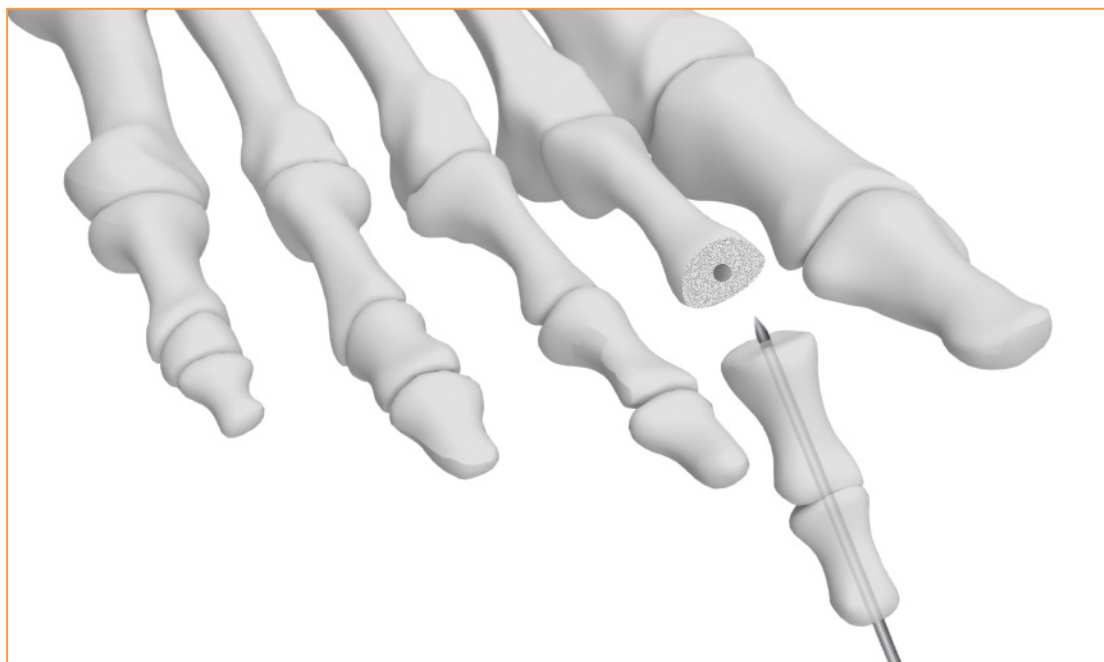
Place the K-wire into the proximal phalanx along its central axis, approximately 10mm. Verify proper positioning with AP and lateral fluoroscopic views.

A Handle is provided in the sterile kit to drill by hand. Use caution and avoid overdrilling if power is utilized.



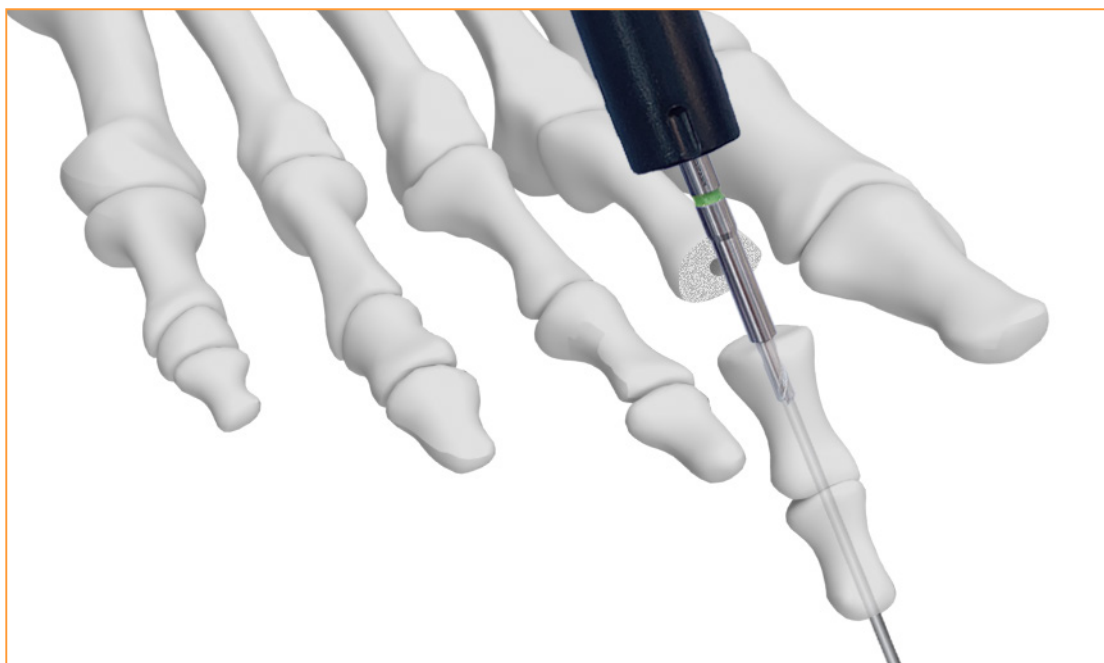
**5**

Drill over the K-wire and advance until the hard stop on the cannulated drill is reached. This will create space for the barbed end of the implant. Drilling by hand is recommended although power may be used if desired.



**6**

Insert the K-wire into the central axis of the middle phalanx. After verifying proper positioning with AP and lateral fluoroscopic views, continue to drive the K-wire distally through both the middle and distal phalanx until it exits the toe. Retrograde the K-wire until the laser mark is buried within the middle phalanx and no longer visible, leaving 3mm to guide the implant.



**7** Advance the cannulated drill over the tip of the K-wire to prepare the middle phalanx for the threaded side of the implant. Advance until the positive stop on the drill bit is reached.



PEEK

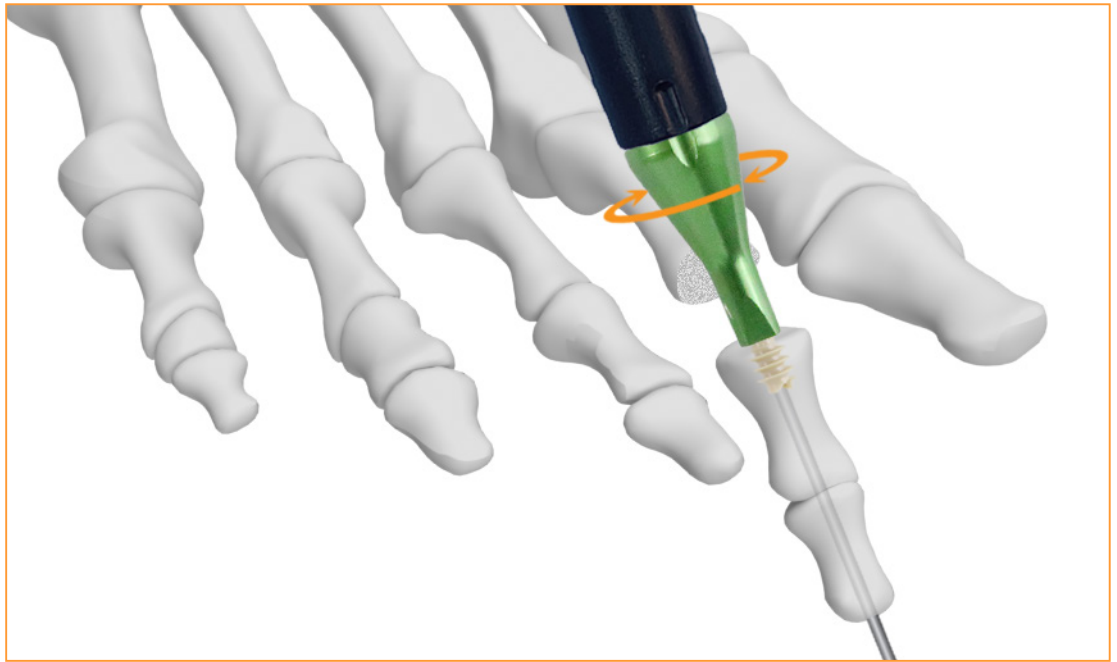
Ti Straight

Ti Angled



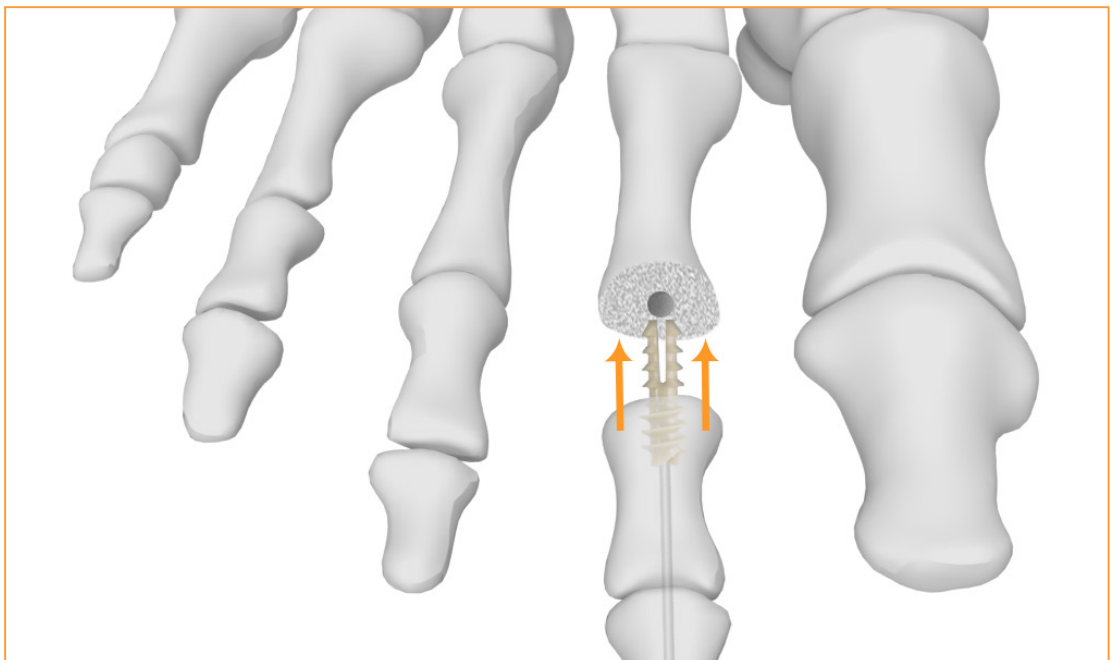
Advance the Implant only if the entire barbed segment of the implant is FULLY SEATED inside the driver. (Never advance the implant partially seated utilizing the end of the implant wings for torque.)

**8** Place the barbed segment of the implant into the driver and ensure that the driver is in the dorsal position.



9

Screw the distal threaded portion clockwise into the middle phalanx, sliding the implant over the K-wire as a guide. Advance the implant until the threaded portion of the implant is buried within the middle phalanx leaving the unthreaded neck of the implant at the bone-to-bone interface.



It is recommended to advance the K-wire through the barbed segment of the implant, as this will enhance implant stability in the proximal phalanx. The K-wire can then be advanced through the metatarsophalangeal joint for fixation during the initial recovery period to prevent joint subluxation.

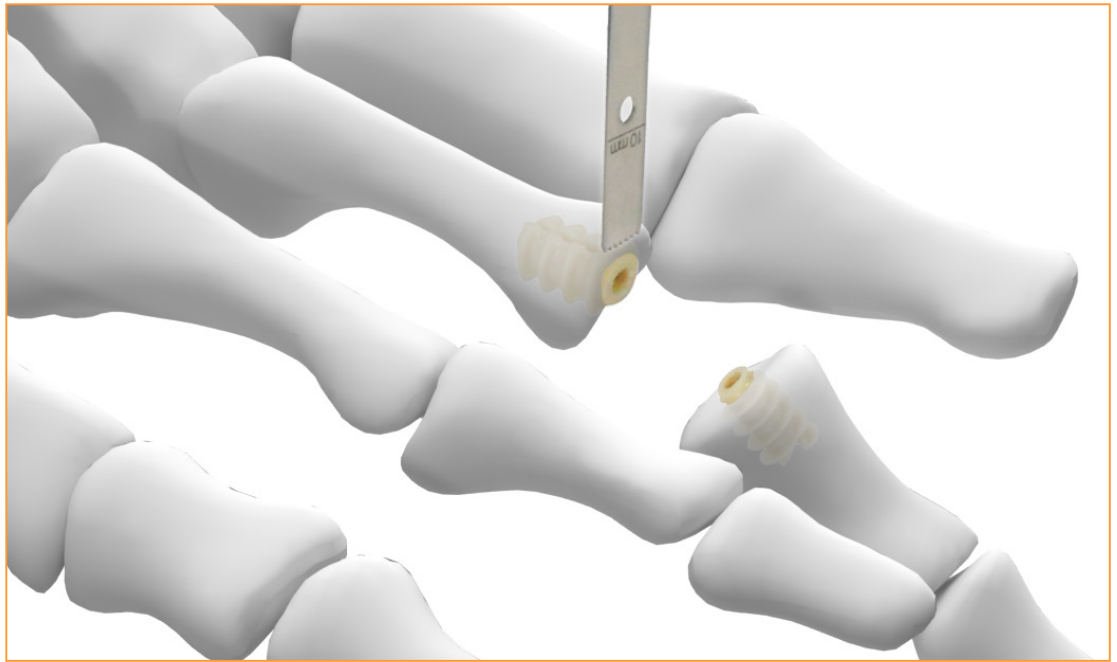
10

Insert the barbed segment of the implant into the pre-drilled hole in the proximal phalanx. Firmly compress the joint until the resected surfaces of the joint are fully opposed. The distal end of the Handle can be used over the K-wire as a pusher to help reduce the joint.



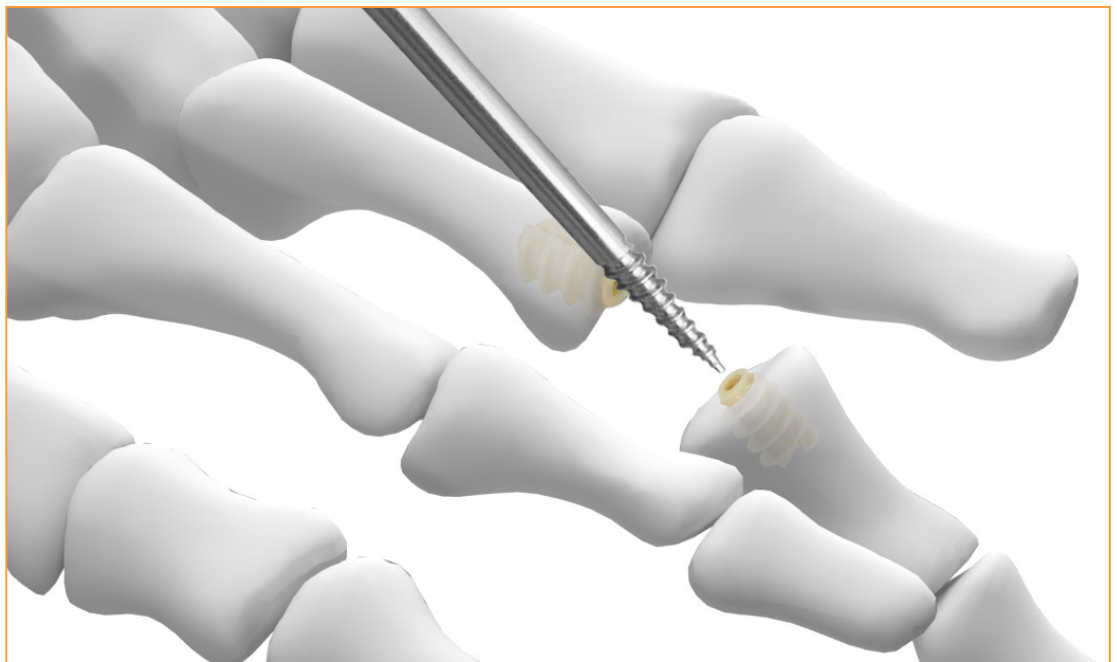
11

Confirm under fluoroscopy for adequate joint reduction and final placement. The K-wire is not indicated for permanent implantation (according to surgeon preference, not to exceed 30 days). Postoperative protocol is the responsibility of the medical professional.



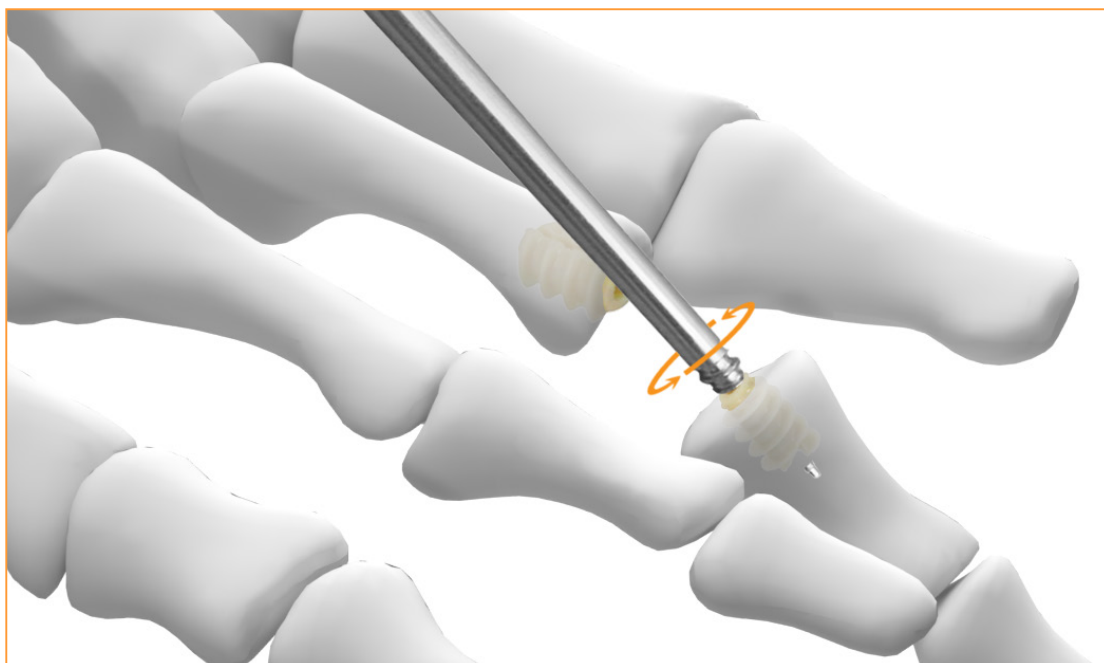
1

Using a small power saw, cut the implant in half at the osteotomy site.



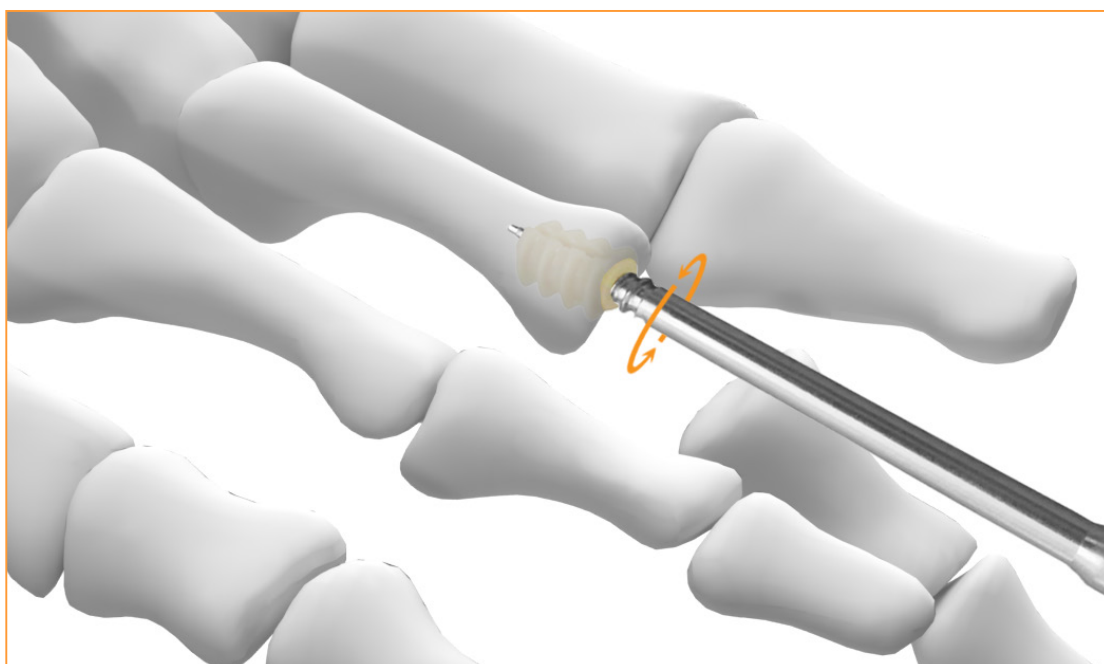
2

Attach the removal tool to a quick connect AO driver handle.



3

Advance the removal tool into the distal portion of the implant using a counter clockwise rotation to engage the reverse thread with the PEEK implant. After the threads have engaged with the implant, continue rotating counter-clockwise until the implant is removed.



4

The proximal portion of the implant can be removed with the same technique. Continue rotating the implant counter clockwise until the implant is removed.



1

Using a sagittal saw cut through the fusion site and around the implant.



2

Distract the joint to expose the proximal barbs of the implant from the proximal phalanx.



3

Utilizing the HammerTech Driver on the proximal barbs of the implant, rotate counter-clockwise to remove the threaded distal portion of the implant from the middle phalanx.

<b>Petite</b>		<b>HT-10-1110-S</b> Implant
K-Wire Double Trocar 1.0mm	HT-KW-4010-S	
Handle HT Disposable	CD-06-7000-S	
Driver HT Petite	TN-03-1110-S	
Drill Cannulated HT 2.4mm	CD-01-6024-S	
		<b>HT-20-1110-S</b> Instruments

<b>Extra Small</b>		<b>HT-10-1120-S</b> Implant
K-Wire Double Trocar 1.0mm	HT-KW-4010-S	
Handle HT Disposable	CD-06-7000-S	
Driver HT Extra Small	TN-03-1120-S	
Drill Cannulated HT 2.4mm	CD-01-6024-S	
		<b>HT-20-1120-S</b> Instruments

<b>Small</b>		<b>HT-10-1130-S</b> Implant
K-Wire Double Trocar 1.4mm	HT-KW-4014-S	
Handle HT Disposable	CD-06-7000-S	
Driver HT Small	TN-03-1130-S	
Drill Cannulated HT 2.7mm	CD-01-6027-S	
		<b>HT-20-1130-S</b> Instruments

<b>Medium</b>		<b>HT-10-1140-S</b> Implant
K-Wire Double Trocar 1.4mm	HT-KW-4014-S	
Handle HT Disposable	CD-06-7000-S	
Driver HT Medium	TN-03-1140-S	
Drill Cannulated HT 2.9mm	CD-01-6029-S	
		<b>HT-20-1140-S</b> Instruments

<b>Large</b>		<b>HT-10-1150-S</b> Implant
K-Wire Double Trocar 1.6mm	HT-KW-4016-S	
Handle HT Disposable	CD-06-7000-S	
Driver HT Large	TN-03-1150-S	
Drill Cannulated HT 3.2mm	CD-01-6032-S	
		<b>HT-20-1150-S</b> Instruments



<b>Petite</b>		<b>HT-TM-5510-S</b> Implant
K-Wire Double Trocar 1.0mm	KT-KW-4010-S	
Handle HT Disposable	CD-06-7000-S	
HT Ti Standard Driver Petite	TN-TM-1010-S	
HT Ti Drill Cannulated Petite	CD-TM-3010-S	
		<b>CD-HT-5510-S</b> Instruments

<b>Extra Small</b>		<b>HT-TM-5520-S</b> Implant
K-Wire Double Trocar 1.0mm	KT-KW-4010-S	
Handle HT Disposable	CD-06-7000-S	
HT Ti Standard Driver Extra Small	TN-TM-1020-S	
HT Ti Drill Cannulated Extra Small	CD-TM-3020-S	
		<b>CD-HT-5520-S</b> Instruments

<b>Small</b>		<b>HT-TM-5530-S</b> Implant
K-Wire Double Trocar 1.0mm	KT-KW-4010-S	
Handle HT Disposable	CD-06-7000-S	
HT Ti Standard Driver Small	TN-TM-1030-S	
HT Ti Drill Cannulated Small	CD-TM-3030-S	
		<b>CD-HT-5530-S</b> Instruments

<b>Medium</b>		<b>HT-TM-5540-S</b> Implant
K-Wire Double Trocar 1.0mm	KT-KW-4010-S	
Handle HT Disposable	CD-06-7000-S	
HT Ti Standard Driver Medium	TN-TM-1040-S	
HT Ti Drill Cannulated Medium	CD-TM-3040-S	
		<b>CD-HT-5540-S</b> Instruments

<b>Large</b>		<b>HT-TM-5550-S</b> Implant
K-Wire Double Trocar 1.0mm	KT-KW-4010-S	
Handle HT Disposable	CD-06-7000-S	
HT Ti Standard Driver Large	TN-TM-1040-S	
HT Ti Drill Cannulated Large	CD-TM-3040-S	
		<b>CD-HT-5550-S</b> Instruments



<b>Petite</b>	<b>HT-TM-6610-S</b> Implant
Handle HT Disposable	CD-06-7000
HT Ti Angled Driver Petite	TN-TM-1010-S
HT Ti Drill Angled Petite	CD-TM-3010-S
	<b>CD-HT-6610-S</b> Instruments

<b>Extra Small</b>	<b>HT-TM-6620-S</b> Implant
Handle HT Disposable	CD-06-7000
HT Ti Angled Driver Extra Small	TN-TM-1020-S
HT Ti Drill Angled Extra Small	CD-TM-3020-S
	<b>CD-HT-6620-S</b> Instruments

<b>Small</b>	<b>HT-TM-6630-S</b> Implant
Handle HT Disposable	CD-06-7000
HT Ti Angled Driver Small	TN-TM-1030-S
HT Ti Drill Angled Small	CD-TM-3030-S
	<b>CD-HT-6630-S</b> Instruments

<b>Medium</b>	<b>HT-TM-6640-S</b> Implant
Handle HT Disposable	CD-06-7000
HT Ti Angled Driver Medium	TN-TM-1040-S
HT Ti Drill Angled Medium	CD-TM-3040-S
	<b>CD-HT-6640-S</b> Instruments

<b>Large</b>	<b>HT-TM-6650-S</b> Implant
Handle HT Disposable	CD-06-7000
HT Ti Angled Driver Large	TN-TM-1040-S
HT Ti Drill Angled Large	CD-TM-3040-S
	<b>CD-HT-6650-S</b> Instruments



PEEK	Description	Sterile Add-Ons
	PEEK Implant Petite	HT-TM-5510-S1
	PEEK Implant Extra Small	HT-TM-5520-S1
	PEEK Implant Small	HT-TM-5530-S1
	PEEK Implant Medium	HT-TM-5540-S1
	PEEK Implant Large	HT-TM-5550-S1

Ti Straight	Description	Sterile Add-Ons
	Ti Implant Petite	HT-TM-5510-S1
	Ti Implant Extra Small	HT-TM-5520-S1
	Ti Implant Small	HT-TM-5530-S1
	Ti Implant Medium	HT-TM-5540-S1
	Ti Implant Large	HT-TM-5550-S1

Ti 10° Angled	Description	Sterile Add-Ons
	Ti 10° Angled Implant Petite	HT-TM-6610-S1
	Ti 10° Angled Implant Extra Small	HT-TM-6620-S1
	Ti 10° Angled Implant Small	HT-TM-6630-S1
	Ti 10° Angled Implant Medium	HT-TM-6640-S1
	Ti 10° Angled Implant Large	HT-TM-6650-S1

Instruments	Description	Sterile Add-Ons
	Removal Tool HT	CD-09-6400-S
	Awl HT	CD-09-6200-S
	HT Sizer Wheel	TN-05-7010-S
	Reamer Implant Kit 8mm	HT-60-0808-S
	Reamer Implant Kit 10mm	HT-60-1010-S
	Reamer Implant Kit 12mm	HT-60-1212-S

A surgeon must always rely on his or her own professional clinical judgment when deciding whether to use a particular product when treating a particular patient. Fusion Orthopedics does not dispense medical advice and recommends that surgeons be trained in the use of any particular product before using it in surgery. The information presented is intended to demonstrate the breadth of Fusion Orthopedics' product offerings. A surgeon must always refer to the package insert, product label, and instructions for use before using any Fusion Orthopedics product. Products may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets. Please contact your representative if you have questions about the availability of products in your area.

**FDA Cleared**

All Rights Reserved. HammerTech is a  
Trademark of Fusion Orthopedics USA, LLC.

STG009

Rev 2



4135 South Power Road, #118

Mesa, Arizona 85212, U.S.A.

800-403-6876

[info@fusionorthopedics.com](mailto:info@fusionorthopedics.com)

[fusionorthopedics.com](http://fusionorthopedics.com)