# CrossTIE<sup>®</sup> PIP Arthrodesis Implant





# CrossTIE<sup>®</sup> PIP Arthrodesis Systems

# surgical technique



**Exposure and Joint Preparation** 

Exposure of the PIP joint can be achieved using a standard dorsal incision and soft tissue dissection. Resect the head of the proximal phalanx and base of the middle phalanx being mindful to avoid over-resection. Using provided reamer, drill the proximal phalanx until the cutting flutes are buried. Drill the middle phalanx to the laser mark on the cutting flutes.



### Implantation

The CrossTIE<sup>®</sup> implant and inserter are packaged sterile and ready to use. Use caution during insertion to prevent MP Joint sublaxation Stabilize the proximal phalanx using a phalangeal clamp. Once stabilized, insert the exposed portion of the CrossTIE<sup>®</sup> implant into the proximal phalanx.

Note: The CrossTIE® inserter is laser marked to ensure proper dorsal orientation of the implant.

# Tie-In technique



Suture Hole Preparation

An optional suture tunnel can be drilled approximately 3-4mm from the proximal edge of the middle phalanx. Recommended suture tunnel can be drilled using either a 1.6mm or 1.1mm k-wire.



# Suture Introduction

Suture is introduced through the tunnel in the middle phalanx, then passed through the hole in the distal portion of the CrossTIE® Implant and back through the tunnel in the middle phalanx.

NOTE : Suture must be on a PS1 or PS2 needle in order to pass through the CrossTIE\* implant.





Reduction

Manually reduce the middle phalanx over the distal end of the CrossTIE® Implant. Compress until the joint is fully reduced and bone-to-bone contact is achieved.

Implantation, continued

During implantation force and grip should be applied to the proximal portion of the inserter. Once inserted proximally, gently remove the inserter.

Note: Do not apply force to distal end of inserter.



### Reduction

Using the suture as leverage, the middle phalanx is manually reduced over the distal end of the CrossTIE<sup>®</sup> implant until the joint is fully reduced and bone-to-bone contact is achieved.



Closure

Once the joint is fully reduced, the suture may be used to reattach the extensor tendon, or removed.

# Designed to aid in the correction of hammertoe deformity.

The CrossTIE® System is available in either PEEK material or as a machined cortical allograft. Both styles feature a unique distal cross hole which allows the surgeon the option to "tie in" the implant thus aiding in reduction and compression of the joint surfaces.

Especially useful in revision cases, the CrossTIE® implant "tie in" feature minimizes pistoning of the implant due to enlargement of the intramedullary canal. Available in standard size of 3.0mm diameter and in a mini size of 2.5mm diameter, the CrossTIE® PEEK Implant Kits are available in both straight and 10° angled configurations. CrossTIE® Allograft Implants are available in standard size of 3.0mm diameter, in both straight and 10° angled configurations. A mini size of 2.5mm diameter is available in straight only.

CrossTIE® Allograft implants are provided sterile packed in saline so rehydrating at time of surgery is not required. The allograft implant utilizes the Universal Inserter, also provided sterile packed.

# product overview

- Manufactured from PEEK or machined cortical allograft
- Distal hole allows surgeon to tie in the implant and reattach the extensor tendon
- Implants and instruments are delivered sterile packaged
- Inserters can be sold back to CrossRoads via the EcoSMART Instrument Recovery Program\*
  \*Patent Pending



# ordering information





### **PEEK IMPLANTS**

Standard Size	Implant Kit (Incl Inserter)	Implant Only
3.0mm x 3.0mm x 0°	1443-3301	1444-3300
3.0mm x 3.0mm x 10°	1443-3311	1444-3310

# **PEEK IMPLANTS**

Mini Size	Implant Kit (Incl Inserter)	Implant Only
2.5mm x 2.5mm x 0°	1443-2501	1444-2500
2.5mm x 2.5mm x 10°	1443-2511	1444-2510



ALLOGRAFT IMPLAN	Sterile Packaged in Saline, No Need to Re-Hydrate
Standard Size	Implant Only
3.0mm x 3.0mm x 0	4200-3300
3.0mm x 3.0mm x 10°	4200-3310
Mini Size	Implant Only

4200-2500



# **UNIVERSAL INSERTER**

Universal Inserter, Sterile Packed 4200-0001 Used with Allograft Implants, and individually packaged PEEK implants

# choosing the correct reamer



### **CROSSTIE™ INSERTER**

CrossTIE<sup>™</sup> Inserter, Sterile Packed 4200-0000 Used with Allograft Implants, and individually packaged PEEK implants

The CrossTIE<sup>®</sup> Implant relies on a press fit in the prepared bone tunnel for fixation. Additional fixation is available at the surgeon's discretion using the optional tie-in technique. The chart below is for reference and the final decision as to which reamer is most appropriate should be made by the surgeon based on their medical judgement and the patient's bone quality.

2.5mm x 2.5mm x 0°

	Suggested Reamer
3.0mm Standard CrossTIE <sup>®</sup> Implant	2.7mm diameter Cat. No. 1400-1027 83mm Sterile Packed
2.5mm Mini CrossTIE <sup>®</sup> Implant	2.5mm diameter Cat. No. 1400-1025 83mm Sterile Packed
3.0mm Allograft CrossTIE <sup>®</sup> Implant	3.0mm diameter Cat. No. 1400-1030 83mm Sterile Packed
2.5mm Allograft CrossTIE <sup>®</sup> Implant	2.5mm diameter Cat. No. 1400-1025 83mm Sterile Packed



Note Bene: These technique guidelines are for informational purposes only. Proper surgical procedures are the responsibility of the surgeon, who must evaluate the appropriateness of the procedures described based upon his/her own medical training, experience, and the needs of the individual patient. Prior to the use of these products, the surgeon should refer to the product instruction for use (IFU) for complete indications, warnings, precautions and contra indications. IFU's are also available by contacting CrossRoads Extremity Systems.



6055 Primacy Parkway, Suite 140 Memphis, TN 38119 crextremity.com 901. 221. 8406