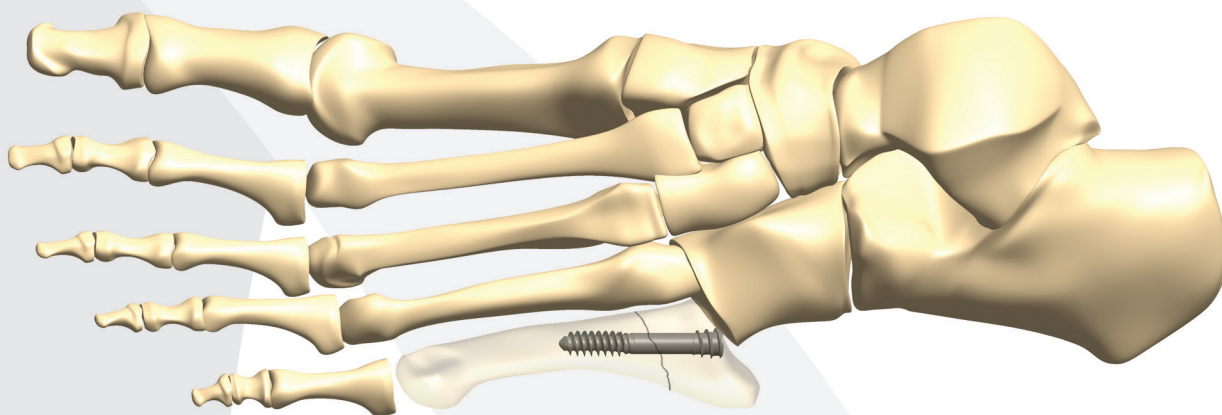


**EXTREMITY**  
MEDICAL™  
JONES UNION SYSTEM™

# Surgical Technique



CAUTION: Federal Law (USA) restricts this device to sale by or on the order of a physician.

The Extremity Medical Jones Fracture System has been designed to address the specific anatomy and challenges faced by surgeons in the surgical treatment of Jones Fractures.

### **Incision & Exposure**

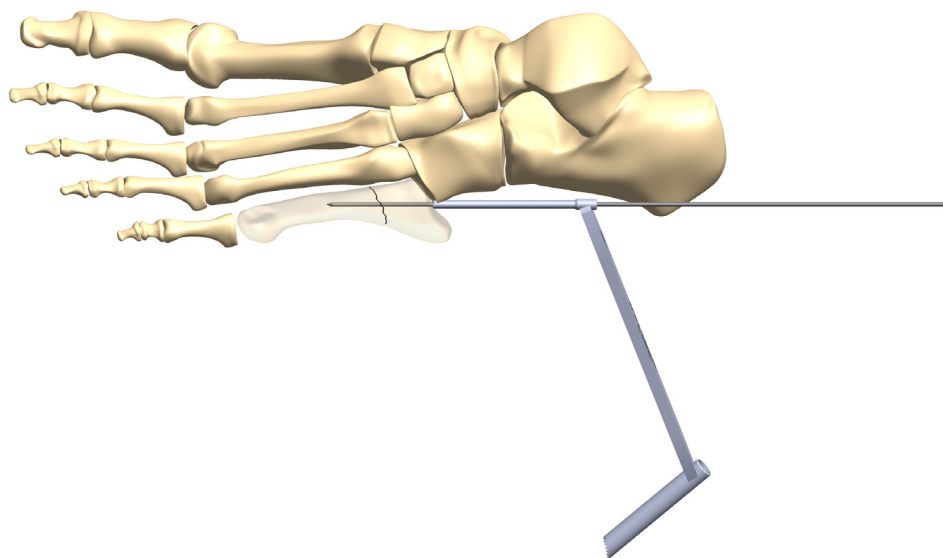
A small, open incision is made approximately 2-3 cm proximal to the base of the 5th metatarsal, parallel and dorsal to the peroneus brevis tendon to help avoid the sural nerve. Blunt dissection is carried down from the incision to the base of the 5th metatarsal, with gentle plantar retraction of the peroneal tendon and lateral dorsal cutaneous branch of the sural nerve.

### **Non-union**

In the case of a non-union or for a patient where bone graft is required, a second incision is made over the fracture site or a single continuous incision can be made for screw entry and fracture site preparation. Blunt dissection is carried down to the fracture site and necrotic bone is debrided from the area. Extremity Medical's viable bone graft, BioFuse, is packed into the site.

## **STEP 1 - Guidewire Placement**

Insert a 1.6mm Guidewire center-center on the 5th metatarsal base. This starting position will allow the Guidewire to enter the center of the intramedullary canal. Due to the curved nature of this bone, screw length should stop prior to the bow in the canal which can minimize the likelihood of malreduction. Advance the Guidewire past the fracture line, but end before the curve in the distal diaphysis of the 5th metatarsal shaft. Verify positioning of the Guidewire with fluoroscopy. To prevent deviating medially, the proximal end of the pin should be adjacent to the cuboid alongside the lateral skin.

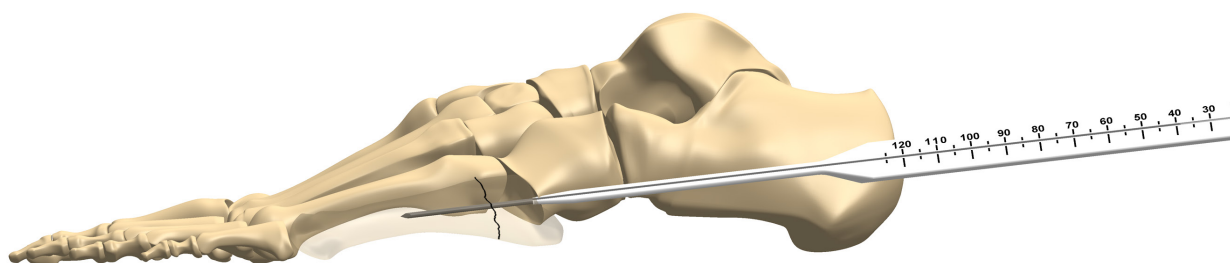


## STEP 1 - Continued

### Determining Screw Length

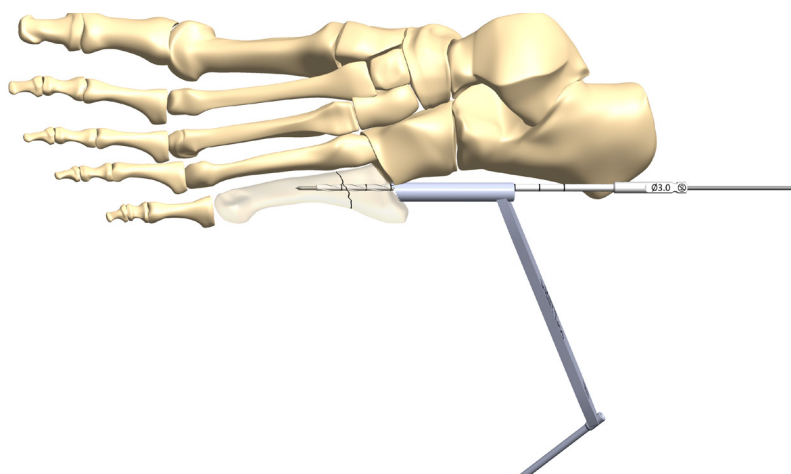
It is recommended to determine the length of the screw with the **Tap in Step 4** of this technique. The threads of the Tap match the length of the threads of the Jones Fracture Screws. Simply ensure the threads of the tap are fully distal to the fracture to determine the length of the screw. By selecting a shorter screw, the likelihood of malreduction of the fracture due to the curve of the metatarsal is diminished.

Alternatively, the screw length can be determined by measuring the Guidewire with the Depth Gauge. Once length is determined, advance the guidewire into the metatarsal to prevent back out during subsequent steps.



## STEP 2 -Drill

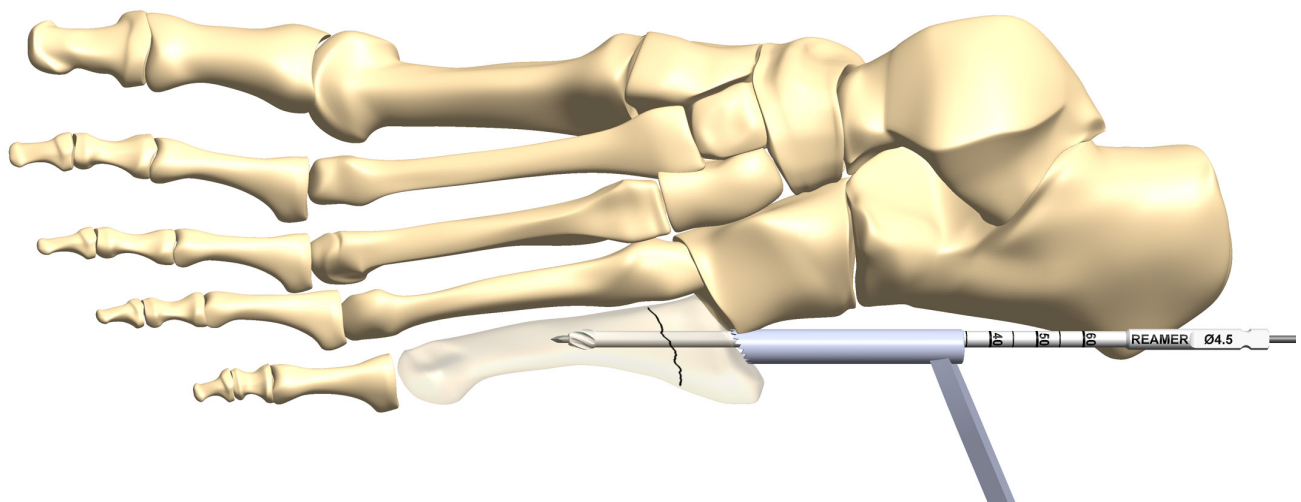
Advance the 3.0mm Drill through the Soft Tissue Protector, through the near cortex, and past the fracture site.



### STEP 3 - Ream

Reaming prepares the intramedullary canal for the placement of the screw. Unlike drilling, reaming also localizes the release of bony debris from the cortex. Bony debris acts as a local autogenous graft to promote bone healing.

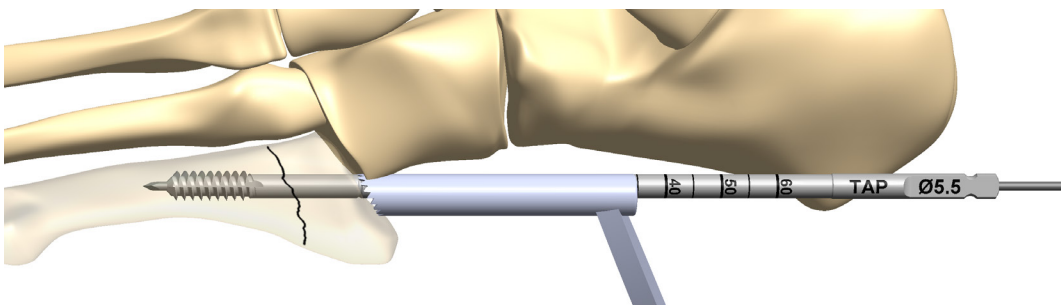
Start with the smallest cannulated Reamer. If no resistance to the Reamer is appreciated, the next largest diameter Reamer may be used. This will help determine screw diameter.



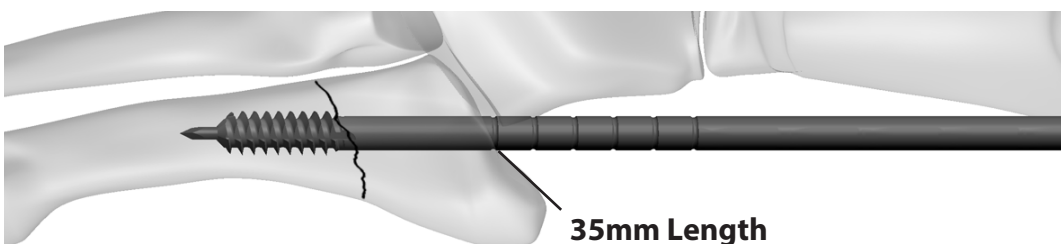
## STEP 4 - Tap & Determine Screw Length

Choose the Tap based on the largest sized Reamer utilized in the previous step. Insert the Tap over the Guidewire and through the soft tissue protector. Advance the Tap into the proximal end of the 5th metatarsal, advancing it just past the distal fragment ensuring all of the threads of the Tap are past the fracture. Verify with fluoroscopy. If no resistance to the tap is appreciated, the next largest tap can then be used. The tap should feel snug within the intramedullary canal. The screw diameter is based on the largest size Tap utilized.

The Screw length can be measured/verified off of the Tap using the Soft Tissue Guide.

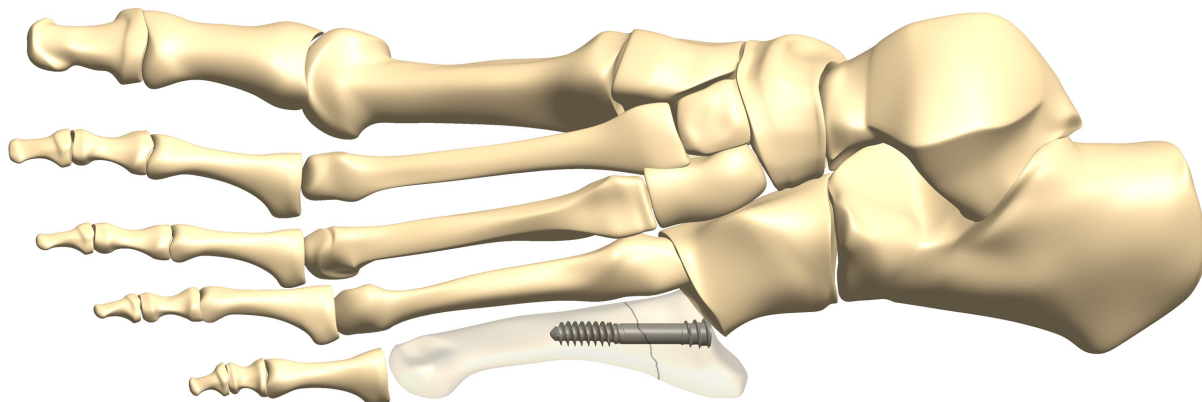
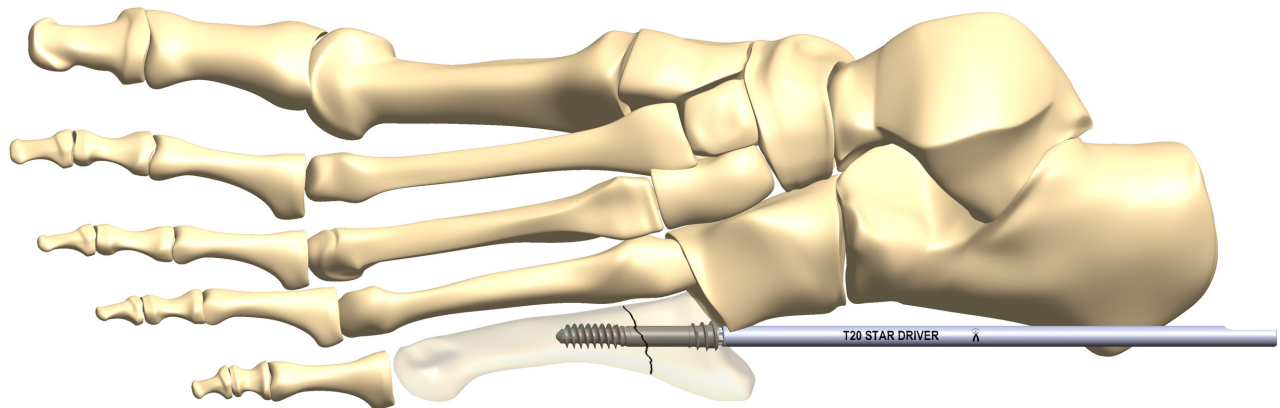


Alternatively, if no Soft Tissue Guide is used, the length of the screw can be measured/verified utilizing fluoroscopy. The most distal groove on the Tap represents the 35mm screw length. Each subsequent proximal groove represents a 5mm addition to the length (35-60mm).



## STEP 5 - Place Screw

Remove the Tap and Guidewire. Advance the appropriate Jones Fracture Screw utilizing the T20 Star Driver ensuring there is no hardware prominence upon final implant positioning. Verify final positioning with fluoroscopy.



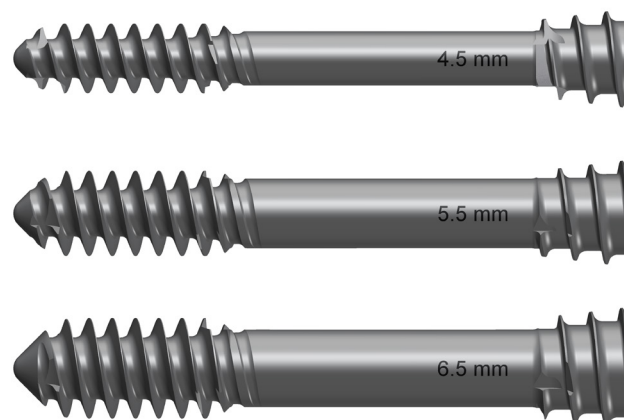
## Indication for Use

The Jones UNION Fracture Screw is intended for reduction and internal fixation of fractures and nonunion of the small bones and joints of the foot.

This system has been specifically designed to address the special anatomic needs of the Jones fracture.

## Implants and Instruments

| Reference #                                       | Description                       |
|---------------------------------------------------|-----------------------------------|
| 102-00034                                         | 9" Guidewire Holder - 1.6 mm      |
| 142-00000                                         | Instrument Tray                   |
| 142-00001                                         | Implant Caddy                     |
| <i>System Implants</i>                            |                                   |
| 142-45035                                         | 5th Metatarsal Screw, 4.5 x 35 mm |
| 142-45040                                         | 5th Metatarsal Screw, 4.5 x 40 mm |
| 142-45045                                         | 5th Metatarsal Screw, 4.5 x 45 mm |
| 142-45050                                         | 5th Metatarsal Screw, 4.5 x 50 mm |
| 142-45055                                         | 5th Metatarsal Screw 4.5 x 55 mm  |
| 142-45060                                         | 5th Metatarsal Screw 4.5 x 60 mm  |
| 142-55035                                         | 5th Metatarsal Screw, 5.5 x 35 mm |
| 142-55040                                         | 5th Metatarsal Screw, 5.5 x 40 mm |
| 142-55045                                         | 5th Metatarsal Screw, 5.5 x 45 mm |
| 142-55050                                         | 5th Metatarsal Screw, 5.5 x 50 mm |
| 142-55055                                         | 5th Metatarsal Screw 5.5 x 55 mm  |
| 142-55060                                         | 5th Metatarsal Screw 5.5 x 60 mm  |
| 142-65035                                         | 5th Metatarsal Screw, 6.5 x 35 mm |
| 142-65040                                         | 5th Metatarsal Screw, 6.5 x 40 mm |
| 142-65045                                         | 5th Metatarsal Screw, 6.5 x 45 mm |
| 142-65050                                         | 5th Metatarsal Screw, 6.5 x 50 mm |
| 142-65055                                         | 5th Metatarsal Screw 6.5 x 55 mm  |
| 142-65060                                         | 5th Metatarsal Screw 6.5 x 60 mm  |
| <i>System Accessories, Disposable Instruments</i> |                                   |
| 101-00023                                         | Cleaning Brush - 1.6 mm           |
| 102-00002                                         | Cannulated Drill - 3.0 mm         |
| 102-00033                                         | Guidewire - 1.6 mm (9")           |
| 142-00045                                         | Cannulated Tap, 4.5 mm            |
| 142-00055                                         | Cannulated Tap, 5.5 mm            |
| 142-00065                                         | Cannulated Tap, 6.5 mm            |
| 142-01375                                         | IM Reamer, 3.75 mm                |
| 142-01450                                         | IM Reamer, 4.50 mm                |
| 142-01500                                         | IM Reamer, 5.00 mm                |
| <i>System Accessories, Reusable Instruments</i>   |                                   |
| 118-02039                                         | Handle (Medium AO Ratchet)        |
| 142-00011                                         | Soft Tissue Sleeve                |
| 142-00020                                         | T20 Star Driver                   |
| 142-00016                                         | Depth Gauge                       |



**Surgical Technique**

