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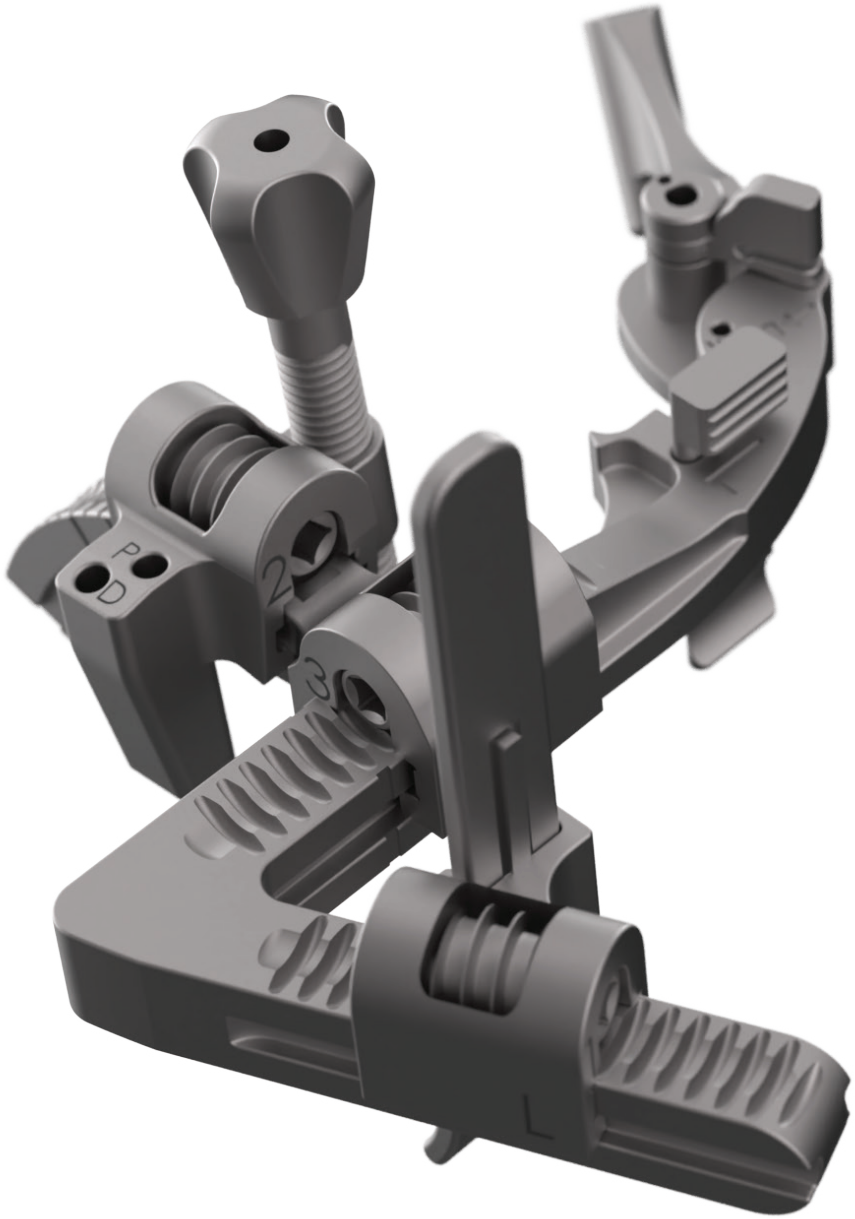
SURGICAL TECHNIQUE

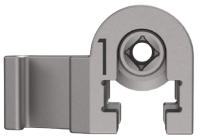
Lapidus Correction and Preparation Guide



LapiPrep

Table of Contents

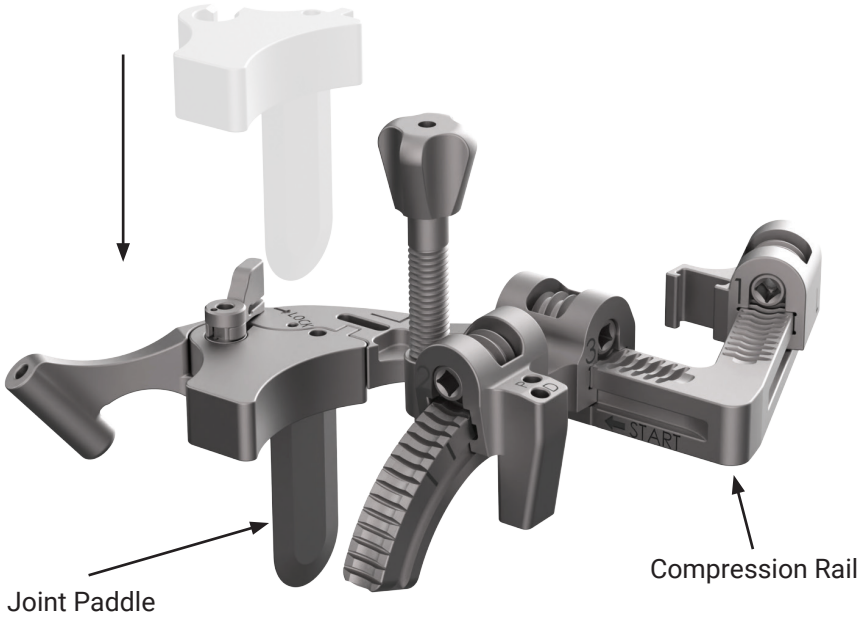
Product Identification

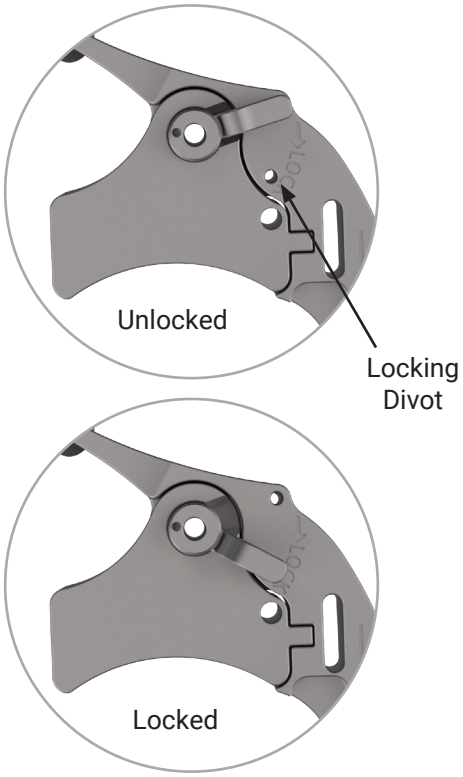
Component Description	Component Image	Component Description	Component Image
1st TMT Joint Paddle		AO Driver	
Compression Rail		Ratcheting AO Handle	
Compression Trolly (3)*		M/L Alignment Pin	
Pronation Trolly (2)*		Sagittal Adjustment Screw	
Cutting Guide		Tissue Retractor	
IM Closure Trolly (1)*		2nd Metatarsal Paddle	
Saw Blade		K-wire (2.0mm)	

*NOTE: Numbered etching is provided to help facilitate trolly identification and does not correlate to procedural order.

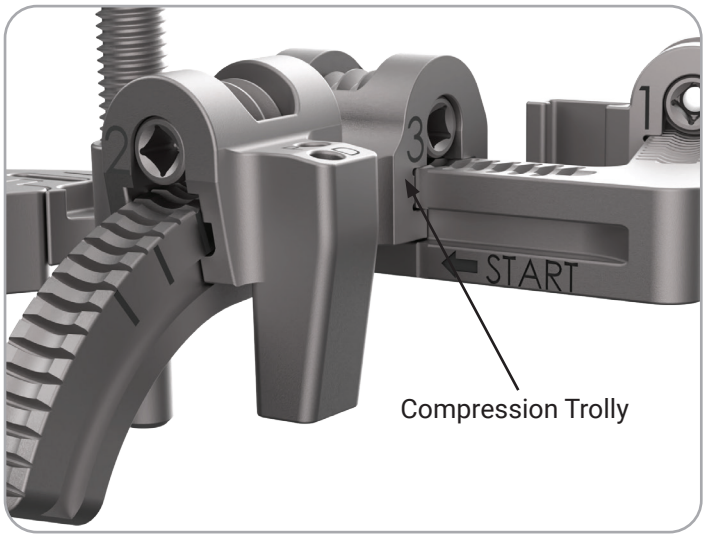
Assembly Instructions

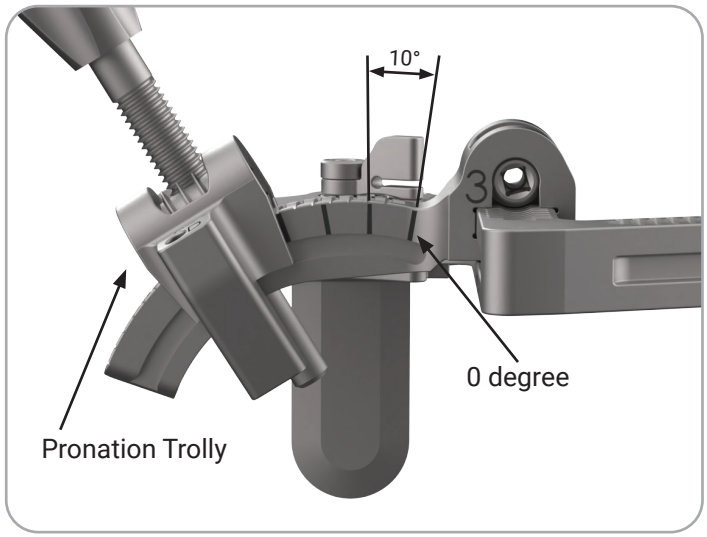
1. Attach the 1st TMT Joint Paddle Cartridge to the Compression Rail. Once in place, secure by moving the lever to the “Lock” position ensuring lever does not go past the locking divot.





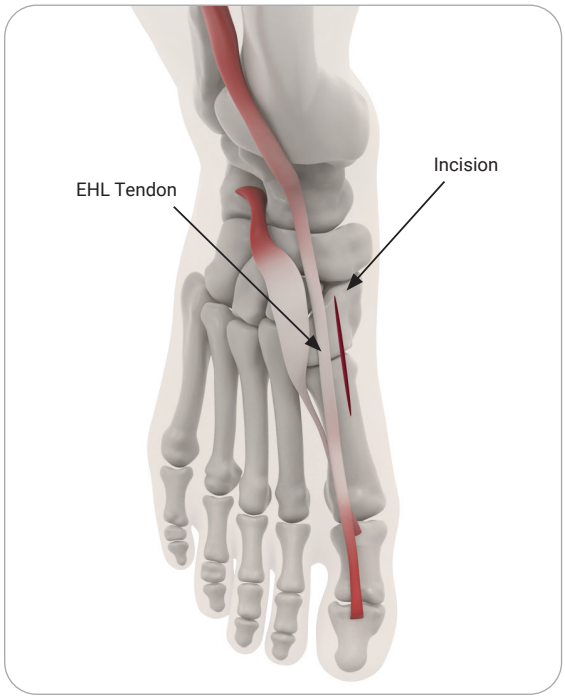
2. Using the supplied square AO Driver and Handle ensure the Compression Trolly (3) is positioned to the engraved “START” line. Using the AO Driver, position the Pronation Trolly (2) at an angle that corresponds with the severity of rotation of the patient’s first metatarsal, targeting the dorsal aspect of the metatarsal. Reference the 10-degree laser marks on the Pronation Rail as a guide.

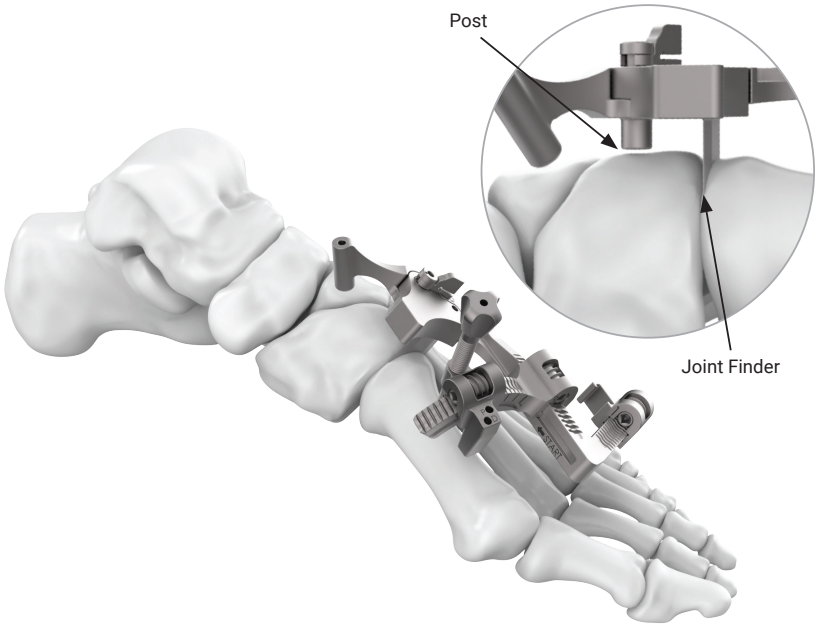




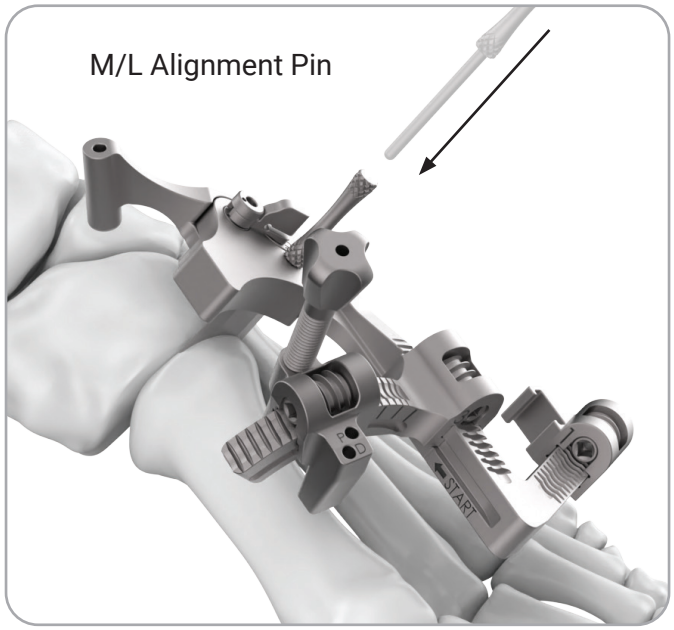
Surgical Technique

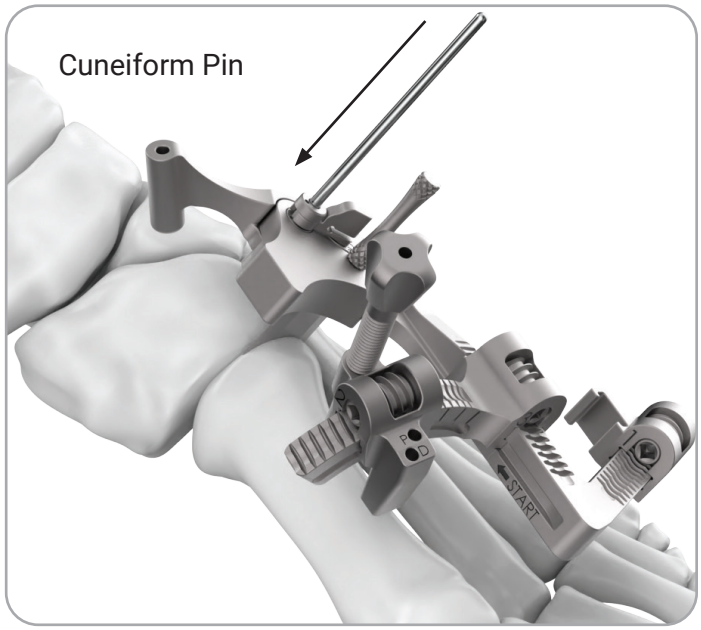
1. Create a 3.0-3.5cm incision as dorsal as possible while remaining just medial of the EHL (Extensor Hallucis Longus) tendon. Insert the assembled LapiPrep assembly into the 1st TMT joint space by placing the joint finder between the cuneiform and first metatarsal. Apply pressure to the top of the Joint Paddle until the Post on the bottom of the device contacts the dorsal cuneiform.





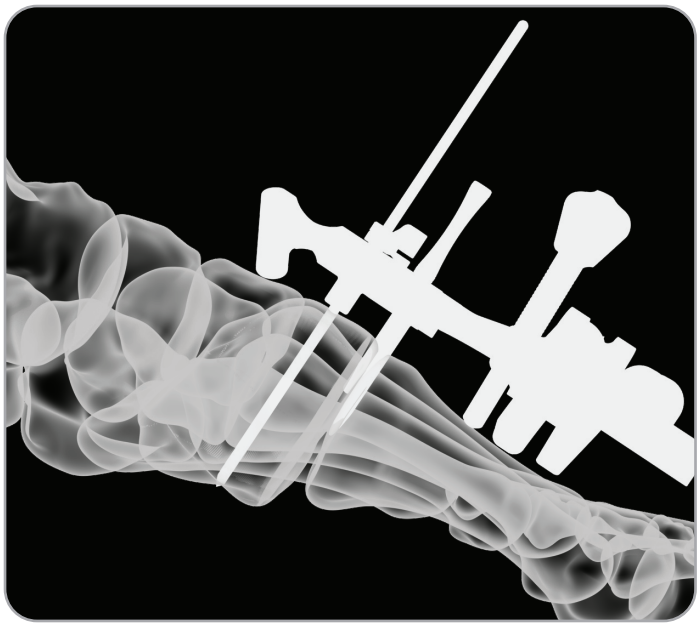
2. To attain medial/lateral positioning, the M/L Alignment Pin can be placed into the Joint Paddle and the assembly shifted laterally along the 1st TMT joint until the inner cuneiform joint space is located. Without applying pressure to the distal end of the device, place a 2.0mm K-wire bi-cortically into the medial cuneiform.

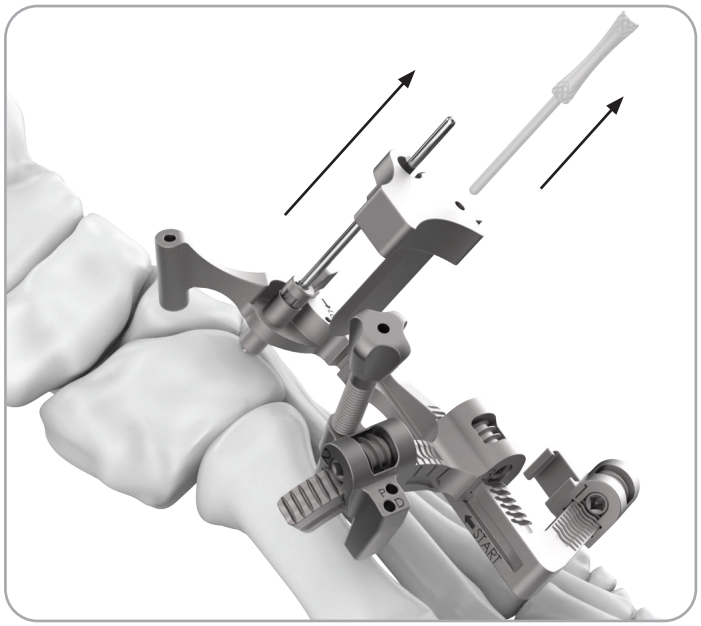




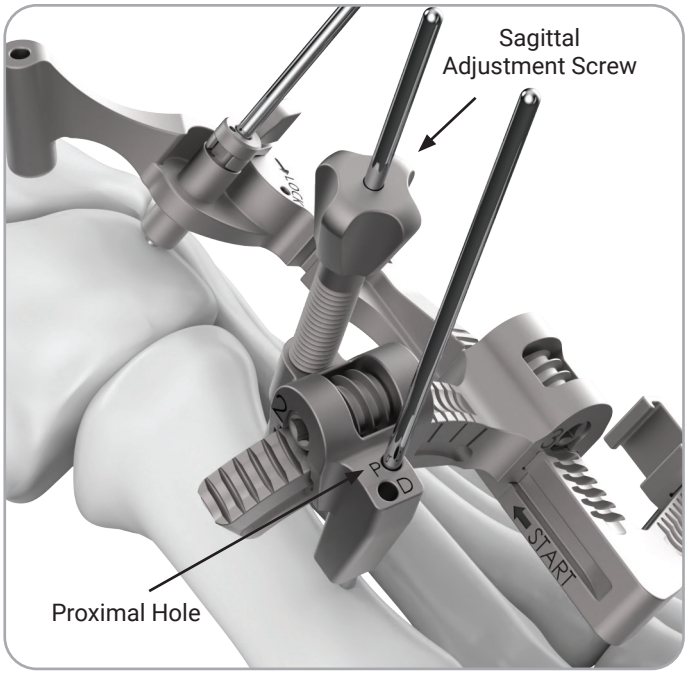
Surgical Technique

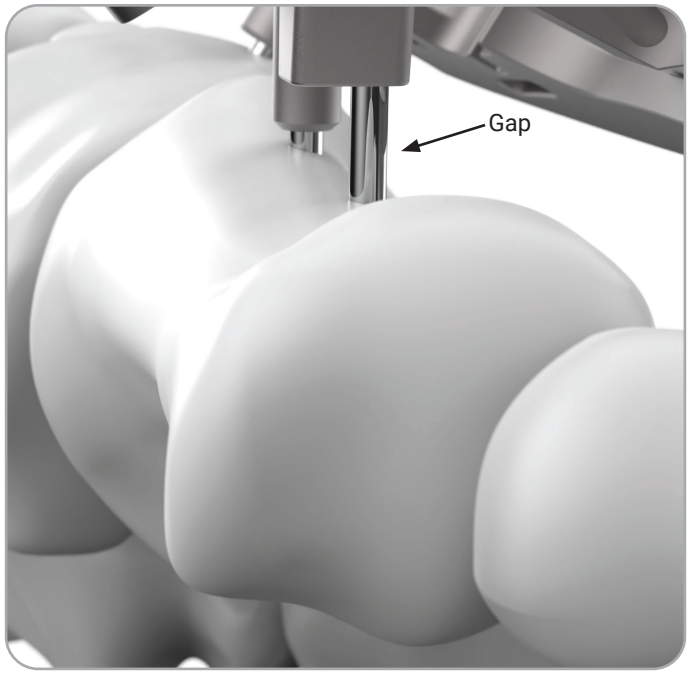
3. An X-ray can be taken from the medial aspect of the foot to ensure the K-wire is parallel relative to the joint space. Once positioning is confirmed, remove the M/L Alignment Pin, move the locking lever to the unlocked position and remove the Joint Paddle.





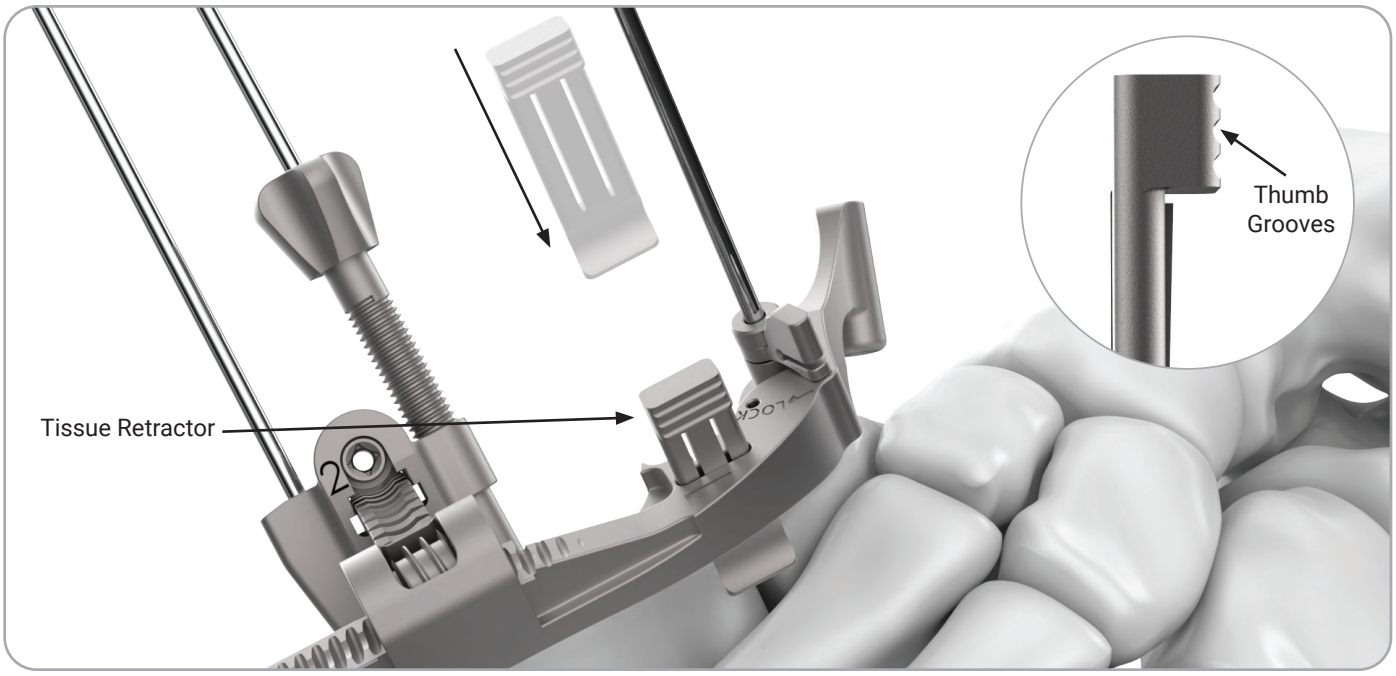
4. Once the Joint Paddle is removed, adjust the jig until the K-wire holes on the Pronation Trolly (2) are aligned with the center line of the metatarsal. Using the AO Driver, ensure the Pronation Trolly (2) is positioned at the 12 o'clock position on the dorsal side of the first metatarsal ensuring there is a gap (pictured below) between the instrument and the bone. Insert a K-wire into the Pronation Trolly Proximal Hole (marked "P") until bi-cortical fixation is achieved. The K-wire should be perpendicular with the sesamoid grooves. Additionally, insert a K-wire into the Sagittal Adjustment Screw in the center of the long axis of the first metatarsal until bi-cortical fixation is achieved.



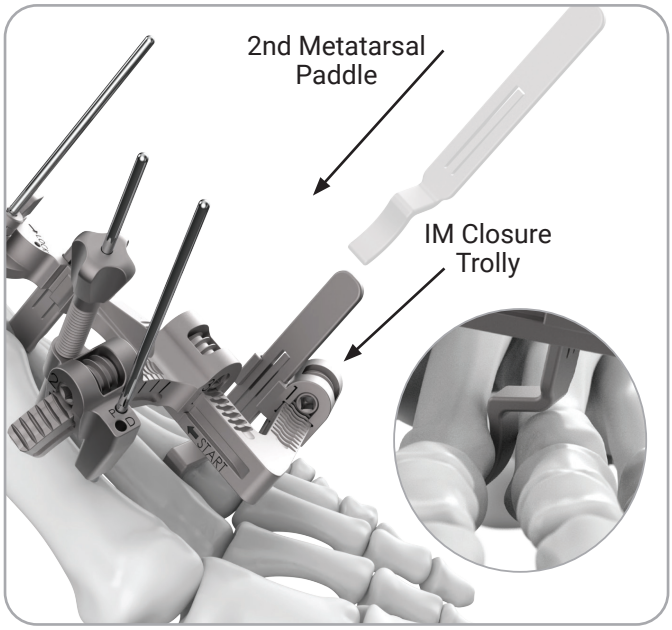


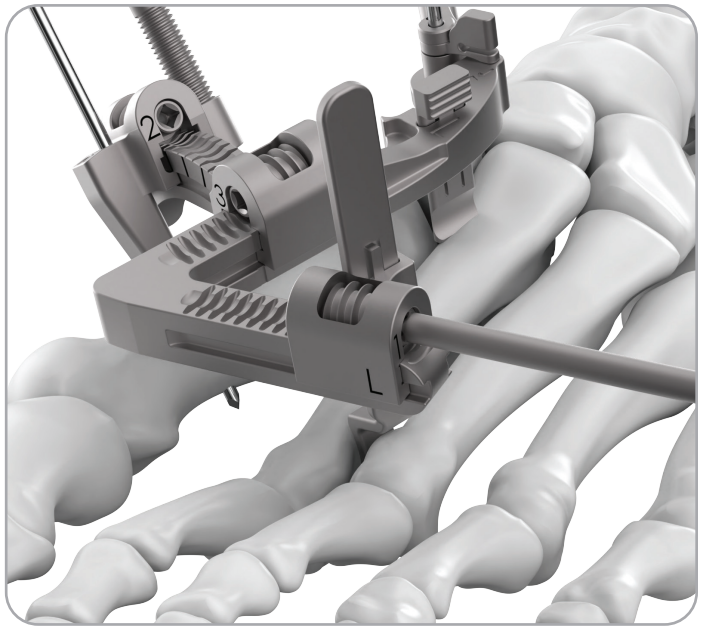
Surgical Technique

5. If tissue retraction is needed, the provided Tissue Retractor can be passed through the oval slot in the Compression Rail and to the medial aspect of the EHL tendon and tissue with the thumb grooves facing laterally. The tissue and tendons will be fully retracted as the valgus angle is closed in steps 6 and 7.



6. To adjust the valgus angle, insert the 2nd Metatarsal Paddle into the slot of the IM Closure Trolly. Using the provided Driver, rotate the Compression Screw of the IM Closure Trolly until the paddle aligns with the lateral aspect of the second metatarsal. Once in place, make a small stab incision and insert the Paddle until the curved portion of the Paddle rests on the lateral side of second metatarsal.

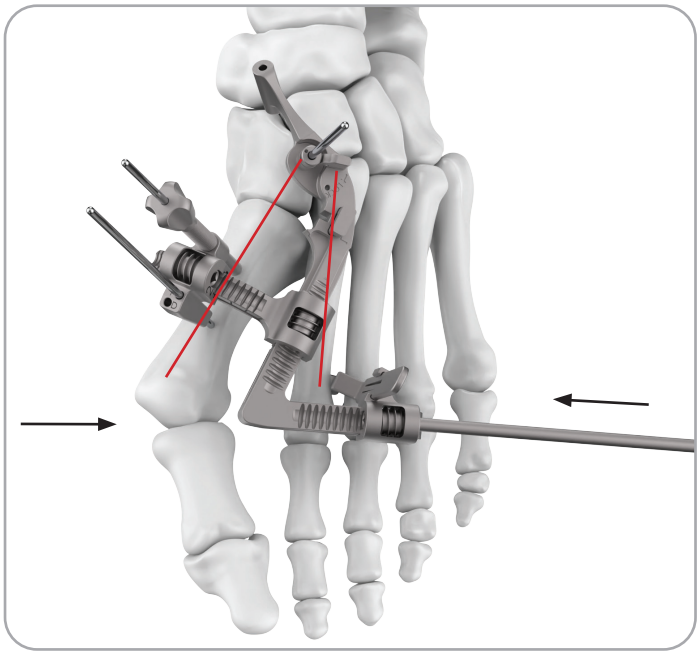


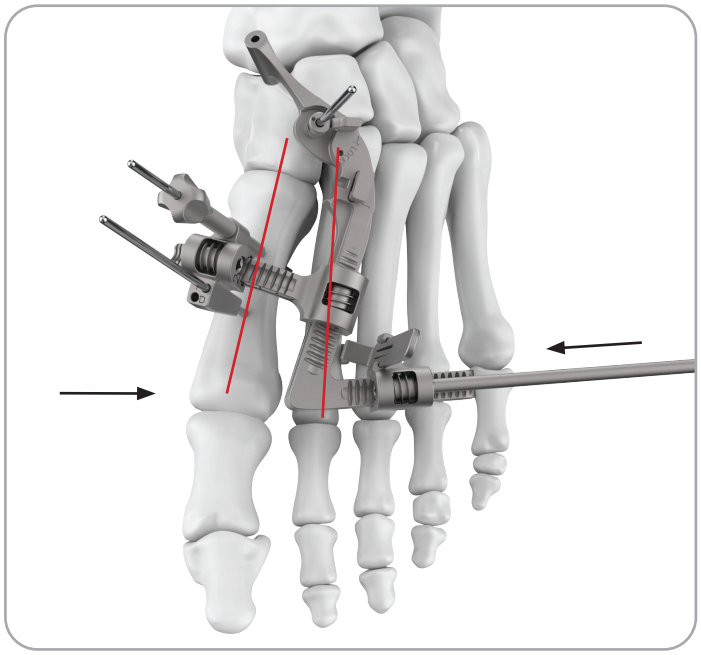


Surgical Technique

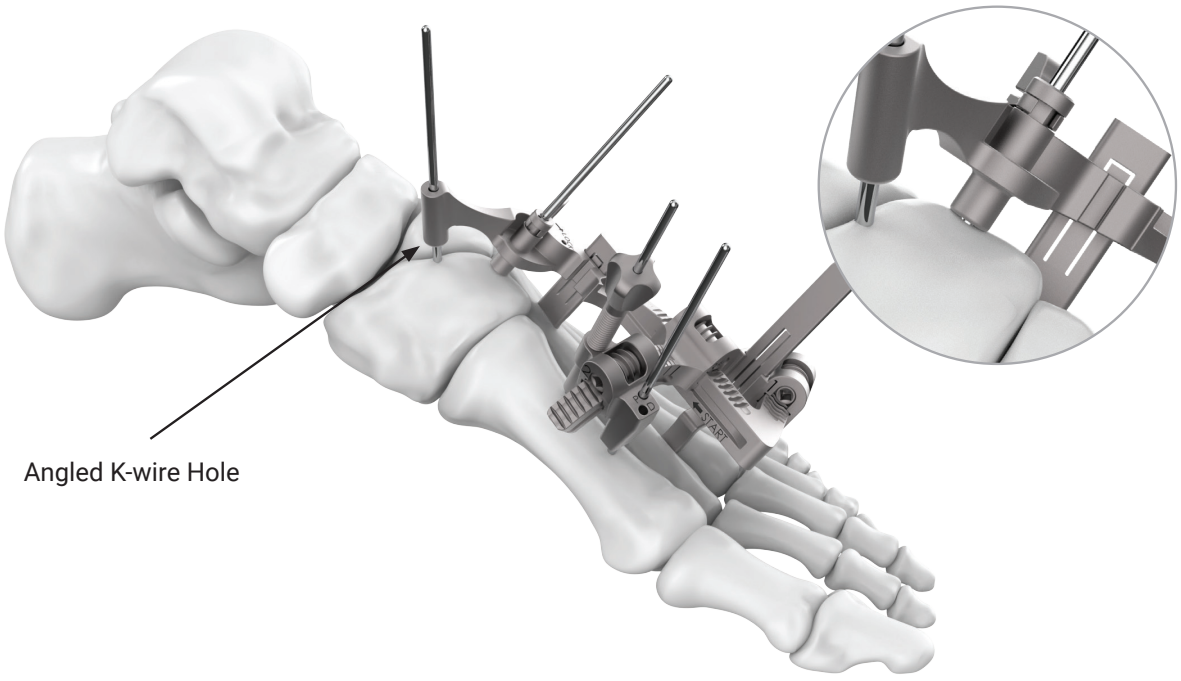
7. With the 2nd Metatarsal Paddle set firmly against the second metatarsal, rotate the Compression Screw of the IM Closure Trolly clockwise to close the valgus angle of the first metatarsal.

   NOTE: If resistance is encountered during the closure of the valgus angle, distract the Compression Trolly to allow for less resistance during closure of valgus angle of the first metatarsal.



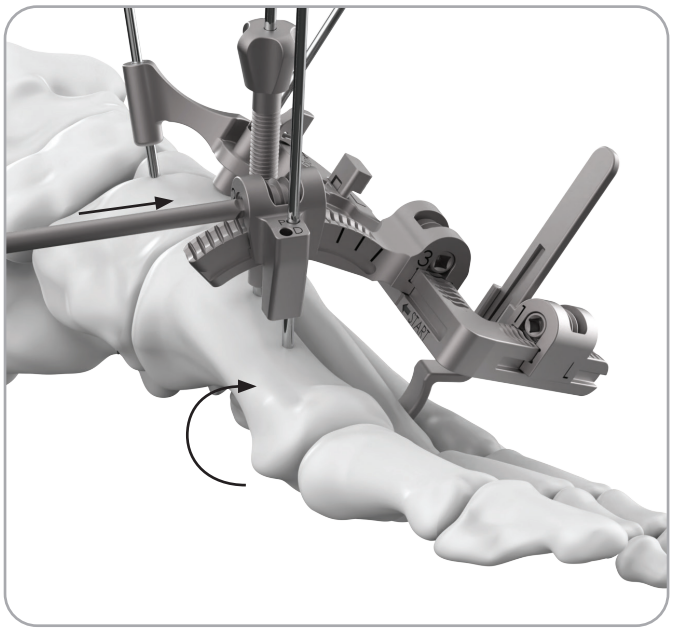


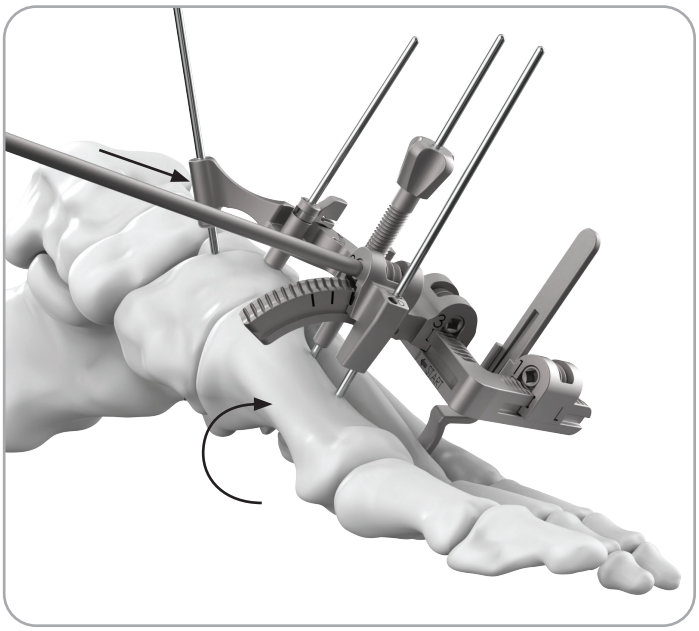
8. Once IM Angle closure is achieved you can now lock the jig into place using the provided Angled K-wire Hole. Ensure the post on the bottom of the LapiPrep device is fully seated on the dorsal cuneiform and insert the provided K-wire until bi-cortical fixation is achieved.



Surgical Technique

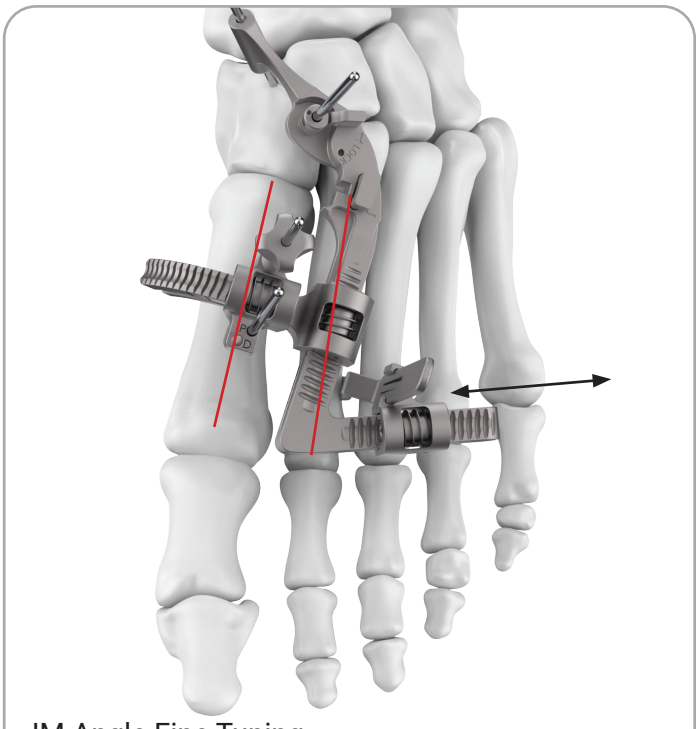
9. Once the LapiPrep device is secured to the first cuneiform and IM angle is closed, pronation adjustment of the first metatarsal can be performed. Turn the Adjustment Screw of the Pronation Trolly clockwise from the medial aspect of the device and adjust pronation of the first ray to the desired position.





10. At this point any fine adjustments can be made to both the IM angle and pronation independently of each other and inspected under fluoroscope until the desired anatomical position of both the sesamoids and IM angle is achieved. NOTE: It is advised not to adjust the Compression Rail Screw until joint preparation Steps 11 and 12 are completed.

Frontal Plane Fine Tuning



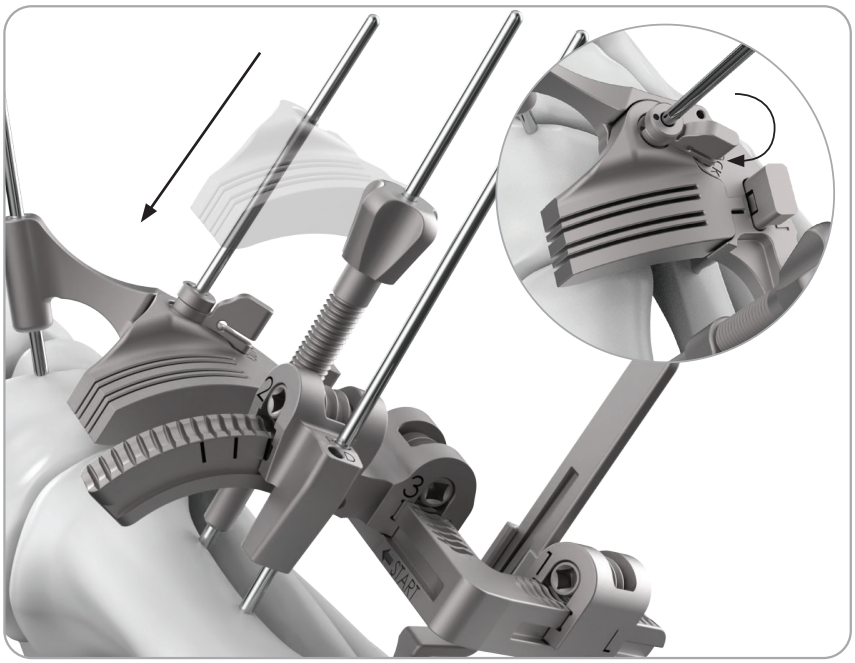
IM Angle Fine Tuning

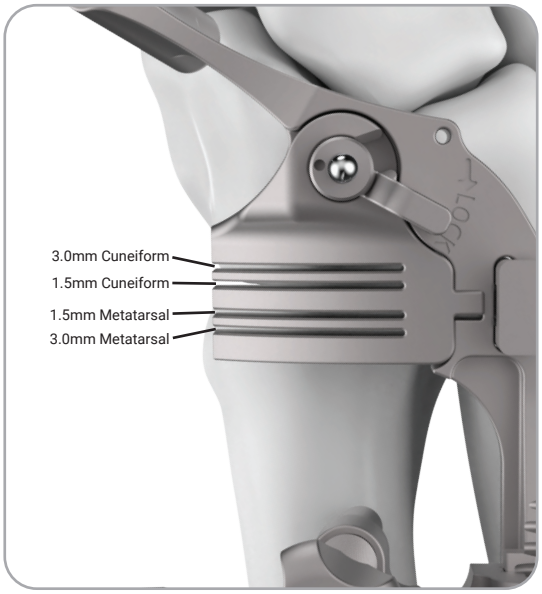
Surgical Technique

11. Once all adjustments have been made to the first ray, joint preparation can begin using either Saw Cuts or Hand Prepration prior to joint fusion. The following steps outline both methods of joint preparation.

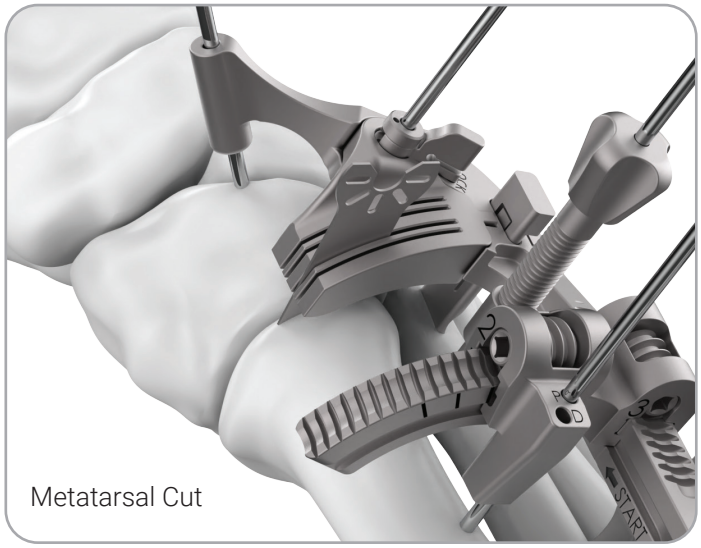
Saw Cuts

Prior to inserting the Cut Guide Cartridge, ensure the attachment lever is set to the unlocked position. Place the Cut Guide over the lever, aligning the lateral tab in the corresponding groove in the compression rail. Once the Cut Guide is in place, set the attachment lever to the locked position. The Cut Guide is provided with 1.5mm and 3.0mm cutting options for both the cuneiform and metatarsal depending on the desired amount of resection.

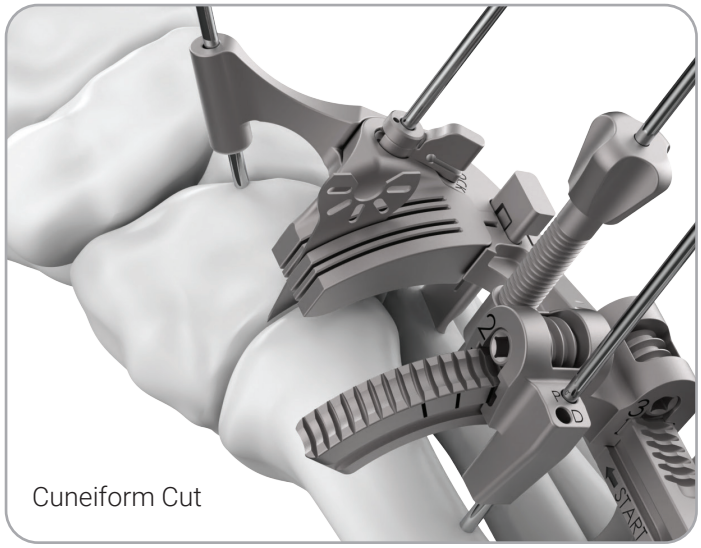




The lateral side of the Cut Guide is open to assist in visualizing your resection level. Insert the Saw Blade into the desired slot and make resections beginning with a metatarsal cut and then cuneiform cut.



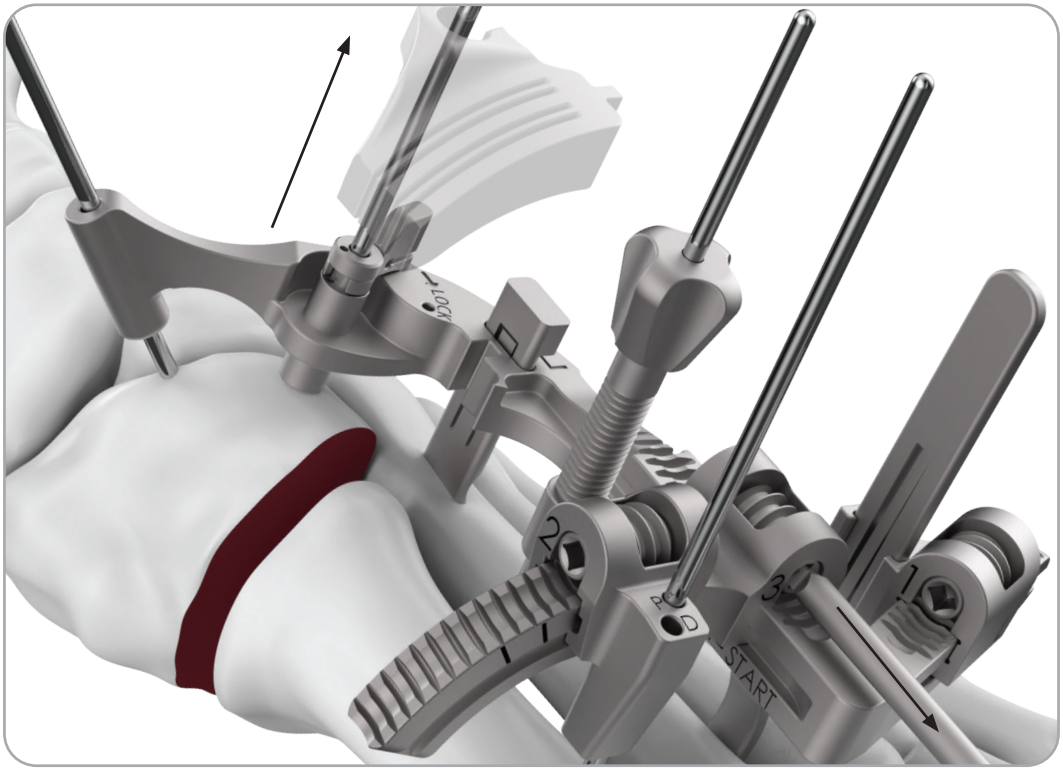
Metatarsal Cut



Cuneiform Cut

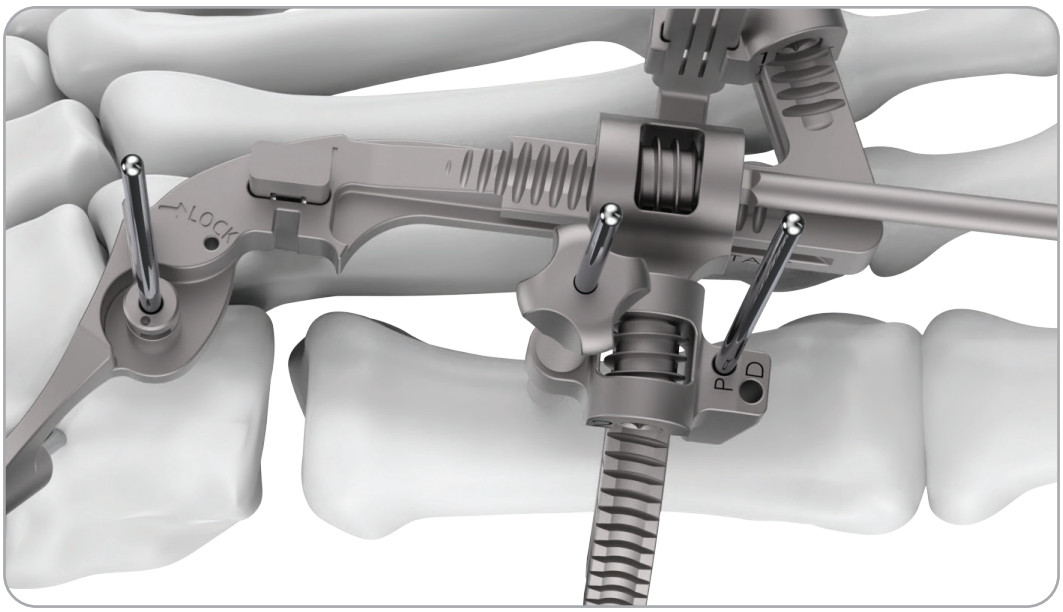
Surgical Technique

Once all cuts have been made, move the attachment lever to the unlocked position and remove the Cut Guide. Distract the joint by using the provided Driver to rotate the Compression Rail Screw counter clockwise until fully distracted. Once distracted, remove the bone fragments and ensure both surfaces are clear of any obstructions before compression is applied.



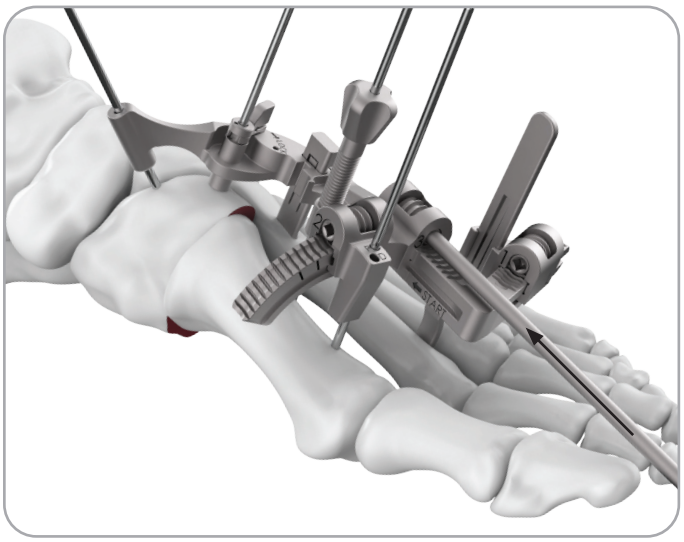
Hand Preparation

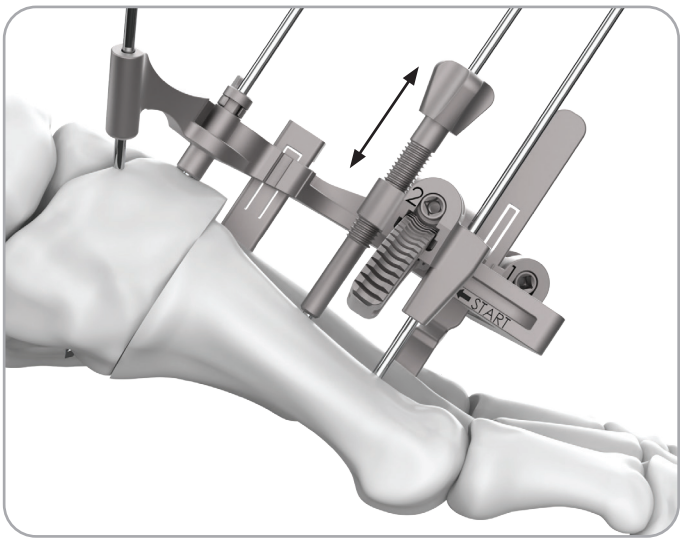
If curettage and/or microfracture are preferred, move straight to the distraction of the 1st TMT joint by using the provided Driver to rotate the Compression Rail Screw counterclockwise until fully distracted. This will provide a clear view of the joint for preparation.



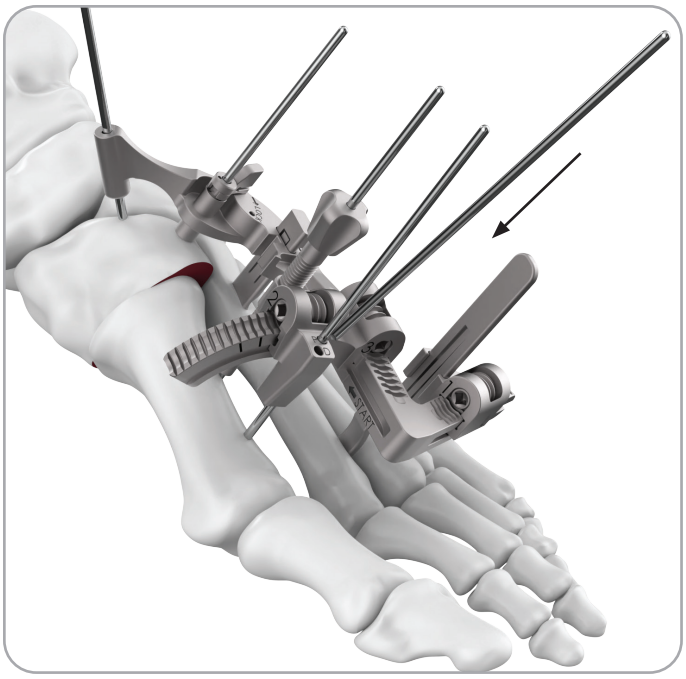
Surgical Technique

12. Once the preferred method of joint preparation is completed, gently close the joint until light apposition is achieved. Compression alignment may be reviewed under X-ray to determine if any sagittal plane adjustment is needed. If sagittal plane adjustment is necessary, turn the Sagittal Adjustment Screw clockwise to shift the first metatarsal plantarly. If the metatarsal needs to be shifted back in the dorsal direction, rotate the Sagittal Adjustment Screw counterclockwise and push the metatarsal from the plantar aspect of the foot to the dorsal direction until the metatarsal contacts the Sagittal Adjustment Screw.



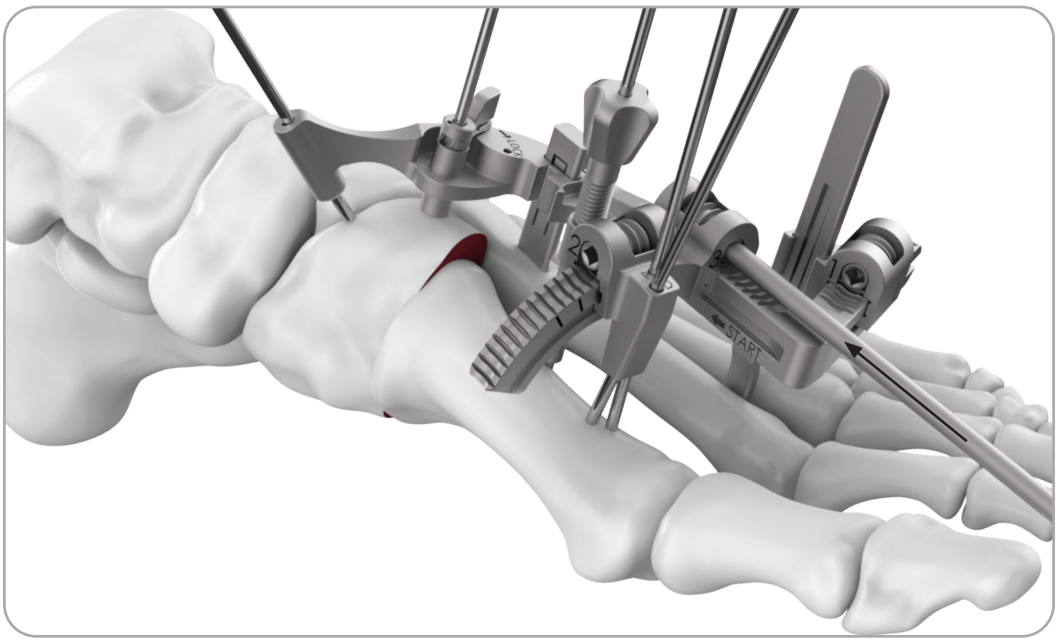


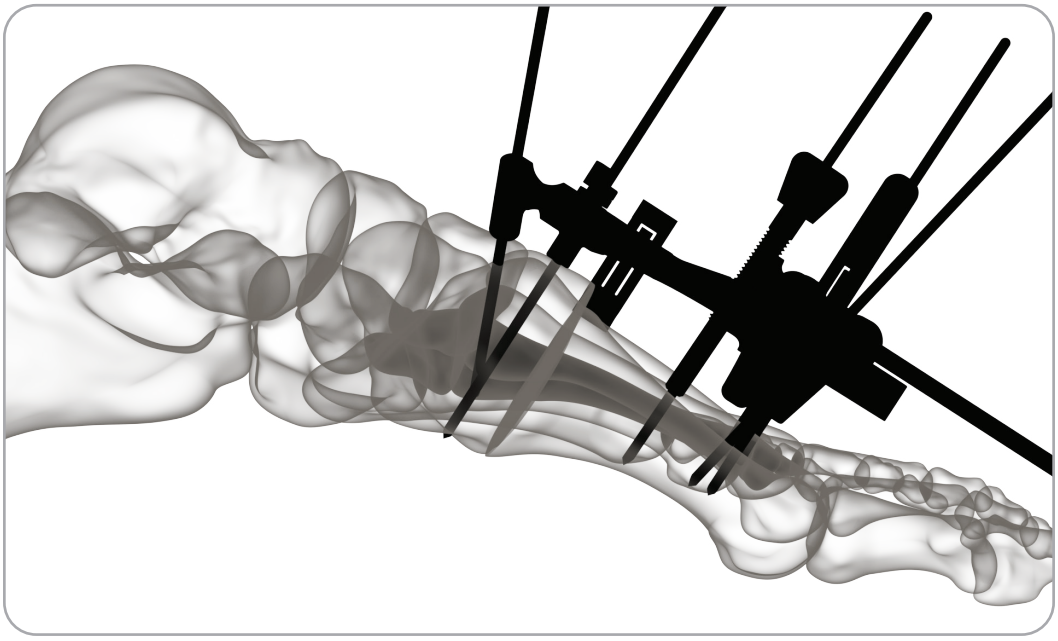
13. Once all three planes of correction have been achieved, insert a 2.0mm K-wire into the distal hole of the Pronation Rail laser etched as “D”. This additional K-wire locks in the sagittal plane and helps prevent the proximal K-wire from bending during final compression.



Surgical Technique

14. Using the Driver, complete compression by turning the Compression Rail Screw clockwise until desired apposition is achieved. Verify bone-to-bone apposition has been accomplished under fluoroscopy. If there are any obstructions left from joint preparation, distract the joint and remove fragments until sufficient closure is achieved.

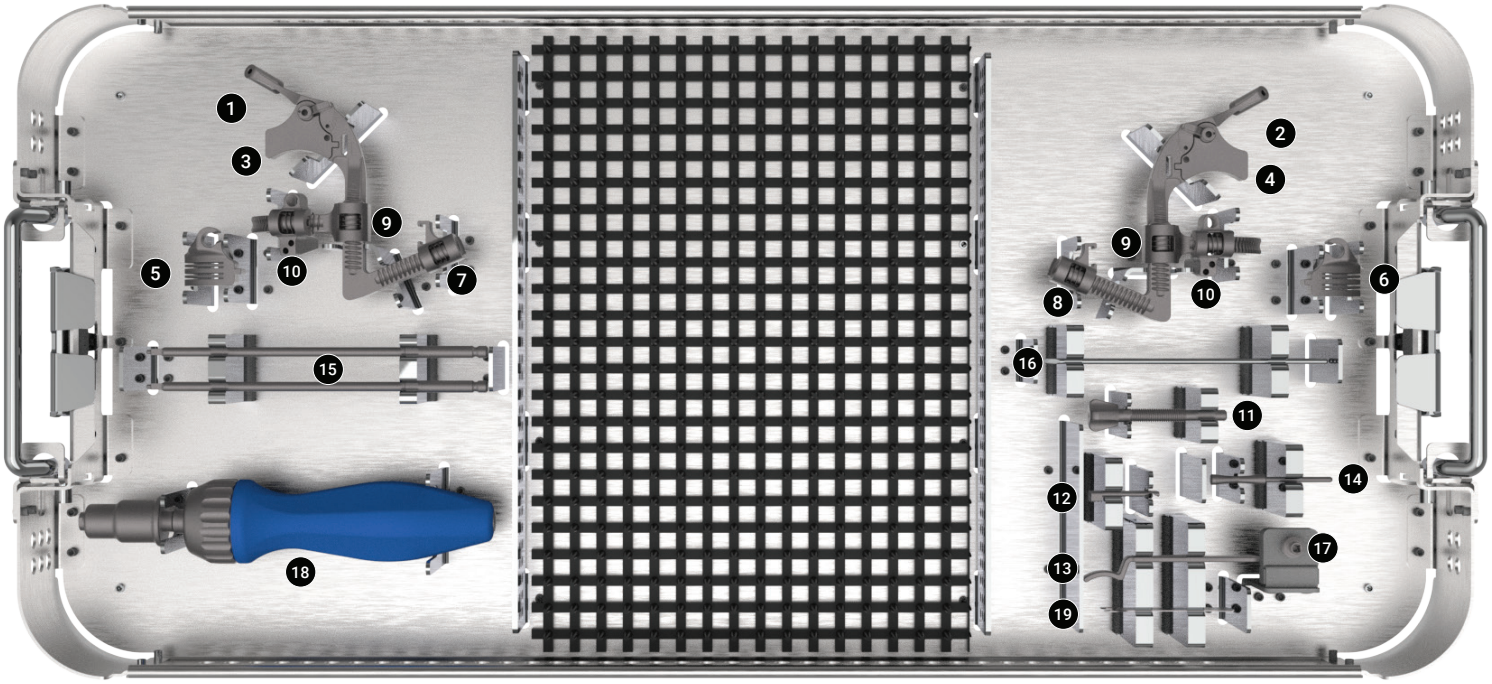




Set Layout/Ordering Information

#	Part No.	Description
1	LPFRML	LapiPrep Compression Frame Assembly - Left
2	LPFRMR	LapiPrep Compression Frame Assembly - Right
3	LPPADL	LapiPrep Positioning Paddle Attachment -Left
4	LPPADR	LapiPrep Positioning Paddle Attachment -Right
5	LPCGL	LapiPrep Cut Guide Attachment - Left
6	LPCGR	LapiPrep Cut Guide Attachment - Right
7	LPIMTRLL	LapiPrep IM Closure Trolly - Left
8	LPIMTRLR	LapiPrep IM Closure Trolly - Right
9	LPPRRAIL	LapiPrep Pronation Rail
10	LPPRTRO	LapiPrep Pronation Trolly
11	LPSAGSCR	LapiPrep Sagittal Plane Adjustment Screw

#	Part No.	Description
12	LPTISRET	LapiPrep Tissue Retractor
13	LPMETPAD	LapiPrep Metatarsal Offset Paddle
14	LPMLPIN	LapiPrep M/L Positioning Pin
15	LPSCRDR	LapiPrep Screwdriver
16	LPKWIRE	LapiPrep 2.0mm x 4” K-Wire - Non-Sterile
17	LPCOMPSCR	LapiPrep Compression Screw
18	LPAOHDL	LapiPrep Ratcheting AO Handle
-	LPINSTTRY	LapiPrep Instrument Case - Tray
-	LPINSTLID	LapiPrep Instrument Case - Lid
19	LPSAWBLD	Saw Blade - Non-Sterile



NOTES

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LIT-1597 Rev.03

MANUFACTURER:

Medartis, Inc.
1195 Polk Drive
Warsaw, IN 46582 U.S.A.
(732) 383-7901
medartisusa.com