

Treace Medical Concepts Patient Specific
Instrumentation (PSI) System



Surgical Technique
Lapiplasty[®] Using PSI

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1. Perform a longitudinal incision dorsally over the 1st tarsometatarsal (TMT) joint just medial to the extensor hallucis longus. Perform subperiosteal dissection and arthrotomy of the TMT joint.
2. Place the Patient Specific Cut Guide on the bone until the plantar surface registers fully to bone. Insert a 2.0mm x 70mm pin in the proximal most and distal most Cut Guide holes to secure the Cut Guide to bone.
3. Under fluoroscopy, image down the 1st TMT joint and confirm that both the Joint Seeker and ICJ Marker align with the 1st TMT joint and intercuneiform joint respectively.
4. Confirm the Cut Guide is fully seated on the bone. Insert a third 2.0mm x 70mm pin into the oblique hole to further secure the Cut Guide. Place the sawblade into the cut slots and proceed to saw through each bone, beginning with the 1st metatarsal. The sawblade should be held perpendicular to the dorsal surface of the Guide. Irrigation may be used to reduce friction while cutting.
5. After cutting, place 2.0 x 100mm pins in the two inner holes and remove the oblique pin. Slide the Cut Guide off the four dorsal pins. Remove the bone wedge to create a closing wedge for deformity correction.
6. Slide the Compressor arm holes over the remaining pins. Use fluoroscopy to confirm proper frontal plane rotation of the first metatarsal has been achieved.
7. If a different amount of frontal plane rotation is desired, select the appropriate Degree-Specific Pin Guide that provides the desired de-rotation angle. Thread Pin Guide Handle into the Degree-Specific Pin Guide and slide the guide over both distal pins. Using the Pin Guide Handle, rotate the metatarsal until Pin Guide Handle is aligned with the proximal pins. Use fluoroscopy to confirm proper frontal plane rotation of the first metatarsal has been achieved.
8. An optional distal lateral soft tissue release can be performed if necessary.
9. To distract the metatarsal from the cuneiform, rotate the handle counterclockwise. This will open the joint to allow for fenestration and preparation for fusion.
10. If necessary, use a rongeur to remove any residual cartilage.
11. Using the Fenestration Drill, drill holes on the cut faces.

12. Using the provided Compressor, compress the joint until both cut faces are apposed. To do this, rotate the handle clockwise.

13. (Optional) Slide the Cross Joint Pin Guide over distal compressor pins. The Cross Joint Pin Guides are specific to left and right feet. Drive a 1.6mm x 150mm K-Wire through the holes of the Cross Joint Pin Guide to temporarily secure the metatarsal to the cuneiform during the hardware installation process. Additional provisional fixation may be required.

14. Proceed with fixation of the joint with the preferred fixation system per the respective surgical technique.



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