

Lapiplasty® Procedure

Key Steps & Fluoro Checks

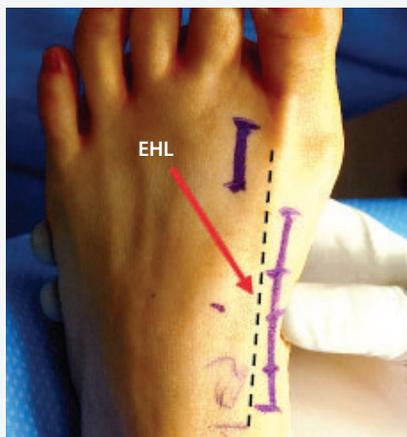
Items to request in addition to standard foot & ankle instrumentation:

- Straight ¼ inch osteotome
- Fluoroscopy (mini c-arm preferred)
- Pituitary rongeur
- Sagittal saw & wire driver

TREACE
Medical Concepts, Inc.

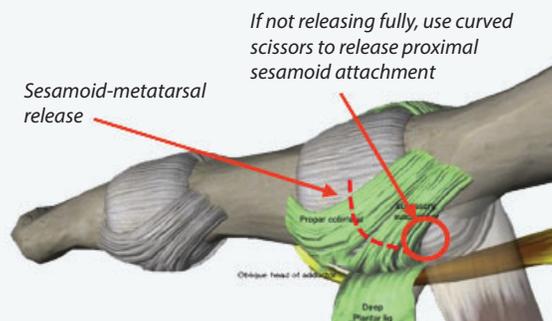
1. Direct Dorsal Incision

The 1st TMT incision must be made direct dorsal, from proximal pole of Cuneiform to midshaft of Metatarsal, just medial to the EHL.



2. Lateral Release

Perform a release of the lateral capsule and suspensory ligaments (not the deep intermetatarsal ligament). Manually manipulate toe in varus to fully release lateral capsule. **Do not perform a medial release at this time, it can destabilize the metatarsal-sesamoid complex.**

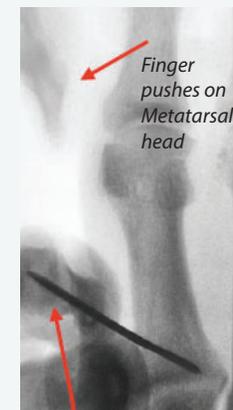


3. TMT Release & Trial Reduction

Use saw to plane TMT joint surfaces, "flattening" them for rotation. Use osteotome to thoroughly release all capsular & plantar ligament attachments.

Perform a "trial manual reduction". Check on live fluoro that Metatarsal can be fully rotated (with joystick pin) and IMA reduced applying minimal hand pressure on Metatarsal head.

Do not use Positioner until complete manual reduction can be demonstrated.



Manually rotating the Metatarsal pin (without bending pin or rotating the foot)

4. Fulcrum and Positioner Placement

Use freer to create "pocket" as far proximal as possible between base of 1st & 2nd Metatarsal for the Fulcrum – **do not extensively dissect**. Switch to 3.5 or 4.5mm Fulcrum for larger 1st & 2nd Metatarsal diastasis or to achieve parallelity with 2nd Metatarsal.

Using Cut Guide as a reference (centered over TMT), make stab incision over 2nd Metatarsal 2-3mm distal to Cut Guide. Use joystick pin to rotate Metatarsal and then tighten Positioner to only "two-finger" tightness. Medial gapping of TMT should be visible clinically and on fluoro. **Confirm correction on AP and LATERAL fluoros.**



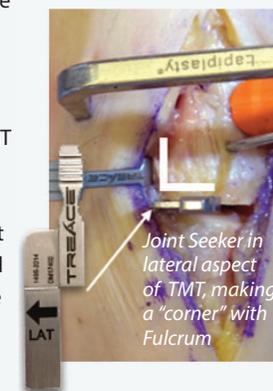
Note: Confirm Metatarsal is not dorsiflexed or plantar-gapped in Lateral fluoro. Insert the Joint Seeker to visualize TMT joint.



5. Joint Seeker Placement in TMT

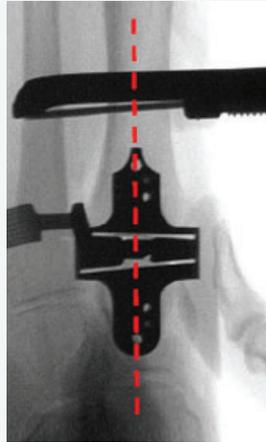
Drive the stabilizing k-wire through the Positioner cannulation into the 2nd Metatarsal.

Place Joint Seeker into TMT joint as lateral as possible (i.e. make a "corner" with Fulcrum). The top of Joint Seeker should be oriented direct dorsal such that the Cut Guide will sit directly on the dorsal cortex.



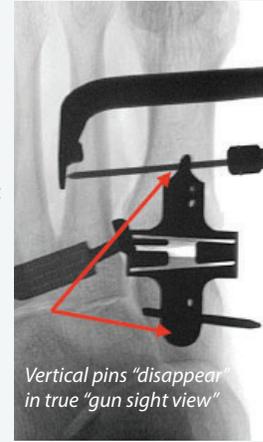
6. Check Cut Guide Alignment (Prior to Pinning)

With Cut Guide applied over Joint Seeker, shoot a fluoro “down the gun sight” of the Cut Guide, confirming orientation parallel with Metatarsal shaft (red dotted line) and pins will be midline or just lateral to midline Metatarsal shaft. If not aligned with Metatarsal shaft, use finger pressure to adjust orientation of Cut Guide while pinning it. If Platinum Seeker will not allow proper alignment, switch to Gold Seeker.



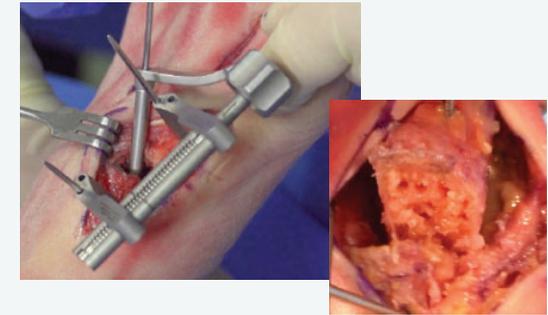
7. Check Cut Guide Alignment (After Pinning)

Pin proximal and distal vertical holes (parallel pins), and a medial oriented hole. Remove Joint Seeker and take AP fluoro down the “gun sight” of Cut Guide – vertical pins “disappear” and you should see right down the cut slots when view is “true”. Confirm it will make a flat & even cut off the Metatarsal and a wedged cut removing the entire articular surface of the Cuneiform. If adjustment is needed, remove pins, insert Joint Seeker, and adjust the Cut Guide.



8. Fenestrate TMT Surfaces

Apply Compressor (0° hole on Cun. & 10° on Metatarsal for additional rotation), distract the joint and remove bone pieces - **confirm clear joint on fluoro**. Use 2mm drill, with optional drill sleeves to aggressively fenestrate subchondral bone surfaces (10+ holes per side). Leave bone debris in TMT joint to serve as bone graft. **Do not irrigate joint after fenestration.**

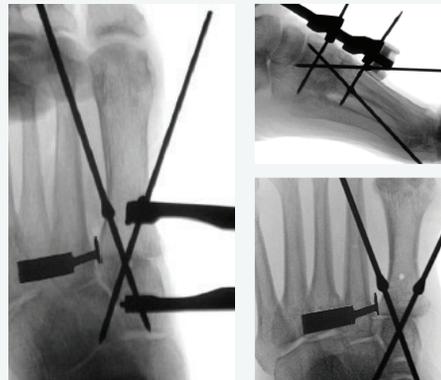


9. TMT Compression & Provisional Fixation

Hold Compressor perpendicular to foot (applies lateral pressure to Metatarsal pin) as TMT joint is compressed, inserting 1mm Fulcrum. **Confirm reduction of lateral & plantar TMT in “down the joint” AP & LATERAL fluoros.**

While squeezing the foot, drive threaded olive wire from dorsal lateral side of Metatarsal flare (starting approximately at level of Metatarsal pin) into plantar, center of Cuneiform. Apply a second threaded olive wire or k-wire from the plantar medial (preferred) or dorsal medial side of the Metatarsal.

Pull Metatarsal pin from Compressor and remove Compressor (do not loosen Compressor). **Confirm reduction in “down the joint” AP & LATERAL fluoros.**



10. Confirm Plate Positioning

Leave bend in the plates – ends should be contacting bone (contour bone as necessary). Position dorsal plate across lateral aspect of TMT, centered over the joint and affixed with 1mm plate tacks. **Confirm position on AP fluoro, ensuring it is not in intercuneiform joint.** Apply medial plate, positioned such that screws are 90° to dorsal plate. **Confirm final AP & LATERAL fluoros.** Confirm that all screws are locked flush with the plates.

