

Micro-Lapiplasty™ Procedure

Key Steps & Fluoro Checks

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

- Straight 1/8 inch osteotome
- Fluoroscopy
- Pituitary rongeur
- Sagittal saw & wire driver

TREACE
Medical Concepts, Inc.

1. Direct Dorsal Incision

Center the Incision Guide over the 1st TMT joint with fluoro. A longitudinal 2cm incision should be made at the TMT centered over the joint line, as lateral as possible while staying medial to the EHL. A marking pen can be used to mark the incision through the Incision Guide.



2. 1st TMT Release

Insert the 40x11mm sawblade halfway into the TMT joint before powering on, planing the joint surfaces to "flatten" them for congruent rotation. Use the Corner Chisel or an osteotome to release any remaining capsular or plantar ligament attachments and to create a pocket between the 1st and 2nd metatarsal bases for the Micro 3-n-1® Guide.



3. 1st MTP Lateral Release

Make a small dorsal incision at the MTP joint, just lateral to the EHL tendon. Incise the lateral capsule and perform a complete suspensory ligament release with the SpeedRelease™ instrument or scalpel.



4. Trial Reduction

Insert a 2mm "joystick" half-pin approximately 1cm distal to the TMT joint aiming toward the 5th metatarsal head. Hold the foot stable and perform a "trial manual reduction" under live fluoro by rotating the joystick pin laterally and applying pressure to the metatarsal head.



5. Lapiplasty® Micro 3-n-1® Guide and Positioner

Insert the Micro 3-n-1® Guide into the lateral corner of the TMT joint. Place the External Positioner tip into a stab incision over the 2nd metatarsal (2-3mm distal to Micro 3-n-1® Guide) and apply the Positioner cup on the skin capturing the 1st metatarsal medial ridge. Tighten to "two finger" tightness.

Confirm correction on AP and lateral fluoros, dorsiflexing for an AP "gunsight" view of the Micro 3-n-1® Guide (pin holes appear as "perfect circles" and Joint Seeker is a "sliver"). Ensure the metatarsal cut is perpendicular to the long axis of the metatarsal and that neither cut will result in a "peak".



6. Make Precision Cuts

Drive a 1.6mm K-wire through the cannulation in the Positioner into the 2nd metatarsal to secure the correction. Check Micro 3-n-1® Guide hole locations on fluoro. Fixate the Micro 3-n-1® Guide with two bicortical 2mm half-pins (driven to the laser marks) and a third oblique pin to secure the guide. Using the 45x6mm sawblade, slowly advance with a "pecking" motion to the full depth of the blade to complete the cuts. The blade will need to be angled medially to complete the cut.



7. Fenestrate TMT Surfaces

Remove the K-wire from the Positioner and the oblique half-pin from the Micro 3-n-1® Guide, release the Positioner and slide the Micro 3-n-1® Guide off the parallel pins. Free up the bone slices with the RazorTome™ before using the LapiTome™ for removal without breaking the pieces. Use the 2mm drill with drill sleeve to aggressively fenestrate subchondral bone surfaces (10+ holes per side). Do not irrigate joint after fenestration.



8. TMT Joint Apposition

Apply the Compressor over the pins with the knob orientated medially (use 0° cuneiform & 10° metatarsal holes for additional rotation). Insert the Fulcrum between the 1st and 2nd metatarsal bases and tighten the Compressor to "two finger" tightness (do not overcompress) to fully appose the TMT joint. The Positioner can be reapplied to stabilize and reinforce correction. Confirm correction and apposition on AP ("down the joint" view) and lateral fluoros.



9. Provisional Fixation and Implant Prep

For provisional fixation, first drive a K-wire from the lateral side of the metatarsal flare (starting at the level of the Compressor pin) through the midline of the joint. Then apply a straight crossing K-wire from the dorsomedial aspect of the TMT joint for a second point of fixation. An optional K-wire can be thrown M1-M2 to allow removal or repositioning of a K-wire if there is interference with the SpeedPlate™ implant. Confirm the final reduction on AP and lateral fluoros. Remove the Compressor pins and take off the Compressor.

Place the Drill Guide onto the dorsolateral aspect of the TMT joint. Check Drill Guide sits flush and contour if needed. Use Drill Tacks to provisionally fixate the Drill Guide in place. Looking down the Drill Guide barrels under fluoro, ensure that the guide is placed appropriately with equal spacing across the joint. Drill the holes for the implant, leaving the drills in place until the final hole is drilled. Remove the drills and Drill Guide but leave the K-wires in place.

Note: Ensure provisional fixation will not interfere with desired SpeedPlate™ leg placement. Do not force Drill Tacks if colliding with provisional fixation.



10. Implant Placement

Pre-load the implant by squeezing the Inserter Arms and placing them into the Inserter Cap. Manually place the implant, then impact until the implant is flush with the bone. Remove the Inserter Cap and using the distal end, unthread the Inserter Arms.

Confirm final AP and lateral fluoros.

Caution: Use care to not squeeze the inserter arms past a parallel position, as this can result in permanent deformation of the implant. Avoid excessive force or impaction when inserting the implant into the bone.

Note: If a medial flare or "step off" is present at the metatarsal base, gently contour it with a saw or rongeurs but do not overly flatten the area.

