Percuplasty® Procedure

Key Steps with Guide & Targeter

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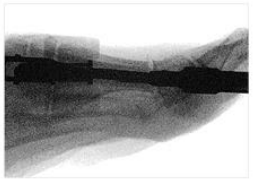
A Step Ahead.™

Step 1: Metatarsal Osteotomy

Make 7mm incision at bottom of metaphyseal flare. Angle 2x20mm Shannon burr 10-20 degrees distal to minimize shortening and confirm trajectory before crossing lateral cortex. Perform transverse osteotomy with use of copious irrigation.

Step 2: Guide Placement

Insert Guide into the proximal metatarsal, prepping the canal if desired. Once inserted fully into the surgical incision, adjust the Guide distally so that the head pusher fully engages the capital fragment (notch on hook slightly distal to osteotomy). Seat the Positioner Cup with the proper orientation (D facing dorsal) for initial stability.
The notch indicator on the proximal hook should be even or slightly distal to the osteotomy level. After verifying appropriate Guide position on AP and lateral fluoroscopy, insert a dorsal and plantar 1.6mm K-wire into the Positioner Cup for further stability.



Step 3: Translational Correction

Translate the capital fragment to the desired lateral position by turning the Gold Translation Screw using the T8 driver.

Step 4: Rotational Correction

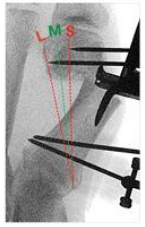
Insert a 2.2mm K-wire deep unicortically into the capital fragment medial to the EHL. Attach the Rotation Guide to the Percuplasty™ Guide, engaging the K-wire to rotate the metatarsal head to the desired position. Utilize fluoroscopy, AP and lateral, to confirm sesamoid position and ensure alignment of the dorsal and plantar cortices. Sagittal plane and DMAA adjustments may be made if necessary.

Step 5: Provisional Fixation

Insert the short and long targeting K-wires to the stops through the Guide.

Step 6: Attach Targeter

Select the desired proximal screw wire targeting point into the capital fragment with respect to the wire tips (Short, Medium, Long). Set the SureFire™ Targeting Arm to the proper setting (S/M/L) and attach to the Guide with the T8 driver.



Note: Key Steps demonstrate 1st Metatarsal Distal Osteotomy and Akin Osteotomy Procedure.

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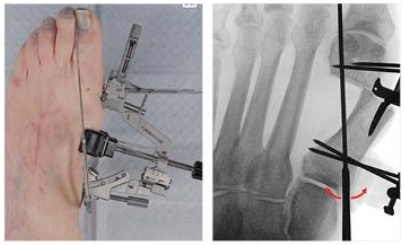
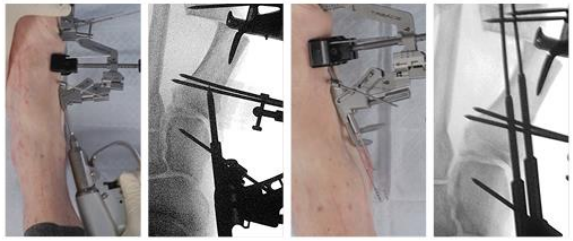
Step 7: Set Proximal Entry Point

Insert the Trajectory Guide into the SureFire™ Targeting Arm proximally and rotate until the desired entry point into the metatarsal is achieved under AP fluoroscopy. A wire may be used to verify wire trajectory into the capital fragment. Secure the SureFire™ Targeting Arm position with a 1.6mm K-wire.



Step 8: Wire Placement

Drill up to the lateral cortex and insert Sleeves for both the proximal and distal wires (retracting the hook if needed). Drive both wires to the desired depth in the capital fragment. Remove the Sleeves and SureFire™ Targeting Arm.



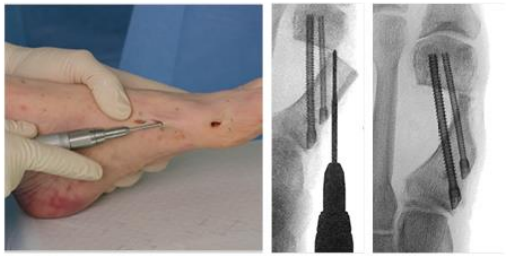
Caution: Care must be taken to ensure the K-wire is placed a sufficient distance from the osteotomy site to avoid fracturing the bone.

Step 9: Screw Measurement & Insertion

Place the Length Gauge over the wire and advance until the tip is flush with the medial cortex. Determine the appropriate screw length (~2mm may be subtracted). Overdrilling the wires is not necessary with self-drilling screws but may be performed if desired for dense bone. Place screws with power to start to avoid torquing on the bone and finish seating with a manual driver. Ensure the beveled head is flush against the bone and bury the distal screw head to avoid prominence.

Step 10: Medial Spike Removal

Removing the medial spike enables foot width reduction and can be performed in multiple ways. Soft tissue elevation around the prominent bone helps to reduce the risk of nerve injury. A burr is commonly utilized to remove the spike and enable retrieval with a narrow rongeur through the distal or proximal incision.



Step 11: Akin Osteotomy

Perform angled or straight Akin osteotomy with 2x12mm Shannon burr, leaving lateral hinge intact with burr width creating the closing wedge. Hold reduction manually and place wire. Measure appropriate screw length and insert for permanent fixation. If the lateral cortex cracks, maintain a firm hold on the toe as the screw is advanced.

Step 12: Medial Eminence Resection (Optional)

Lift the capsule sharply off bone and use preferred burr to penetrate the eminence at the desired level of resection and sweep dorsal and plantar. Check simulated WB view on x-ray to ensure appropriate resection.

Final Correction

See Surgical Technique (LBL 1405-9095) & Instructions for Use (LBL 1405-9056) on treace.com for complete indications, contraindications, warnings, and precautions..

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