



# Treace Medical Concepts Compression Implant System

Surgical Technique  
Akin Osteotomy

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The Treace Medical Concepts (TMC) Compression Implant System is composed of a variety of implant designs and sizes. The correct implant selection for the procedure is extremely important, and preoperative consideration of the proper size and design will increase the potential for surgical success.

## *Surgical Approach*

1. Perform a longitudinal skin incision medially over the proximal phalanx. Using a powered saw, perform a closing wedge osteotomy in the phalanx for a transverse-plane correction of the phalanx alignment.

Note: Autograft or allograft may be utilized as needed to enhance fusion potential.

## *K-wire Placement*

2. Manually reduce the osteotomy site, and under power, insert a K-wire across the osteotomy site to hold the position.

## *Preparation for Implantation*

3. Select the appropriately sized drill guide and place it on the bone surface medially in such a way that drill guide spans the osteotomy site, ensuring that there is adequate room for the implant on either side of the osteotomy.

Note: Provisional fixation can be used to stabilize the drill guide on the bone.

4. Confirm drill guide position with fluoroscopy. If trajectory is deemed unacceptable, the surgeon may reposition the drill guide.
5. Once location and trajectory are deemed acceptable, drill holes to the proper size and depth. Leave drills in place for stability as needed.
6. Remove the drills from the drill guide. Then remove the drill guide.

## *Implant Insertion*

7. Select the appropriate TMC compression implant and check that the pre-installed threaded rods are fully installed.

Caution: Use care to not squeeze the threaded rods unless the rods are fully installed and secured onto the implant, as this can result in deformation of the threaded rods.

8. While manually squeezing the threaded rods to a parallel position, insert the threaded rods into the corresponding holes of the inserter cap to hold the implant in a pre-loaded configuration.

Caution: Use care to not squeeze the threaded rods past a parallel position, as this can result in permanent deformation of the implant.

9. Insert the legs of the TMC implant into the pre-drilled holes in the bone. Light tapping on the inserter cap may be helpful in advancing the implant. When properly installed, the bottom surface of the implant should sit flush against the surface of the bone.

Caution: Avoid excessive force or impaction when inserting the implant into the bone.

10. While lightly squeezing the threaded rods, manually remove the inserter cap to release the pre-loaded TMC compression implant. Remove the threaded rods from the implant manually. If required, use the appropriate instrumentation to aid with the removal of the rods. Proper implant placement can be confirmed on fluoroscopy.

11. Align the end of the inserter cap with the bridge of the implant and use as needed to completely seat the implant.

12. Remove any remaining instrumentation and/or provisional fixation

### *Implant Removal*

13. To remove the implant, utilize the threaded rods and/or use general orthopedic instrumentation to remove the implant. Where utilizing the threaded rods, attach the threaded rods into the threaded holes in the implant and fully tighten using the appropriate instrumentation. Gently squeeze the threaded rods and insert them into the inserter cap. Use general orthopedic instrumentation such as an osteotome or elevator to leverage the bridge of the implant to remove in line with the axis of the threaded rods.

Note: If there is tissue growth within the implant that prevents removal, the tissue may be removed with a generally available surgical instrument.

Note: If the implant is recessed, use an elevator to lift the implant bridge and then use another general instrument such as an osteotome or elevator to remove the implant. If solidly connected, implants can be removed by either cutting the bridge of the implant or cutting the leg of the implant near the bridge and removing the remnants with an elevator.



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