



# Treace Medical Concepts Snap-Off Screw System

## Surgical Technique

### Weil Osteotomy

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The Treace Medical Concepts (TMC) Snap-Off Screw System is composed of a variety of snap-off screw sizes. The correct screw selection for the procedure is extremely important, and preoperative consideration of the proper screw size and design will increase the potential for surgical success. For illustrative purposes, the following surgical technique describes a Weil osteotomy using 2.0mm snap-off screws.

Note: Though the TMC Snap-Off Screws are designed as permanent implants, they may be removed intra or post-operatively as deemed necessary by the physician using the appropriate screw driver.

## *Surgical Approach*

1. The lesser metatarsal head is approached through a dorsal longitudinal incision over the metatarsophalangeal (MTP) joint and carried down to the extensor apparatus. Place the lesser metatarsal in plantar flexion to expose the metatarsal head and dislocate the joint with a Hohmann retractor on each side of the metatarsal for exposure.

## *Osteotomy*

2. The Weil osteotomy is made with an oscillating saw and should start 1-2mm below the superior margin of the articular surface of the metatarsal head. The angle of the osteotomy should be as close as possible to parallel to the weight-bearing surface of the foot and should extend 2-3cm through the opposite cortex of the metatarsal.

Note: The angle of the osteotomy should be adjusted according to the specific condition and alignment of the foot.

3. Once the osteotomy has been completed, translate the capital fragment proximally to the desired position. The capital fragment can be temporarily fixated in the shortened position with a vertical 0.9mm K-wire.

Note: The desired TMC Snap-Off Screw length can be determined by referencing the depth markings on the K-wire.

## *Screw Insertion*

4. Select the appropriate TMC Snap-Off Screw and drive the screw into the bone slowly under power. As the screw head engages the dorsal cortex, the shank is designed to break off. Stop advancing the screw if the head engages the cortical bone and the shank has not broken off. The appropriate screw driver can be utilized to manually break off the screw shank.

Note: In some cases, such as in dense bone, it may be necessary to pre-drill the near cortex with the 0.9mm K-wire.

Caution: If inserting the TMC Snap-Off Screw in osteoporotic bone, stop advancing the screw before the head engages the near cortex and manually break off the shaft of the screw. After breaking off the snap-off portion, continue to manually drive the screw head.

5. The TMC Snap-Off Screw head can be advanced with the appropriate screw driver until the screw is seated flush with the surrounding bone. Once the screw is secure, check the plantar aspect of the metatarsal head to ensure that the screw does not penetrate the joint.

#### *Final Metatarsal Head Preparation*

6. Any residual edges of the dorsal metatarsal shaft may then be removed with a sagittal saw or bone rongeurs to restore a smooth curvature to the metatarsal head.

