

medartis®

PRECISION IN FIXATION

SURGICAL TECHNIQUE – STEP BY STEP

Four Corner Fusion Plate 2.0/2.3

APTUS®
Wrist



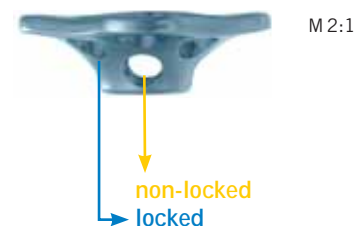
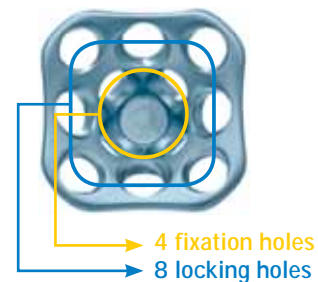
Four Corner Fusion Plate 2.0/2.3

Multidirectional angular stable plate osteosynthesis for mediocarpal partial arthrodesis

Plate osteosynthesis with the Four Corner Fusion Plate is intended for patients suffering from post-traumatic or degenerative carpal bone arthrosis, from carpal instability (SNAC or SLAC), from fractures in the intercarpal region or from failed partial arthrodesis.

1. Arthrodesis plate and reamer

The four corner fusion plate has 12 screw holes, 4 are intended for cortical screws and 8 for TriLock locking screws. The plate is part of the APTUS Hand 2.0/2.3 fixation system and all instruments/screws of this system can be used. The reamer is specially designed to create a recess for the four corner fusion plate.



2.0/2.3 Four Corner Fusion Plate
A-4660.10

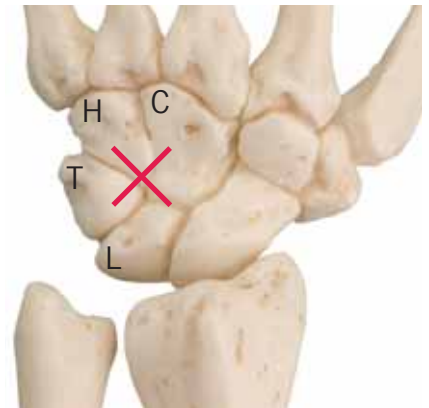


M 1:1

2.0/2.3 Reamer Four Corner Fusion Plate
A-3630

2. Instructions for creating a recess

- Expose and reduce the capitate, hamate, triquetrum and lunate from the dorsal side – special attention should be given to the reduction of the lunate
- If necessary, completely or partially remove the scaphoid
- Stabilize the carpal bones to be fused temporarily with K-wires
- Center the reamer on the proximal (medially oriented) pole of the hamate (see figure)
- Holding the reamer perpendicularly, create the recess for the plate by carefully applying axial pressure
- Ream downward until the plate can be inserted a little beneath the dorsal bone surface (otherwise a risk of impingement between the plate and the dorsal radiolunar edge of the radius exists); the black marking on the reamer indicates the ideal reaming depth (see figure)
- The cartilage and hard subchondral cortical surfaces between the 4 carpal bones being fused should be removed once reaming is complete. The resulting spaces should be filled with cancellous bone graft, e.g. taken from the distal radius via Lister's tubercle



Caution:

- Do not ream too deeply – the reamer is very sharp
- The reamer has no guide/sheath and therefore provides no soft tissue protection
- If a power drill is used, we recommend low speed reaming for better control; the reamer can also be used manually with the handle

3. Instructions for arthrodesis plate alignment

- The four corner fusion plate provides 3 holes (1 fixation hole, 2 locking holes) per bone to be fused
- In practice, at least 2 holes per carpal bone (1 fixation hole, 1 locking hole) should be filled with screws
- Make sure the plate is correctly aligned. The figure on the right shows the four corner fusion plate positioned so that both rows of holes (fixation holes, locking holes) can be filled with screws (example shows a left hand)



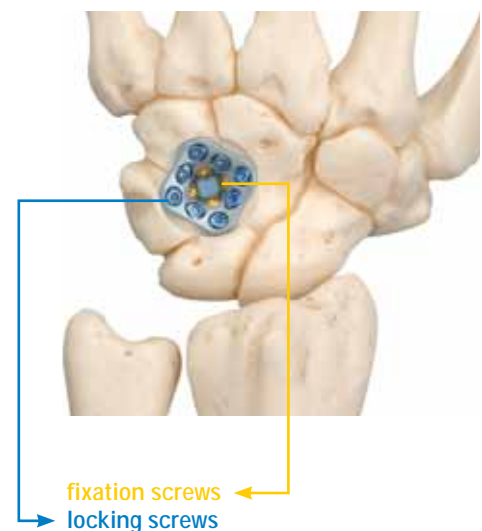
4. Instructions for screw insertion

- Drill a fixation hole through one of the lower plate holes using the drill guide and the APTUS twist drill for core diameter 1.6 mm (1 blue ring)
- Measure the screw length with the depth gauge
- Insert the first gold cortical screw \varnothing 2.0 mm; the screw functions as a lag screw
- Repeat this step with the remaining 3 fixation holes to draw the carpal bones against the plate while tightening the screws
- Remove the K-wires
- To lock the plate afterwards angular stable and to create a solid bone block with the capitate, hamate, triquetrum and lunate, the blue TriLock locking screws \varnothing 2.0 mm are inserted through the upper plate holes (for each screw drill a hole, measure the screw length, insert the blue locking screw)



Note:

- Insert 1 cortical screw per carpal bone
- We recommend the use of the drill guide while drilling. Doing so ensures that you can make use of the full $\pm 15^\circ$ multidirectional locking range. For angles $> 15^\circ$ locking is no longer guaranteed
- Insert at least 1 locking screw per carpal bone; 2 locking screws would be ideal



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