



**ULNAR SHORTENING SYSTEM**

# ULNAR SHORTENING

THE AVANTI ORTHOPAEDICS ULNAR SHORTENING SYSTEM CONTAINS METICULOUSLY DESIGNED AND MANUFACTURED COMPONENTS TO ADDRESS A VARIETY OF CLINICAL PROBLEMS RESULTING IN ULNAR-SIDED WRIST PAIN. INCORPORATING MANY OF AVANTI'S INNOVATIVE CONCEPTS FOUND IN OUR OTHER PRODUCTS SUCH AS BIDIRECTIONALLY-ANGLED FASTENERS, FAR-CORTICAL LOCKING FIXATION AND A VERY LOW-PROFILE PLATE, THE ULNAR SHORTENING SYSTEM PROVIDES TODAY'S SURGEON WITH NEXT-LEVEL IMPLANTS. THIS COMBINATION OF DESIGN FEATURES AIMS TO ACHIEVE SECURE FIXATION WHILE DECREASING OVERALL CONSTRUCT STIFFNESS TO LIMIT STRESS SHIELDING AND SPEED BONE HEALING. IN ADDITION, THE AVANTI ULNAR SHORTENING SYSTEM FEATURES A UNIQUE COMPRESSION SLED THAT ALLOWS FOR CONTROLLED, PREDICTABLE AND PRECISE SHORTENING OF THE ULNA USING A INTUITIVE TECHNIQUE. OUR COMMITTED, EFFICIENT AND INNOVATIVE TEAM AWAITS YOU. MOVE FORWARD WITH AVANTI!

01

Approach the distal ulnar shaft along the subcutaneous border between the ECU and FCU tendons while being mindful of the dorsoulnar sensory branch.

Expose the ulna either dorsally or volarly extra-periosteally avoiding unnecessary soft tissue stripping.

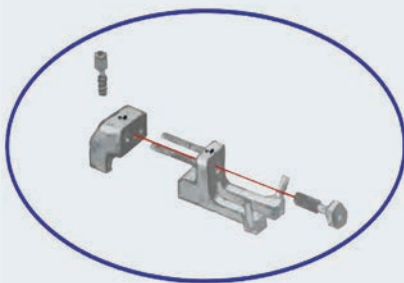
Apply the ulnar shortening plate with the Avanti logo side of the plate toward the surgeon.

Affix the plate to the bone with one non-locking 2.7mm cortical screw in the oblong hole at the end furthest from the osteotomy site as indicated by the double arrow.

The opposite end of the plate can be secured with non-locking, far-cortical locking or standard locking screws at the surgeon's discretion.

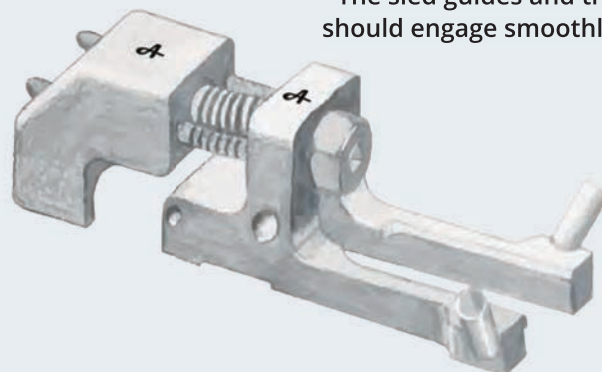


02



Assemble the compression sled as depicted.

The sled guides and the compression screw should engage smoothly.



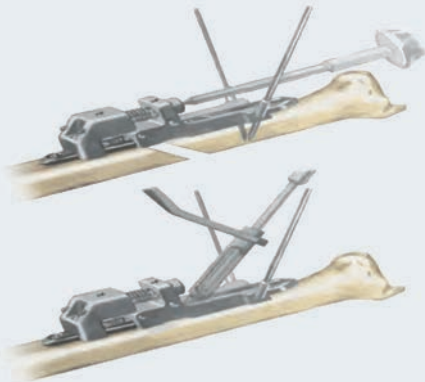
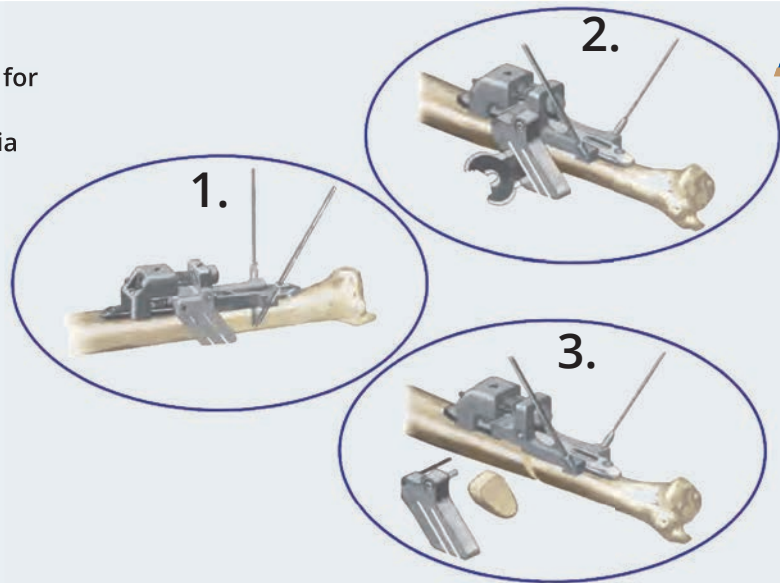


Affix the assembled compression sled to the plate with two K-wires on one end of the sled and the affixed locking screw on the other.

1) Attach the appropriate cutting guide for the desired amount of shortening as determined by pronated gripping films via the peg and locking screw.

2) Using a microsagittal saw, cut the bone while irrigating to avoid heat injury.

3) Once both cuts have been made, remove the cutting guide and the wafer of bone. Spacers may be used to stabilize osteotomy at surgeon discretion.



After loosening the screw in the oblong hole  $\frac{1}{4}$  turn, use either the driver or wrench to advance the compression screw.

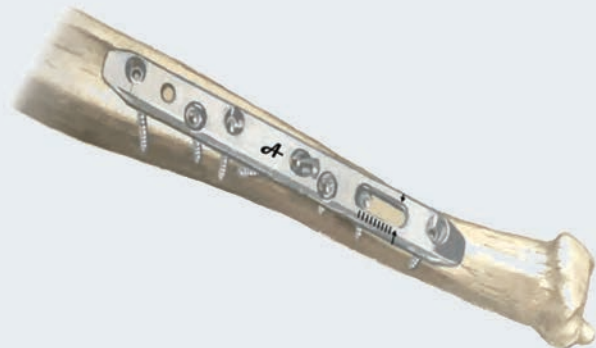
As the screw advances, the osteotomy closes. Once the osteotomy is completely compressed, drill and insert the lag screw.

Note that the lag screw is provided in 1mm increments for precise fixation.

Remove the compression sled and complete plate fixation with additional fasteners.

To remove the compression sled, first, remove the two k-wires. Then, undo the screw which secures the sled to the plate. Note that this screw and the corresponding hole are solely for this purpose.

Note that far-cortical locking screws and bidirectionally-angled fixation are designed to provide stable fixation while aiming to decrease overall construct stiffness to alleviate stress-shielding of the bone and promote osseous healing.



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## IMPLANTS:

Ulnar Shortening Compression Plate*	7-hole
2.7mm Locking Screws*	8mm–30 mm (even lengths)
2.7mm Far-Cortical Locking Screws*	8mm–30 mm (even lengths)
2.7mm Non-Locking Screws*	8mm–28 mm (1mm increments 10-16)
2.7mm Lag Screws*	12mm–26mm (1 mm increments 14-24)
Rescue Lag Screws*	12mm–26mm (1 mm increments 14-24)
K-wires*	1.6mm
Compression K-wires*	1.6mm
Saw Blades*	
Twist Drill Bit*	2mm
TAP*	2.7mm
Square Driver**	
Quick Release Screw Driver Handle**	
Assembled Screw Driver**	
Drill Guide**	2mm
Aiming Guide*	2mm
Screw-In Guide**	2mm
Depth Gauge**	32mm
Bone Clamp**	
Wrench**	7mm
Cutting Guide**	2mm–7mm (1mm increments)
Saw Blade Spacers**	long, short
Compression Sled Assembly**	Sled, Pin, Barrel

\* Single Use

\*\* Reusable - cleaning and sterilization information in the instructions for use

## HARDWARE REMOVAL

Should hardware removal be necessary, using the same incision and dissection directly on the volar aspect of the ulna and USO plate, expose the hardware. Remove fasteners that secure the plate to the bone with the appropriate Avanti driver and remove the plate.

U.S. patent nr.:  
 US 9,814,503 B1  
 US 10,285,742 B1  
 US 10,517,657 B1  
 US 10,842,543 B2  
 US 11,083,505 B1

