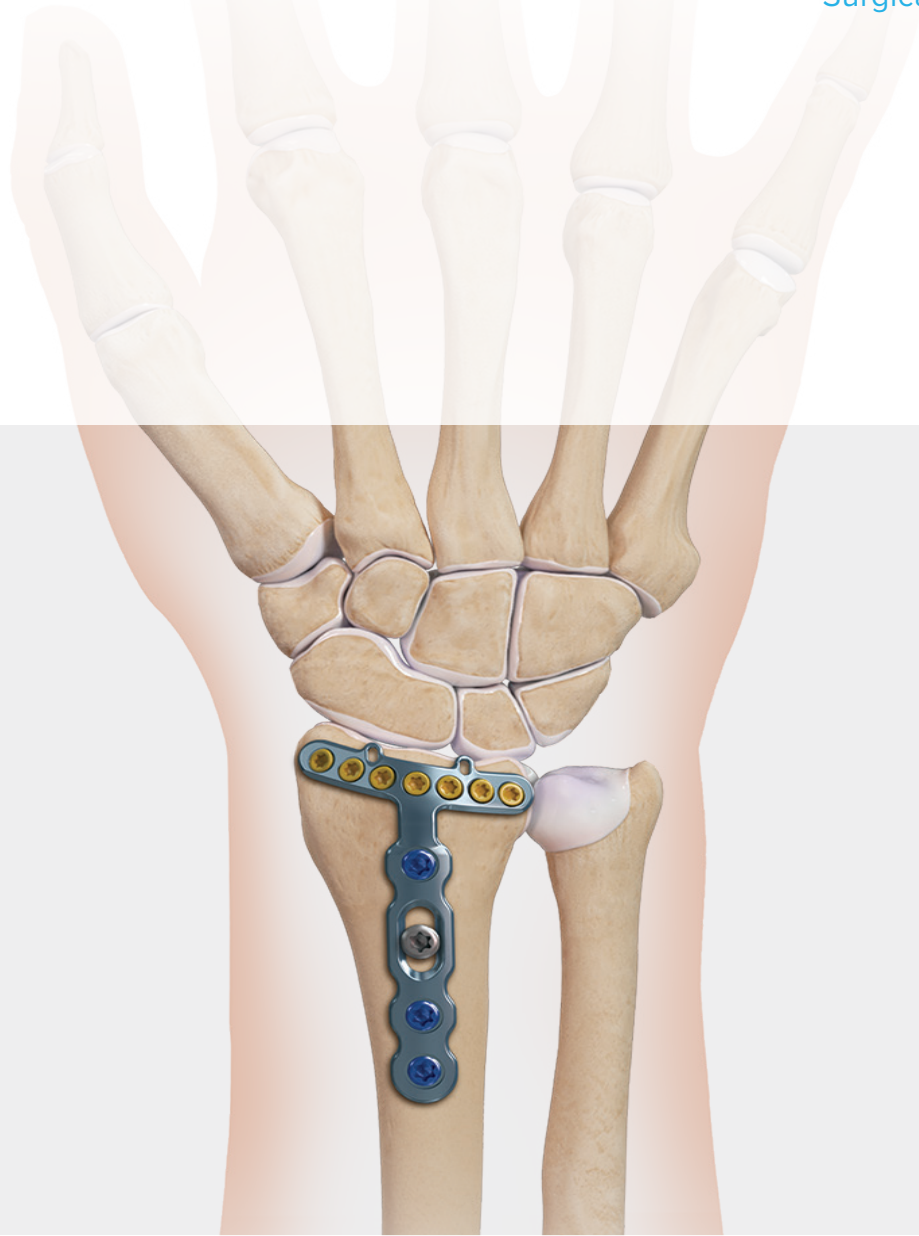


Comprehensive Fragment-Specific Wrist Plating Solutions

Surgical Technique



Arthrex® 



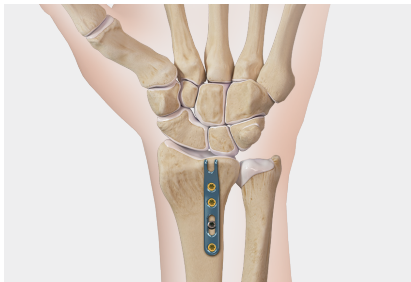
Dorsal Plating Options

Low-profile dorsal plates with narrow and standard width plate options to buttress dorsally comminuted fracture fragments



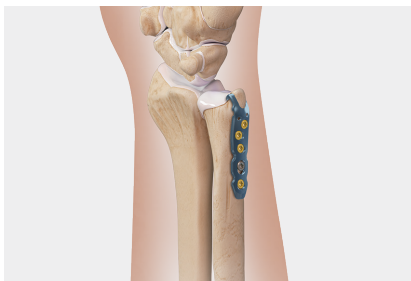
Radial Styloid Plate

Provides direct radial styloid buttressing in a low-profile design with anatomic screw trajectory for stable support



Volar Hook Plate

Provides fixed tine support for very distal subchondral fracture fragments



Ulnar Styloid Plate

Hook plate design provides stable and contoured support to the distal ulna



Spanning Plate

Low-profile design maintains height of highly comminuted wrist fractures for stability during the healing period



L-Plates

Universal L-plates provide stability for a variety of fracture patterns and can be used in conjunction with other fragment-specific plates for added stability

Dorsal Plating

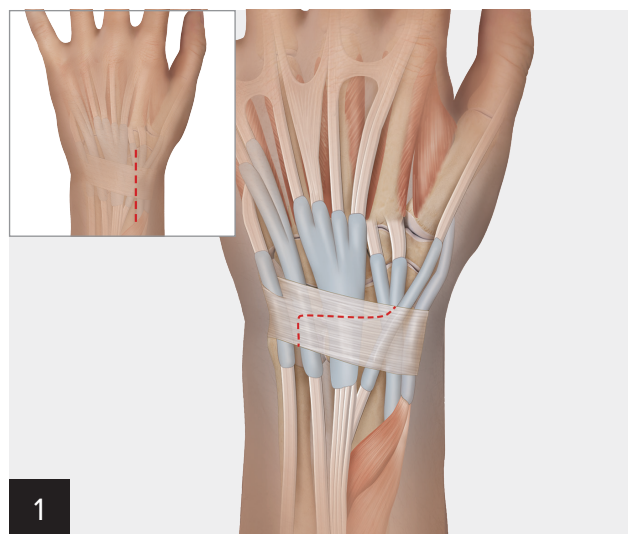


Dorsal Plating Technique Guide

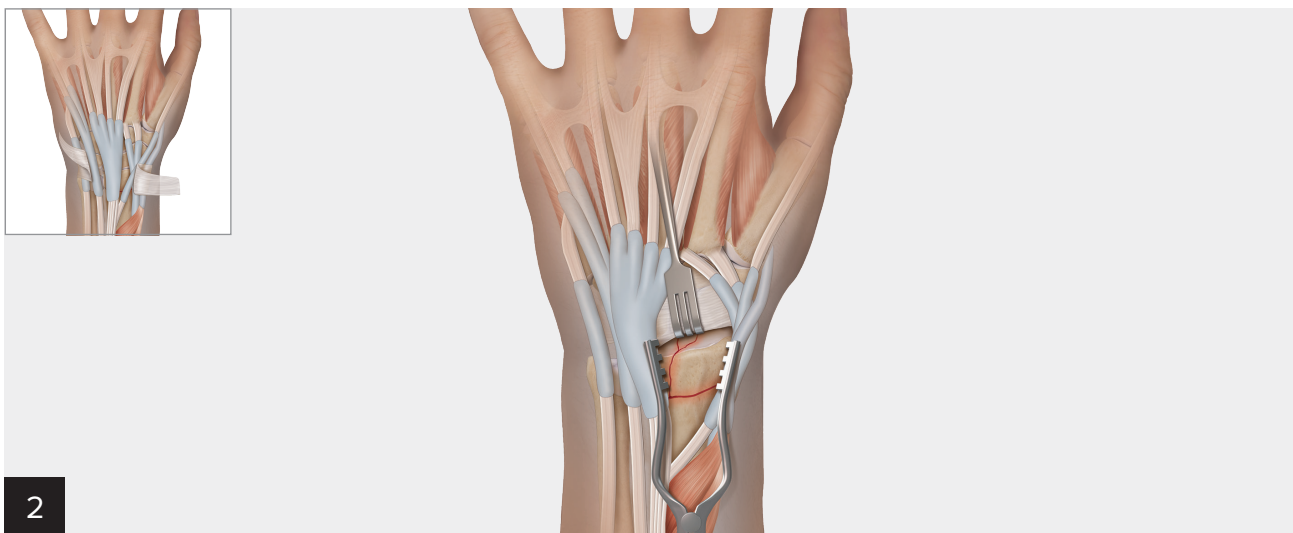
The dorsal distal radius plate provides distal subchondral fracture support and direct dorsal buttressing of the distal radius. The plate is designed to be low profile and offers anatomic contoured support of the subchondral bone.

Benefits of dorsal plating include:

- Ability to directly buttress dorsal fragments that may not be easily captured with traditional volar plating options
- Reduce intra-articular fragments under direct visualization by accessing the articular surface through the dorsal capsule
- Correction of malunions and grafting through dorsal osteotomy and plating

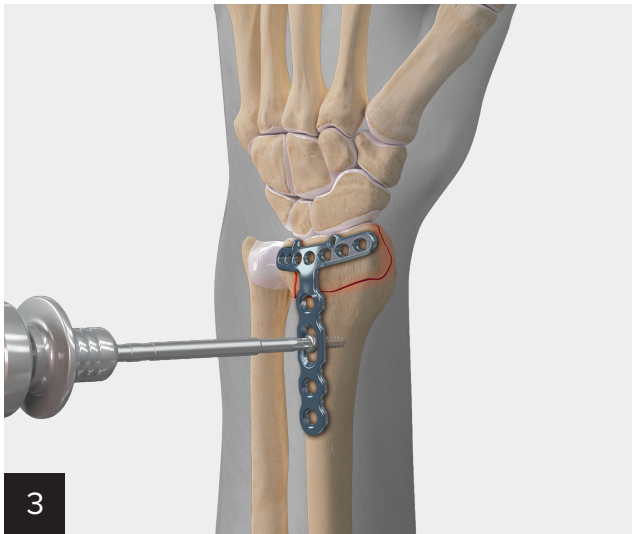


Use a dorsal approach over the center of the radius with the radial styloid and Lister's tubercle as landmarks. Dissect down to the retinaculum with an incision through the distal retinaculum transversely from the 4th dorsal extensor compartment out through the EPL.

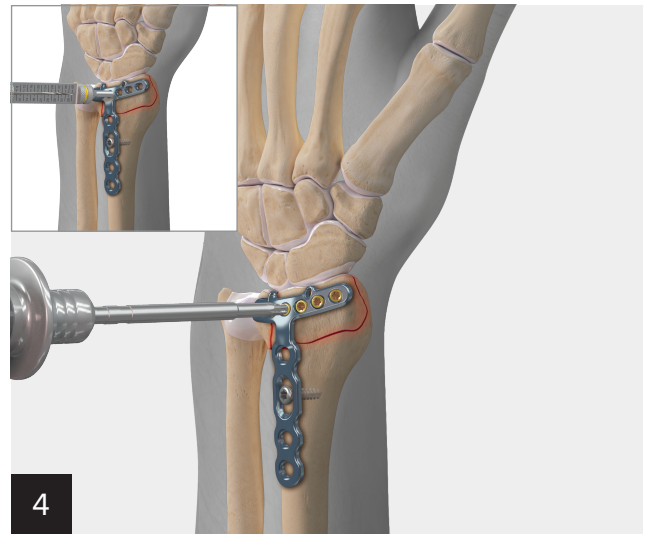


Elevate the proximal retinaculum from the 5th dorsal extensor compartment to Lister's tubercle with close subperiosteal dissection to the 2nd compartment to create a proximal flap. Retract the extensor tendons between the 3rd and 4th extensor compartments.

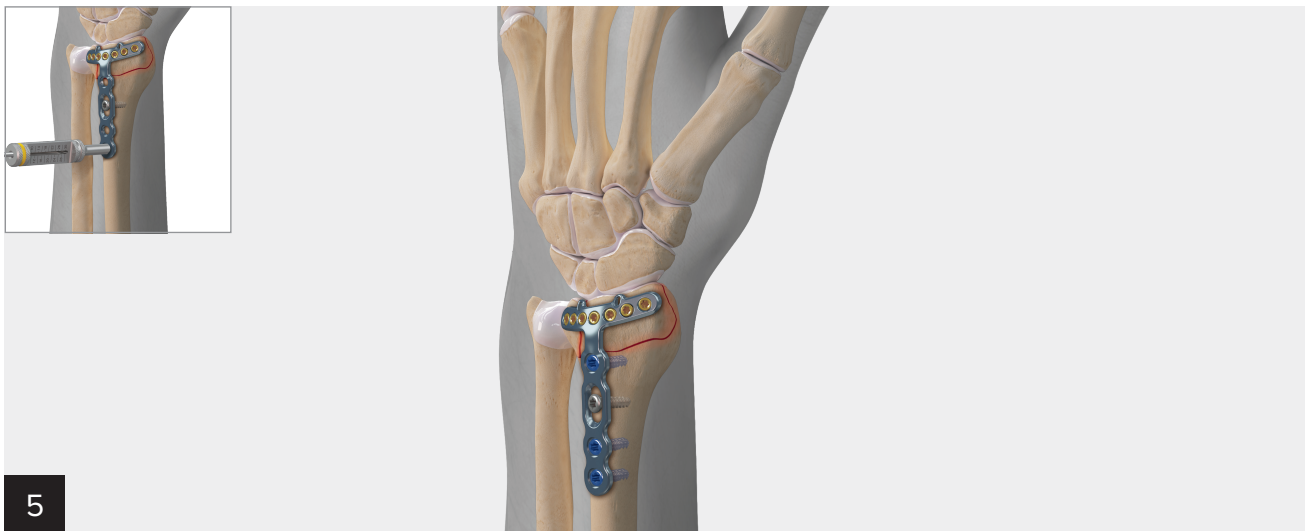
Remove Lister's tubercle with a rongeur; it can be used for bone grafting if desired. Reflect the joint capsule off the dorsal lip of the dorsal radius for access to the joint and reduce fragments if needed.



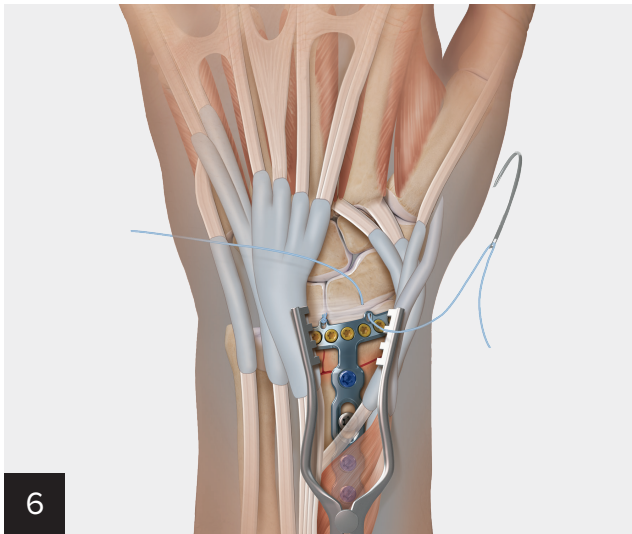
Once dissection and exposure are complete, select a narrow or standard width dorsal plate. Next, position plate to capture the distal subchondral bone and insert a nonlocking 3.5 mm screw into the oblong slot of the shaft for provisional fixation. Check positioning under fluoroscopy and adjust plate as needed using the oblong positioning slot.



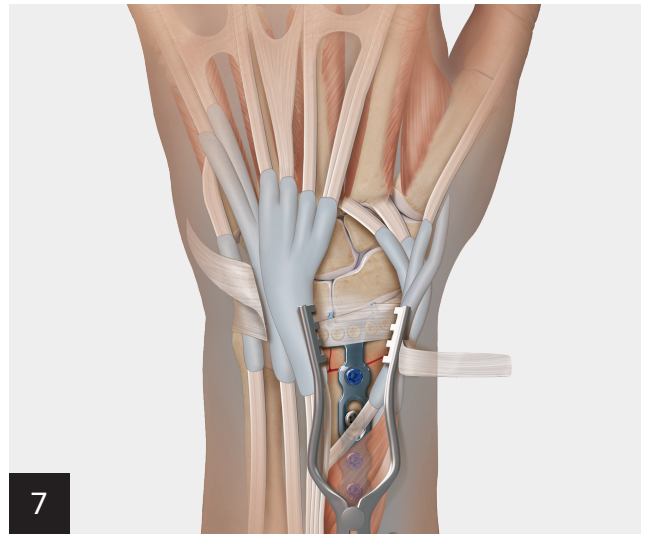
Once placement is satisfactory, place the distal 2.4 mm locking screws using either the locking drill guide, short drill sleeves, or the variable-angle locking (VAL) drill guide (locking drill shown). Confirm proper screw placement under fluoroscopy.



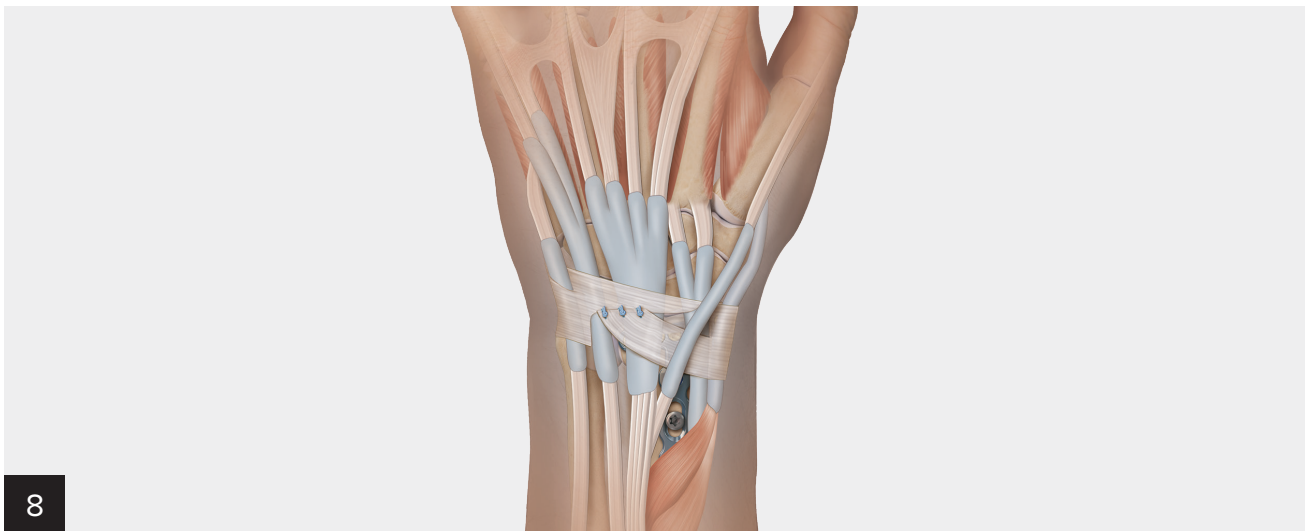
Next, secure the plate proximally by placing the remaining 3.5 mm locking screws using the locking drill guide.



Once final plate positioning and screw placement are satisfactory, reattach the joint capsule to the distal suture holes in the plate if adequate reapproximation tissue is unavailable.

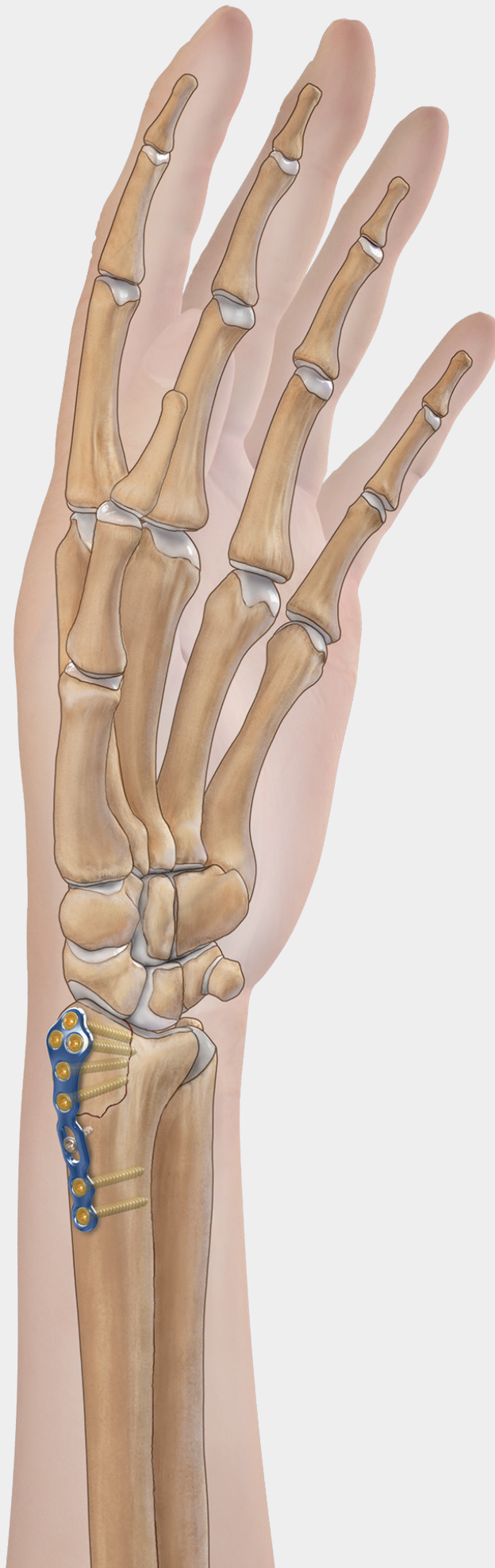


Divide the extensor retinaculum flap down to the floor between the 1st and 2nd compartments. Pass the distal flap under the tendons of the 2nd compartment to cover the plate distally to protect against tendon irritation with the plate. Secure the retinaculum to the periosteum ulnarly and the capsule distally.

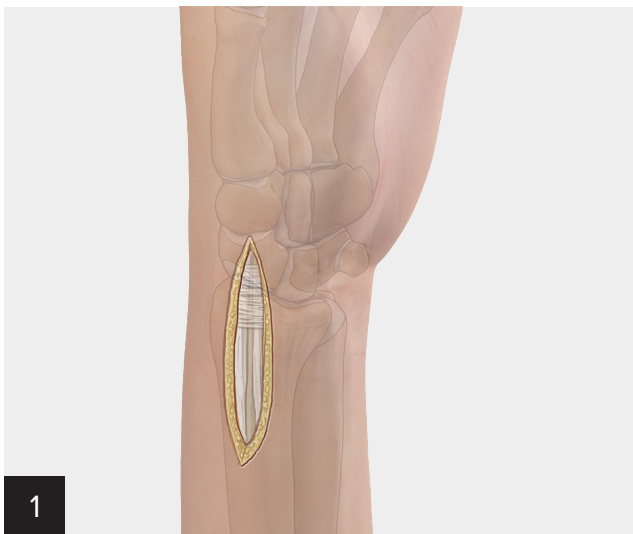


Place the remaining proximal retinaculum over the tendons of the 2nd and 4th compartments, leaving the EPL superficial. Leave at least 1 cm of retinaculum to keep the retinaculum functional.

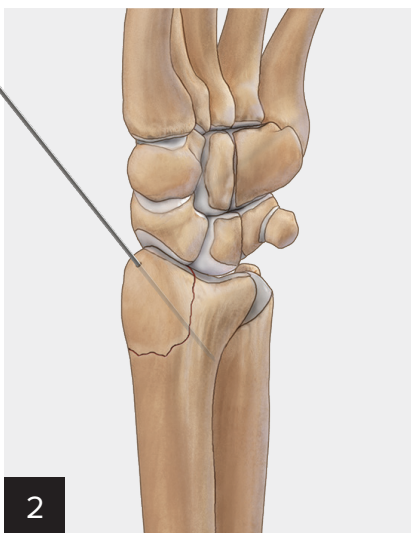
Radial Styloid Plating



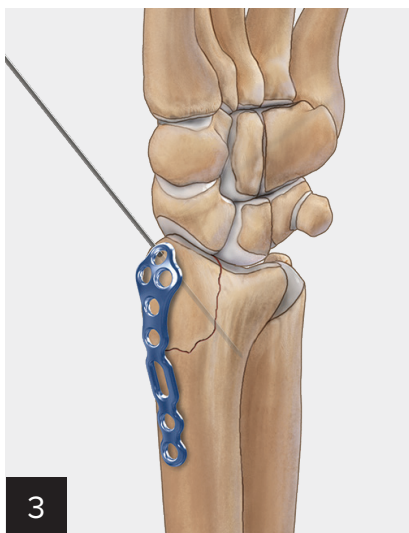
Radial Styloid Plating Technique Guide



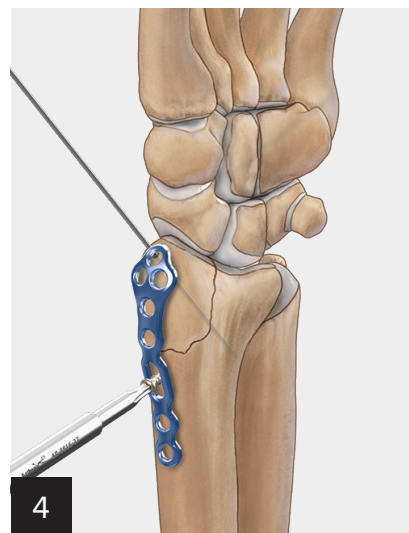
Make a longitudinal radial skin incision along the 1st and 2nd dorsal extensor compartment tendons. Alternatively, through an extended FCR approach, the skin envelope containing the radial artery can be mobilized off the radial extensor compartments. Take care to dissect and mobilize the superficial branch of the radial nerve. Open the extensor retinaculum of the 1st dorsal compartment, cheating dorsally, to prevent subluxation of these tendons. Alternatively, do not divide the distal 1 cm of the retinaculum. The fracture site is exposed.



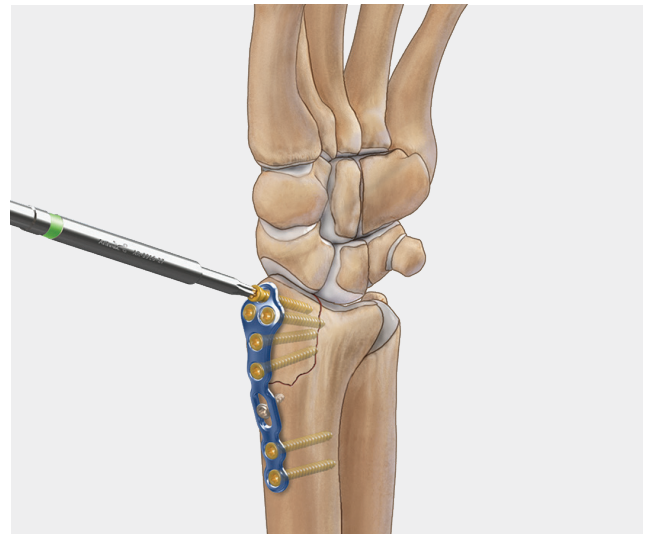
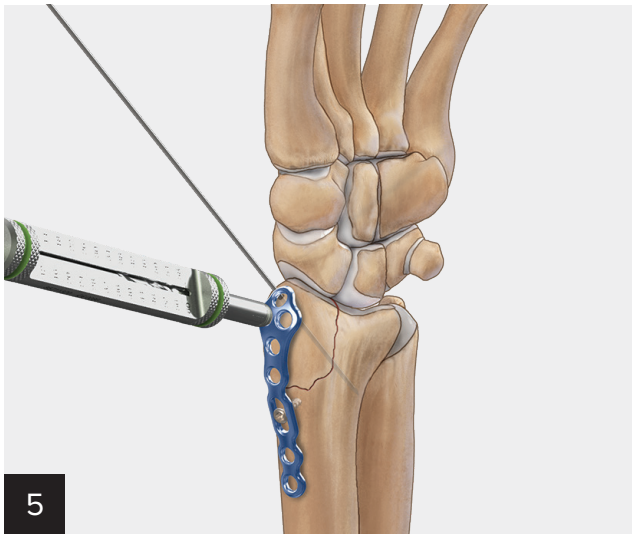
Place a trans-styloid K-wire distally through the fragment to reduce the fracture and provide a guide for plate placement. To aid in fracture reduction, a dorsal capsulotomy may be required.



Position the plate over the trans-styloid guidewire to aid in positioning if desired. Slide the plate under the tendons of the first dorsal compartment.



Next, provisionally fix the plate by placing a 2.4 mm nonlocking screw or BB-Tak into the oblong slot of the shaft of the plate using the drill guide and 1.7 mm drill bit. Confirm fracture reduction and plate placement using fluoroscopy.

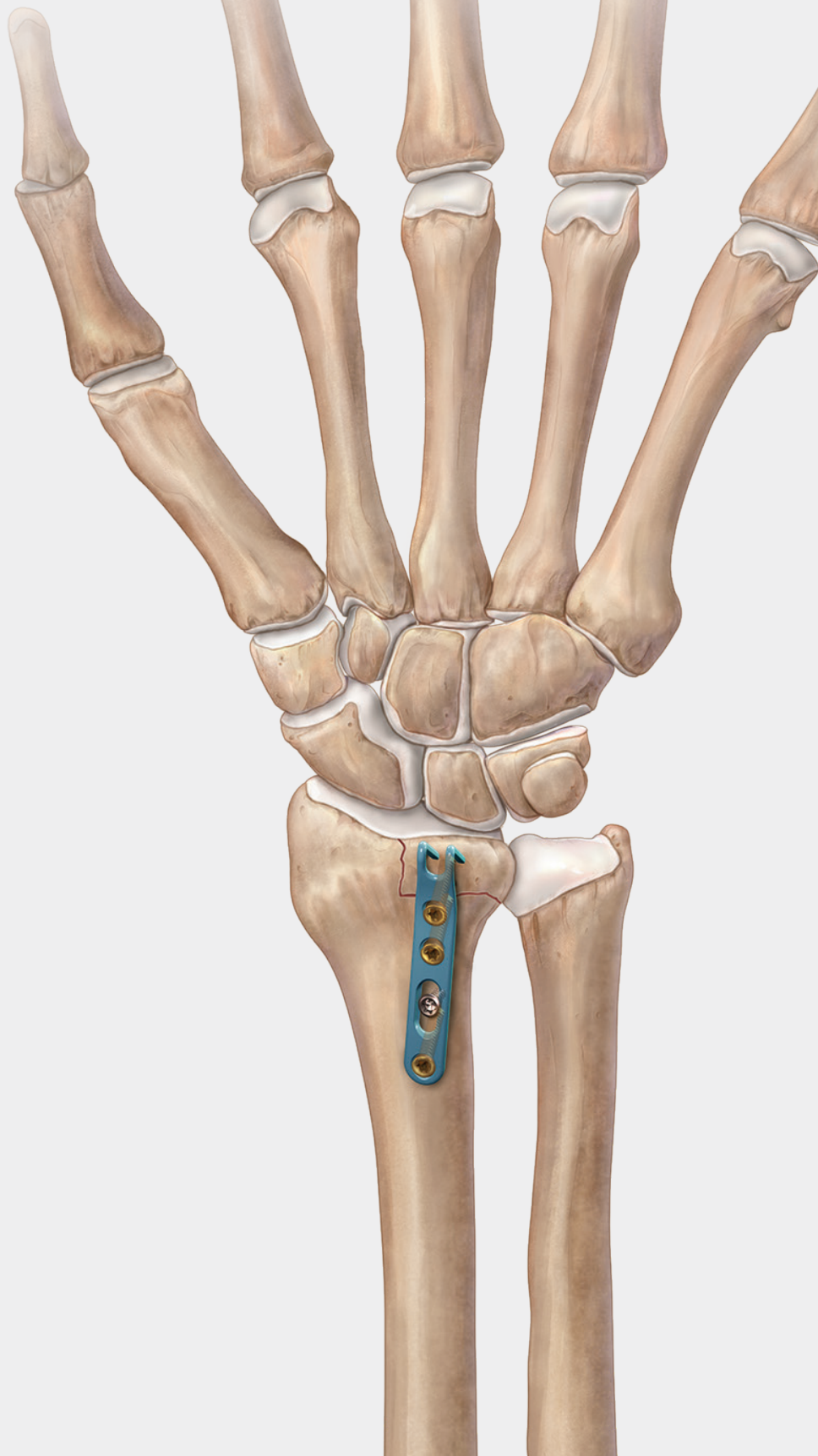


Use the threaded locking tower, VAL guide, or short drill sleeves to drill and place the 2.4 mm VAL locking screws into the remaining screw holes. Remove the initial K-wire and fill the screw hole with 2.4 mm locking screws (AR-8724V-xx). Take care when placing these distal screws to prevent fracture of the fracture fragments.

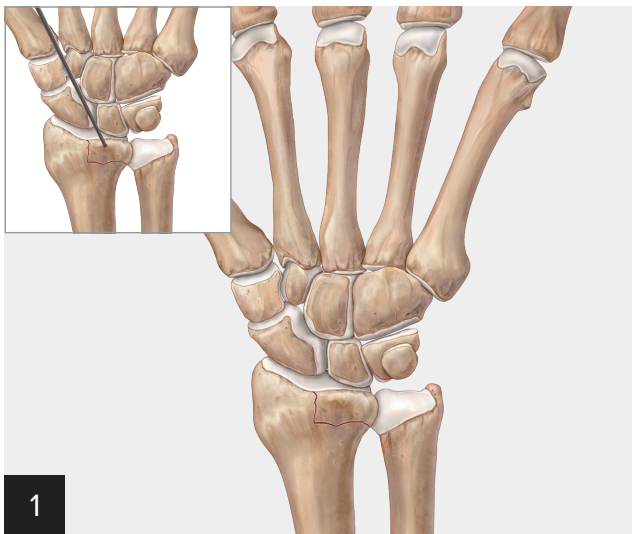


Confirm final fragment reduction, plate placement, and screw trajectory on fluoroscopy to ensure proper screw placement and satisfactory fracture reduction.

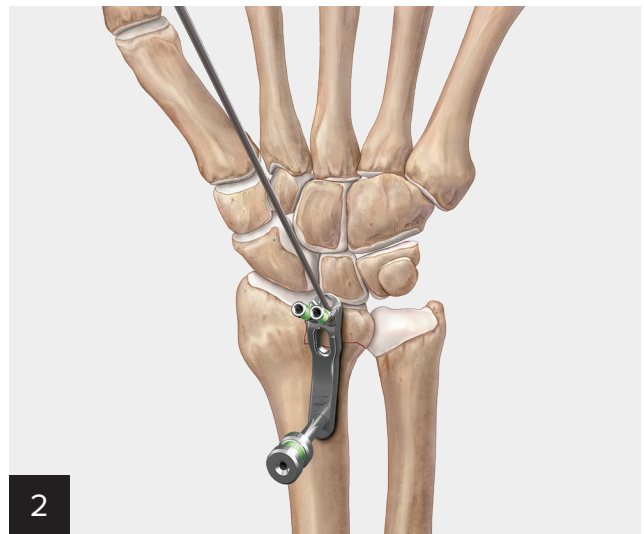
Volar Hook Plating



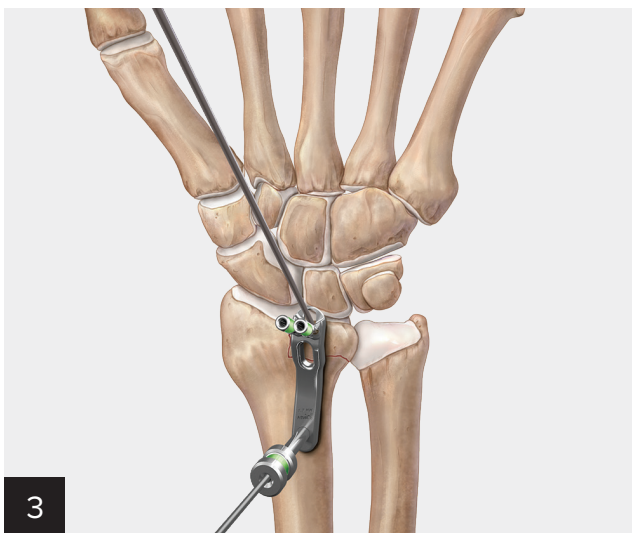
Volar Hook Plate Technique Guide



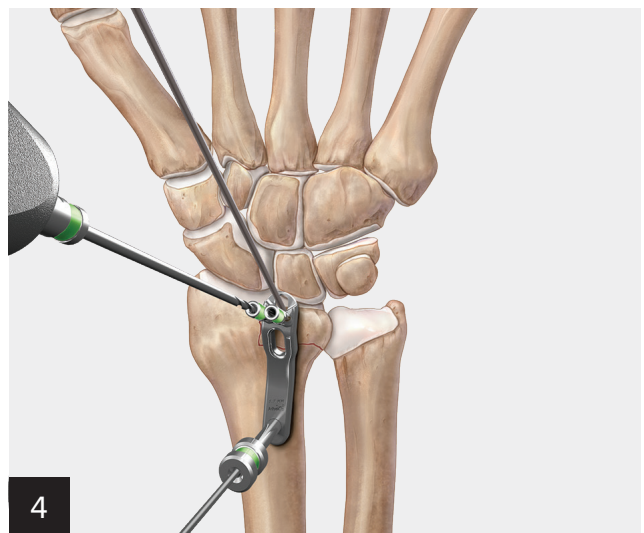
Use an extended FCR approach to expose the very distal aspect of the radius and adequately expose the distal fracture fragment. Place a K-wire into the fragment distally for temporary stabilization and fixation. Confirm the reduction on fluoroscopic imaging.



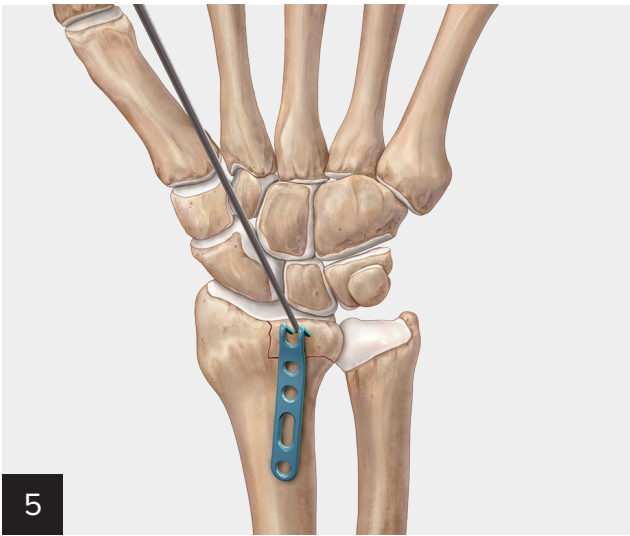
Place the volar hook guide next to the provisional K-wire or use the volar hook guide distal loop to position the guide over the K-wire.



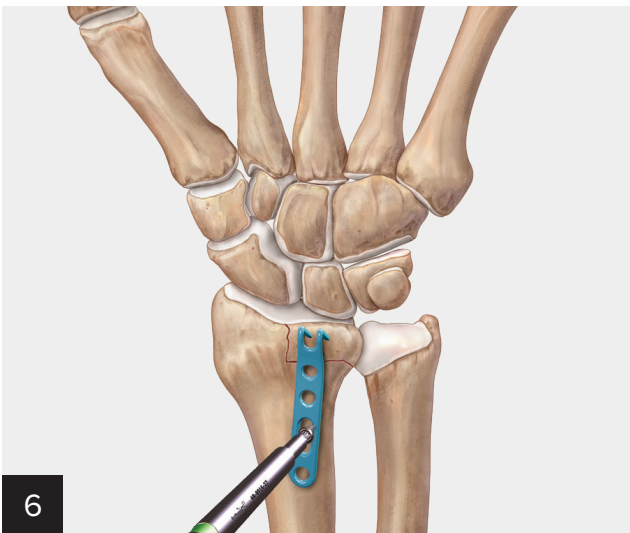
Once positioned distally, insert a second K-wire into the proximal portion of the guide for temporary fixation. Confirm positioning of the guide under fluoroscopic imaging to ensure that the tines of the hook plate will capture this distal fragment.



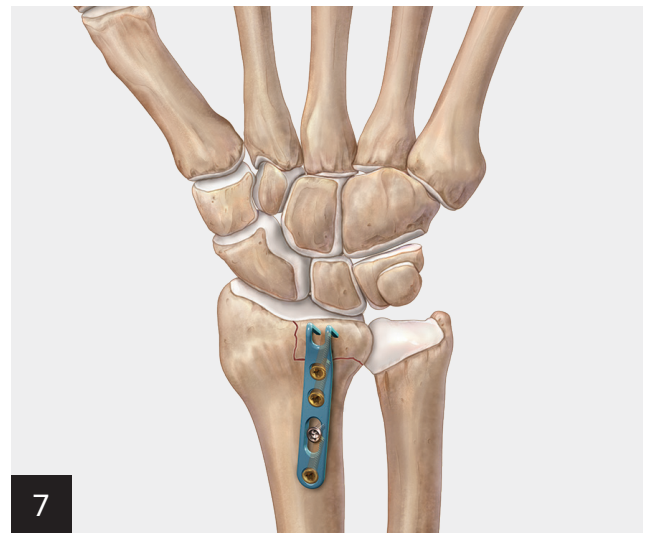
Next, drill through the distal drill guides using the 1.7 mm drill bit up to the second cortex. Bend or cut the distal K-wire out of the way if necessary. Remove the proximal K-wire (in the shaft of the radius) to enable the guide to be removed. Leave the distal K-wire in place to maintain fracture reduction. Mark the drill holes in the distal fracture fragment with a marker pen to aid in their visualization.



Position the hook plate (AR-**8916VH-xx**) over the predrilled holes and insert the plate tines with manual pressure into the predrilled holes. To help with placement of the plate, you may consider cutting a few millimeters off one of the tines with a wire cutter. Place the longer tine in a drill hole and the shorter tine in the other drill hole.

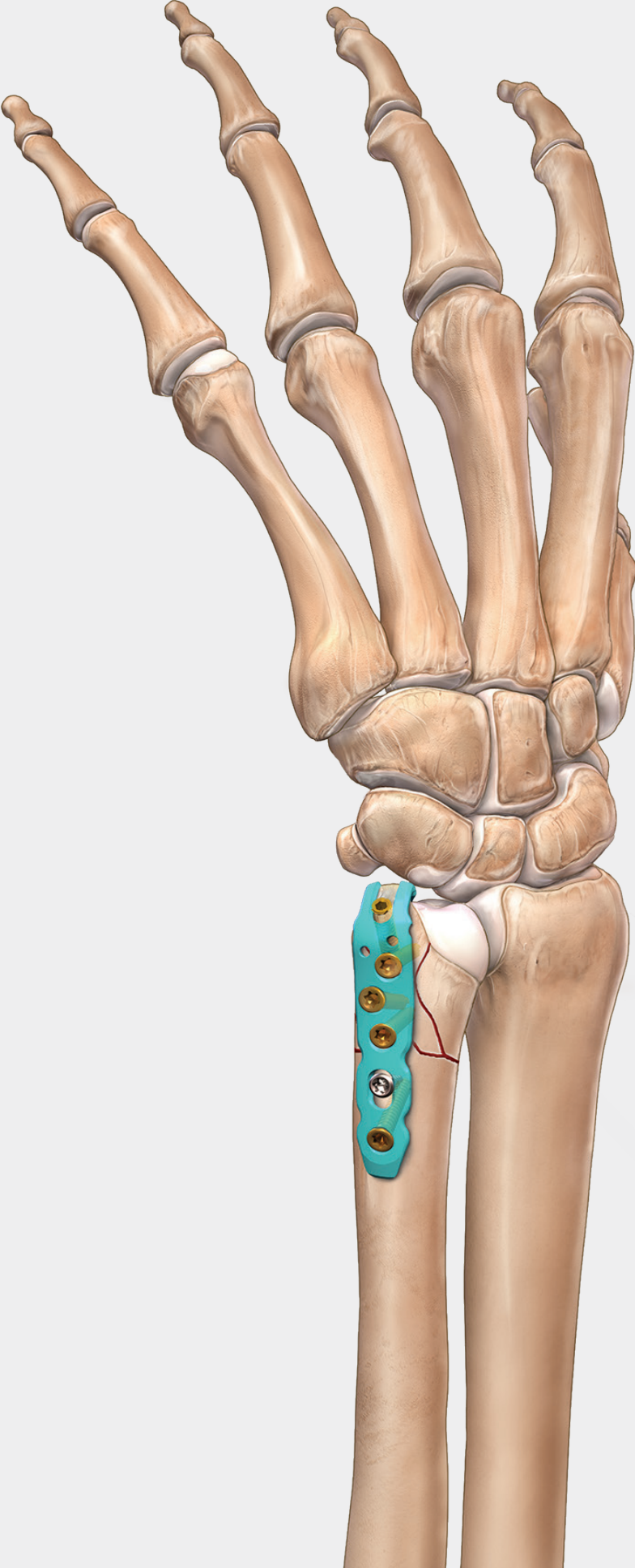


Place a 2.4 mm nonlocking screw into the shaft to secure the plate to the radius. The distal K-wire can be removed at this time as the plate tines will hold fragment fixation. Confirm reduction of the fracture under fluoroscopy.



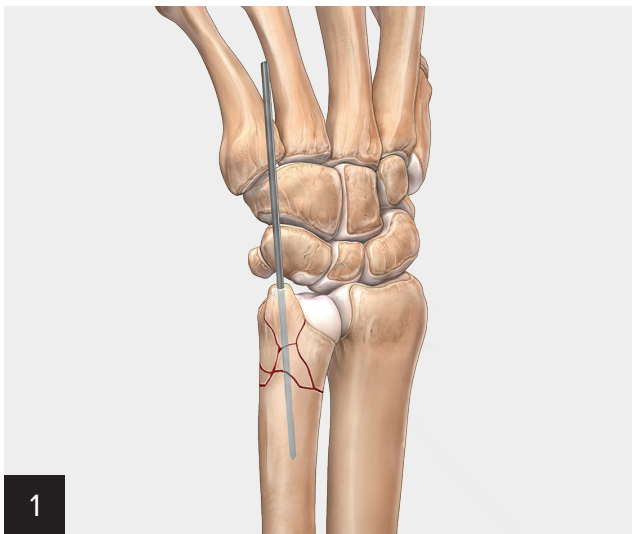
Fill the most distal drill holes with a 2.4 mm VAL screw angled from proximal volar to distal dorsal to support the subchondral bone. Fill the remaining 2.4 mm locking holes with VAL locking screws using the threaded locking guide or VAL drill guide for final fixation.

Ulnar Hook Plate

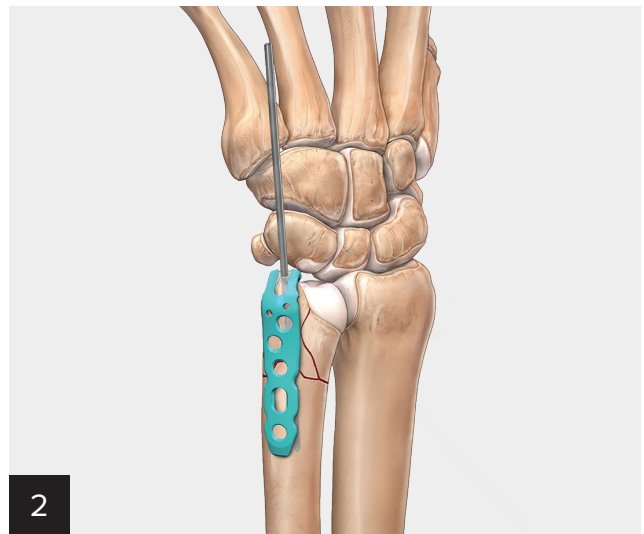


Ulna Hook Plating Technique Guide

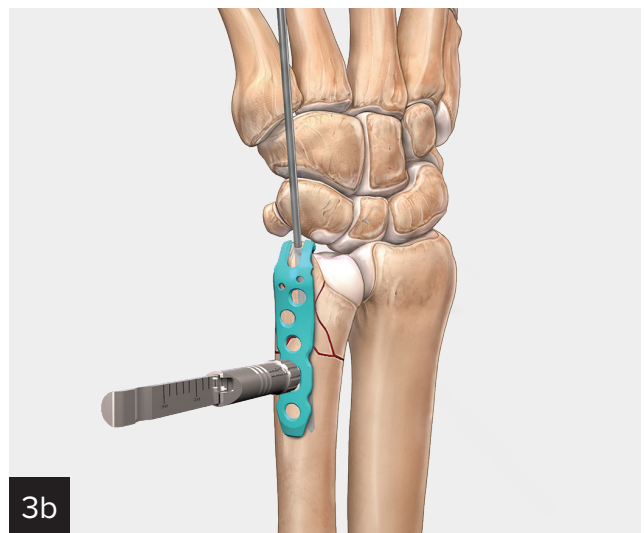
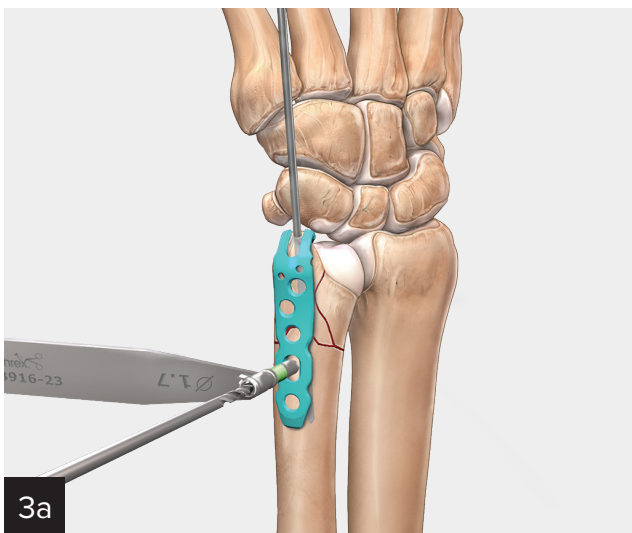
Make a straight, longitudinal incision over the distal ulna between the tendons of the extensor and flexor carpi ulnaris. Take care to avoid injury to the dorsal branch of the ulnar nerve. The fracture site is exposed.



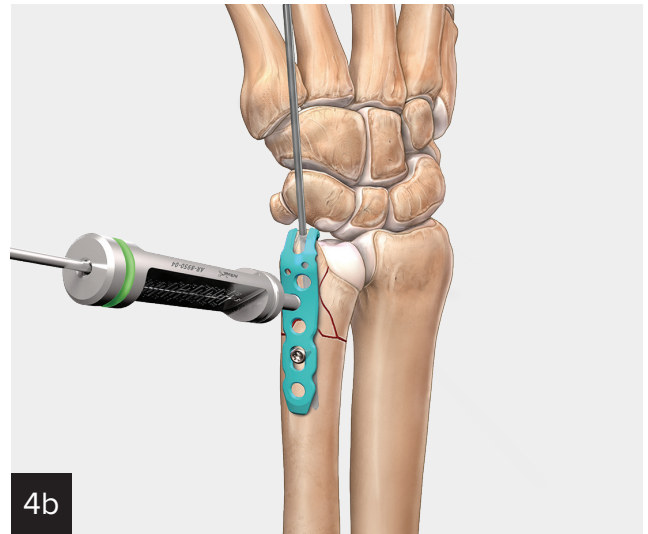
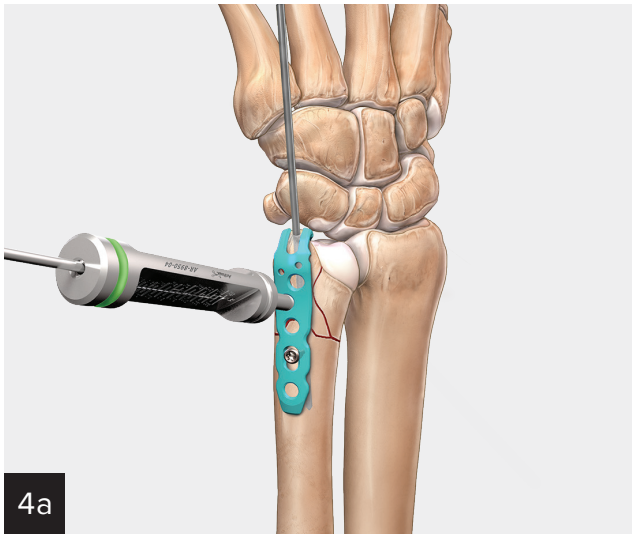
Under direct visualization, reduce the fragments and use a distal stabilizing K-wire for temporary fixation.



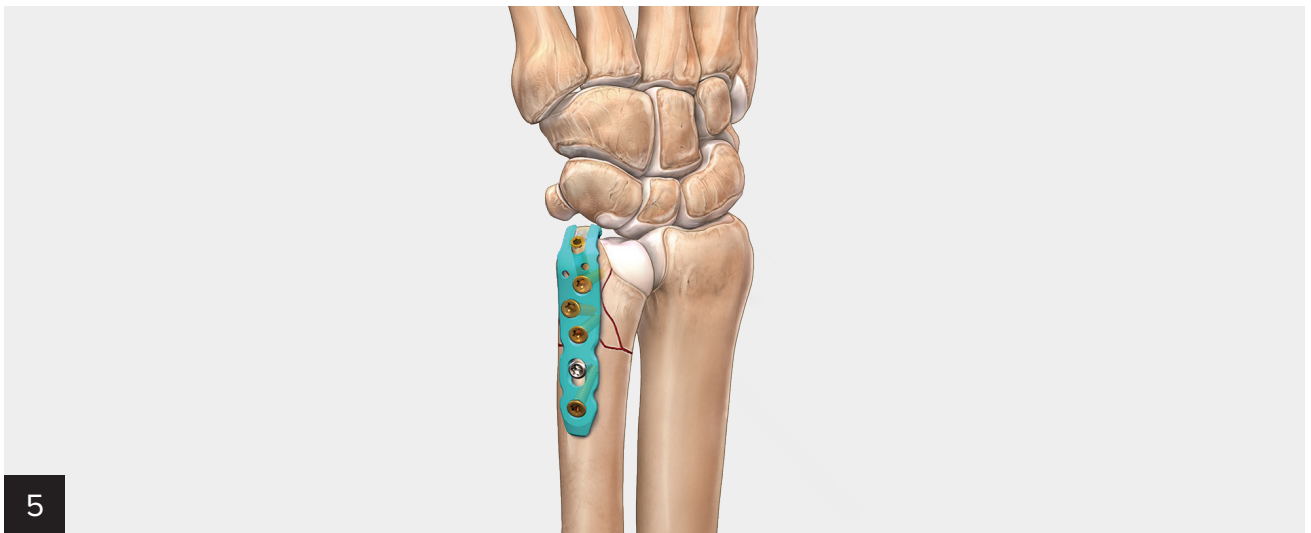
Place a trans-styloid K-wire distally through the fragment to reduce the fracture and provide a guide for plate placement. A dorsal capsulotomy may be required to aid in fracture reduction.



Once the reduction is confirmed under fluoroscopy, place a 2.4 mm nonlocking screw in the oblong slot to reduce the plate to bone.

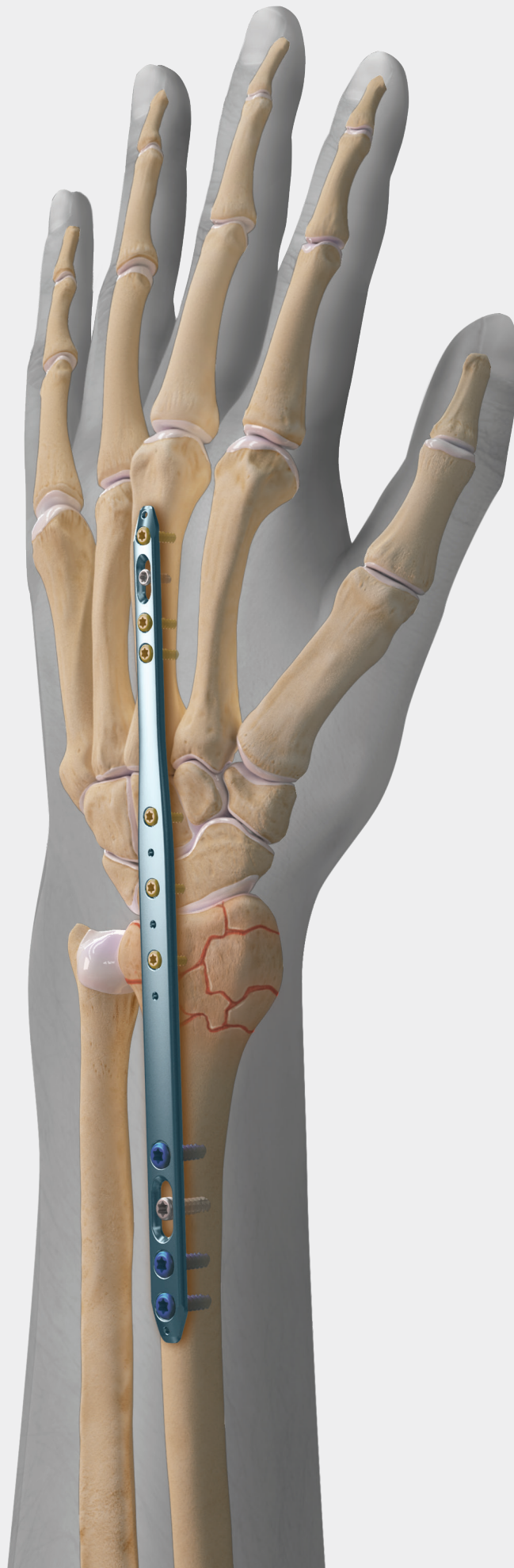


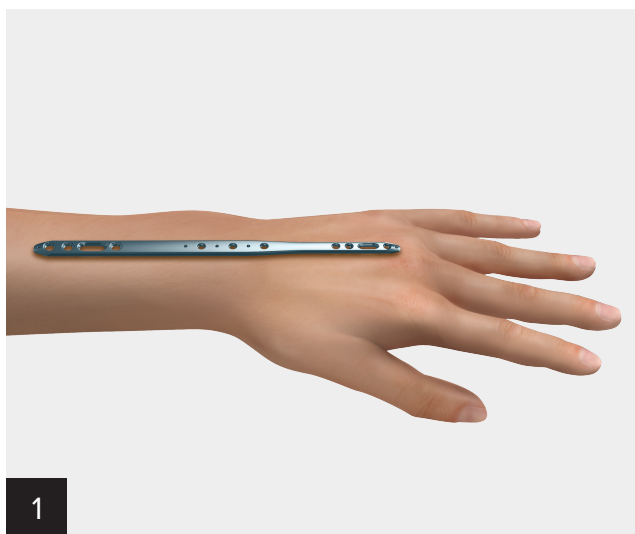
Once satisfactory reduction and plate positioning are confirmed on fluoroscopy, fill the remaining locking holes with 2.4 mm VAL locking screws using the threaded locking tower, VAL drill guide, or short drill sleeves.



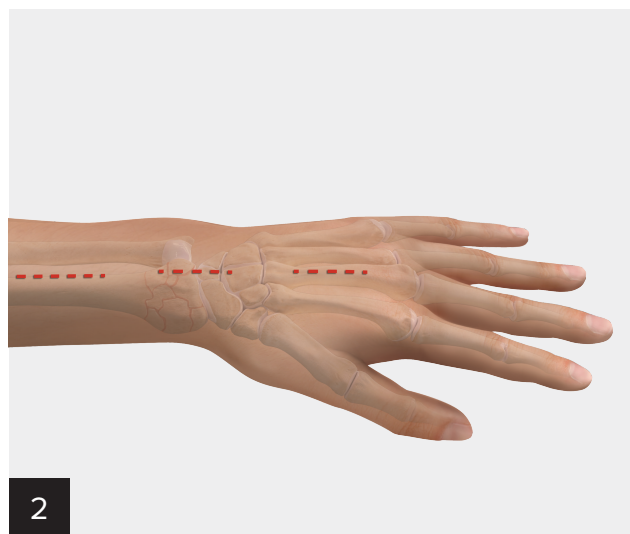
Insert a 2.5 mm Headless Compression FT screw between the hook tines for additional fixation if desired. Be aware of distal locking screw trajectory if placing this screw. Check stability of the DRUJ.

Spanning Plate

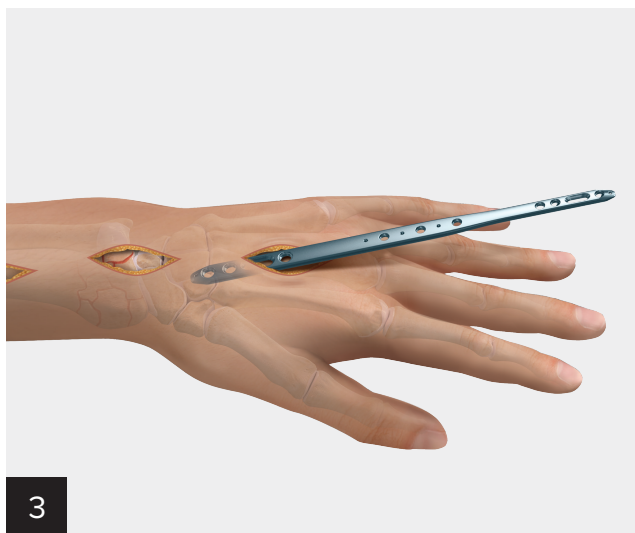




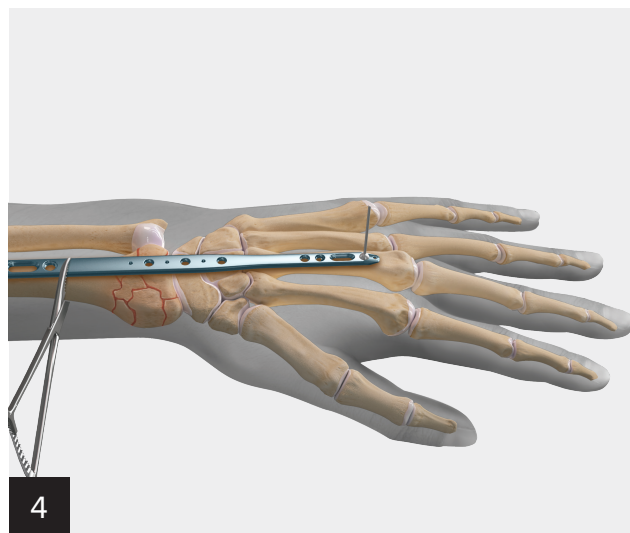
Position the plate on the skin and use fluoroscopy to assess ideal positioning. The plate can be positioned over the 2nd or 3rd metacarpals distally and the radial shaft proximally. Use additional screw holes in the central part of the plate for additional fixation in the distal radius or carpus as desired.



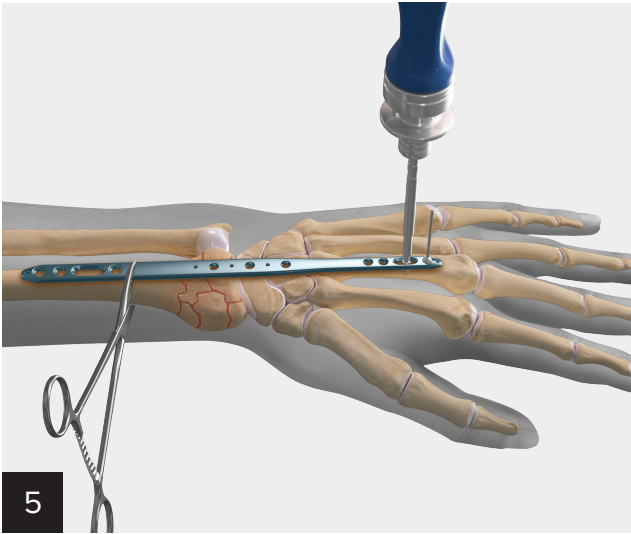
Make a distal incision over the 2nd or 3rd metacarpal and the radial shaft. Take care to protect the dorsal sensory cutaneous nerve. Make the radial incision dorso-radially from the midline to facilitate clamping of the plate on the bone. Make an additional incision over Lister's tubercle to mobilize the EPL and facilitate fracture reduction and placement of additional screws if desired.



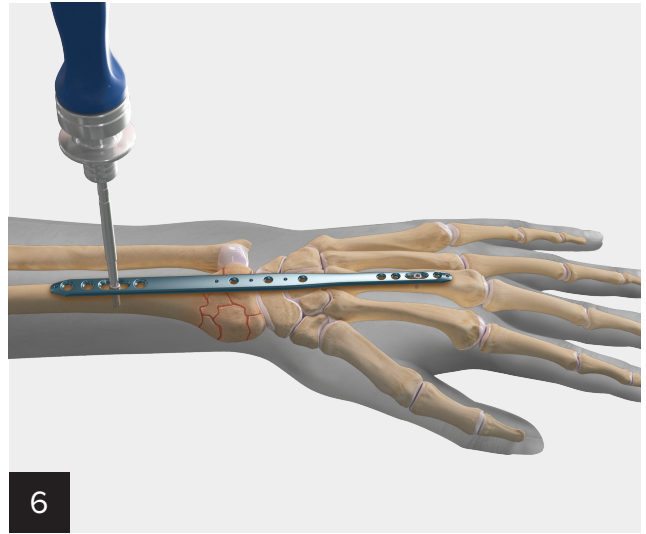
Once the reduction is confirmed under fluoroscopy, place a 2.4 mm nonlocking screw in the oblong slot to reduce the plate to bone.



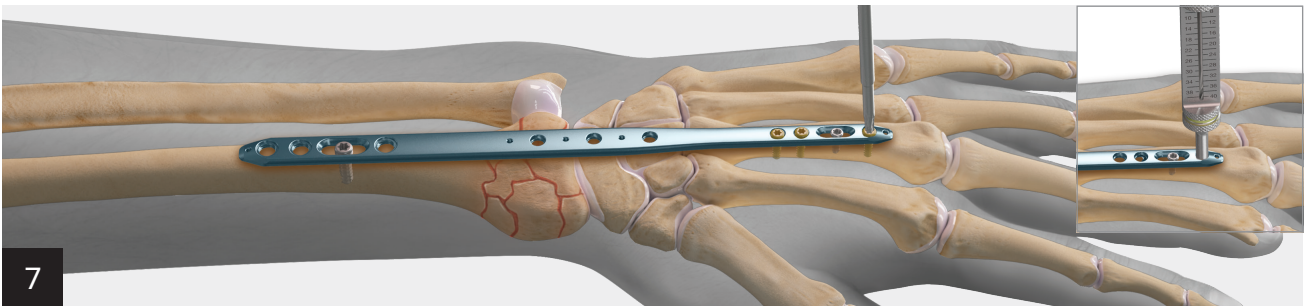
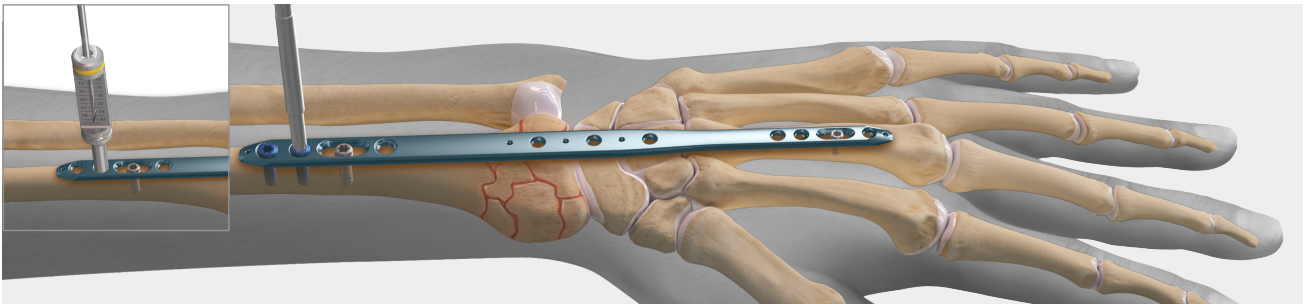
Position the plate over the 2nd or 3rd metacarpal as desired. Use a serrated bone clamp to provisionally fix the plate proximally or BB-Taks to provisionally fix the plate in both proximal and distal holes.



5 With the wrist in neutral rotation, secure the plate to the metacarpal. Use a 2.4 mm nonlocking cortex screw distally to secure the plate to the bone and allow for slight adjustment. Ensure the plate is well positioned to expose the bicortical placement of the metacarpal screw's site.

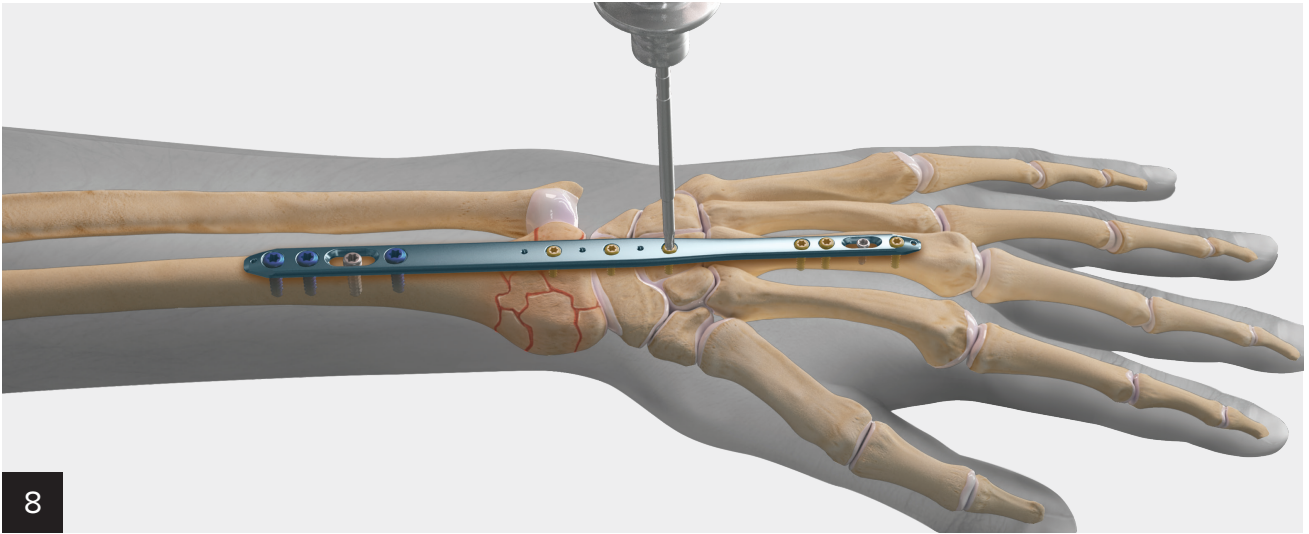


6 Ensure the plate is appropriately positioned on the radius proximally. Confirm position of the central holes if support of the distal radius fracture fragments is needed. Center the plate over the radial shaft, apply traction, and place a nonlocking 3.5 mm screw into the distal end of the oblong shaft slot of the plate. This will allow for additional distraction if needed.



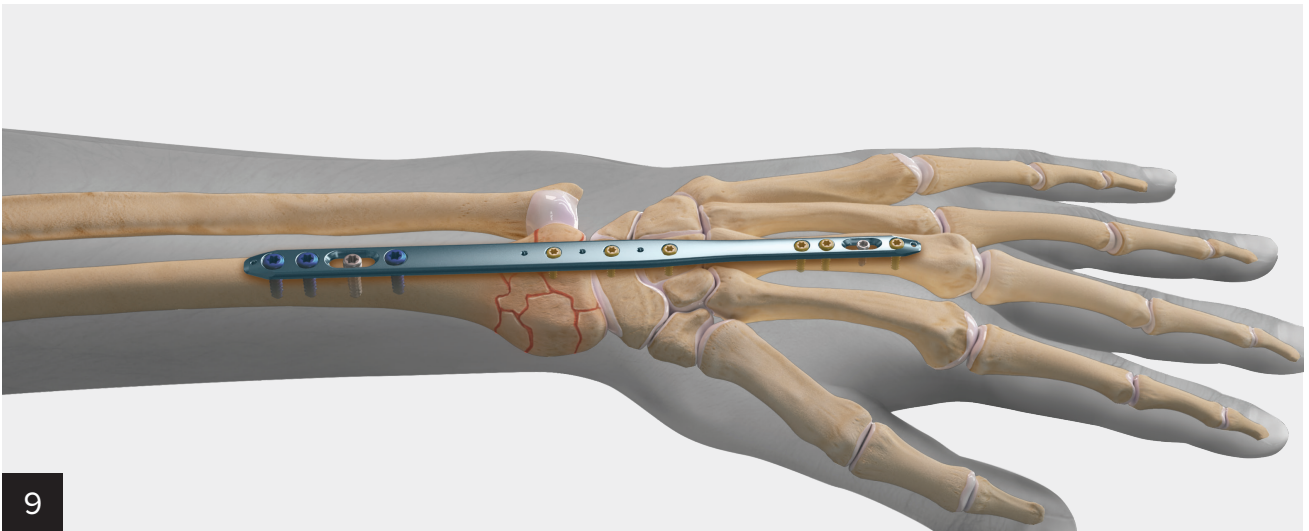
7 Once desired distraction and reduction are achieved, fill the remaining shaft holes with 3.5 mm locking screws using the locking drill guide in the shaft and 2.4 mm screws in the metacarpal shaft.

Insert the 2.4 mm locking screws into the remaining metacarpal holes using the threaded locking drill guide or the VAL drill guide. Ensure the carpus is not overdistracted and the fingers can easily be ranged from full extension to flexion.



8

If optional subchondral or carpal support is needed, fill the central holes with 2.4 mm screws as desired using the locking drill guides or the VAL drill guide.



9

Confirm final plate and screw placement on x-ray.

Fragment-Specific System (AR-8916FS)

Product Description	Item Number
Fragment-Specific System Base and Lid	AR-8916C-21
Instrumentation	
Drill Guide, parallel, volar hook plate, 1.7 mm	AR-8916-26
Pliers, needlenose, qty. 2	AR-8916-24
Plates (to be used in conjunction with AR-8916S)	
2.4 mm 2H L-Plate, Ti, right, 5H (e)	AR-8952ML-05R
2.4 mm 2H L-Plate, Ti, left, 5H	AR-8952ML-05L
Wrist Spanning Plate, Ti (a)	AR-8916SPN
2.4 mm Radial Styloid Plate, 5H (d)	AR-8916RSTY-05
Volar Hook Plate, 4H (b)	AR-8916VH-04
Volar Hook Plate, 6H	AR-8916VH-06
Dorsal Distal Radius Plate, standard, right, 4H (c)	AR-8916DSR-04
Dorsal Distal Radius Plate, standard, left, 4H	AR-8916DSL-04
Dorsal Distal Radius Plate, narrow, right, 4H	AR-8916DNR-04
Dorsal Distal Radius Plate, narrow, left, 4H	AR-8916DNL-04
Ulnar Styloid Plate (f)	AR-8956-01
Disposables	
Guidewire w/ Trocar Tip, 1.35 mm	AR-8943-01
BB-Tak, qty. 3	AR-13226

Optional Instrumentation for Wrist Plating System (AR-8916S)

Product Description	Item Number
Instrumentation	
Plate Distractor	AR-8916-19
Locking Post	AR-8916-13
3.5 mm Cortex Screw Post	AR-8916DCS-18
Distractor Caddy	AR-8916C-25



This description of technique is provided as an educational tool and clinical aid to assist properly licensed medical professionals in the usage of specific Arthrex products. As part of this professional usage, the medical professional must use their professional judgment in making any final determinations in product usage and technique. In doing so, the medical professional should rely on their own training and experience, and should conduct a thorough review of pertinent medical literature and the product's directions for use. Postoperative management is patient-specific and dependent on the treating professional's assessment. Individual results will vary and not all patients will experience the same postoperative activity level and/or outcomes.

View U.S. patent information at www.arthrex.com/corporate/virtual-patent-marking

arthrex.com

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