

# Forearm Fracture Fixation Technique Guide

3.5 mm Titanium Compression Locking Plate

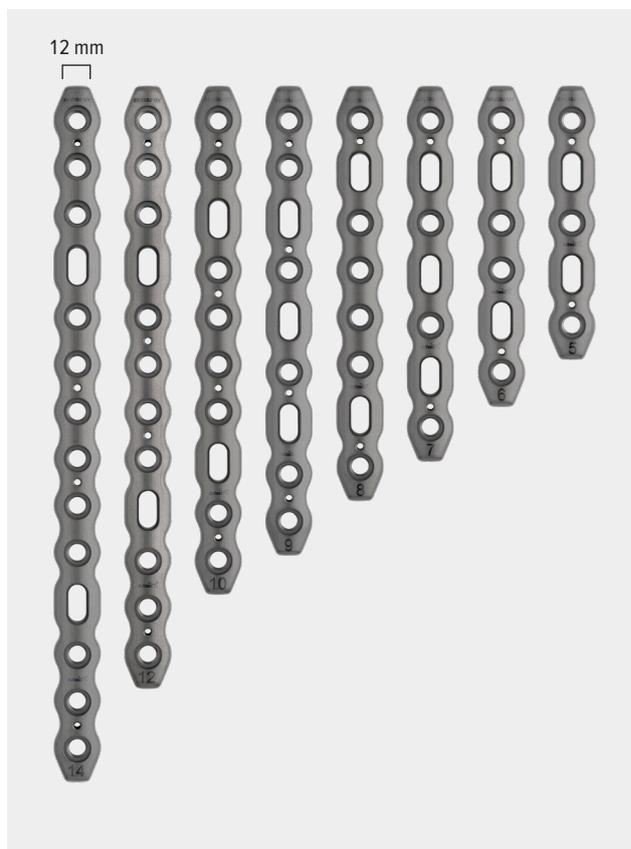


# Forearm Fracture Fixation Overview

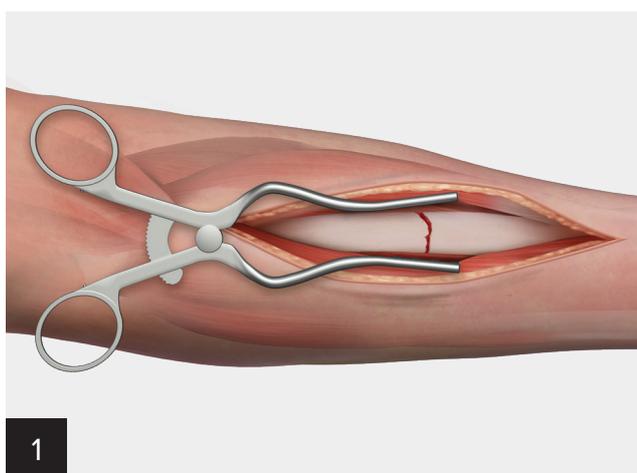
The Arthrex 3.5 mm titanium locking compression plates are available packaged either nonsterile with 5-14 holes or sterile with 16-22 holes. Lengths range from 70 mm for the 5-hole plate to 278 mm for the sterile 22-hole plate. Recessed circular holes accept 3.5 mm locking or cortical screws, and oblong holes accept 3.5 mm cortical screws. Compression is achieved using the oblong holes on either side of the fracture. The plates are 3.5 mm thick and 12 mm wide.

## Locking Compression Plates

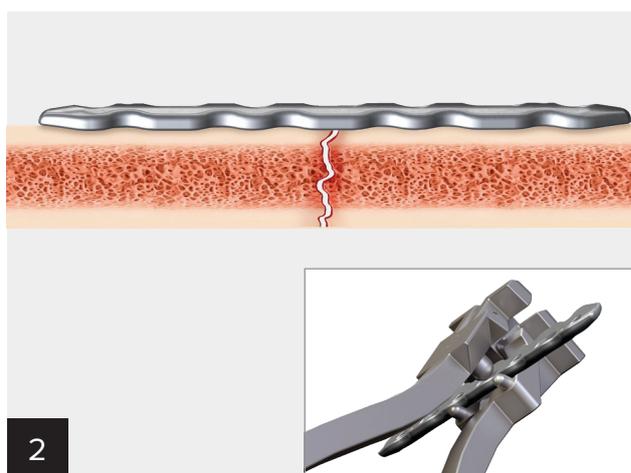
No. of Holes	Length (mm)
5	70
6	82
7	96
8	106
9	120
10	130
12	154
14	178
16	204
18	228
20	252
22	278



## Surgical Technique | Radius Forearm Fracture Plating



Expose the surgical site and reduce the fracture.



According to surgeon preference, the plate can be bent slightly to allow for compression against the far cortex. French bending irons are used to create a slight curve in the center of the plate. In general, the plate should not be more than 1-2 mm off the bone.



3 Center the plate over the fracture site and provisionally secure it using Lobster claws, guidewires, or BB-Taks. If the plate has an odd number of holes, take care to place the middle hole over the fracture line.

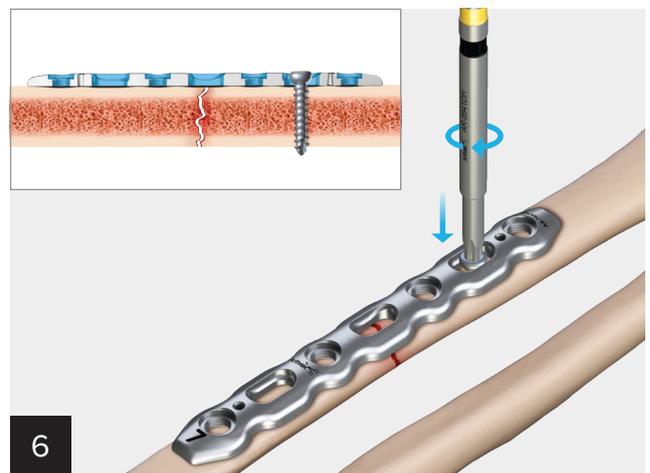


4 Place a neutral, nonlocking screw in the oblong hole in the plate using the appropriate drill guide and drill. The drill guide should be placed in the center of the oblong hole closest to the fracture.

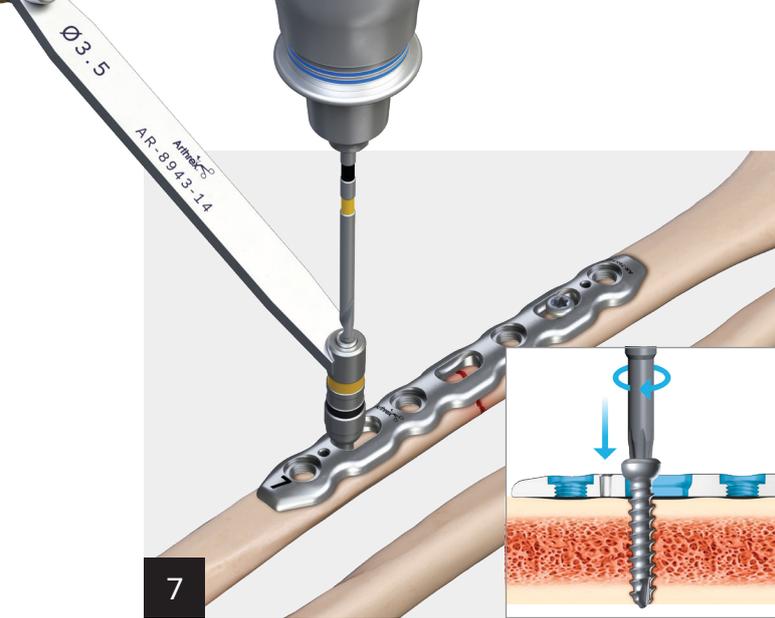
**Note: provisional fixation is still achieved with the Lobster or guidewires at this point. They are removed for illustration purposes only.**



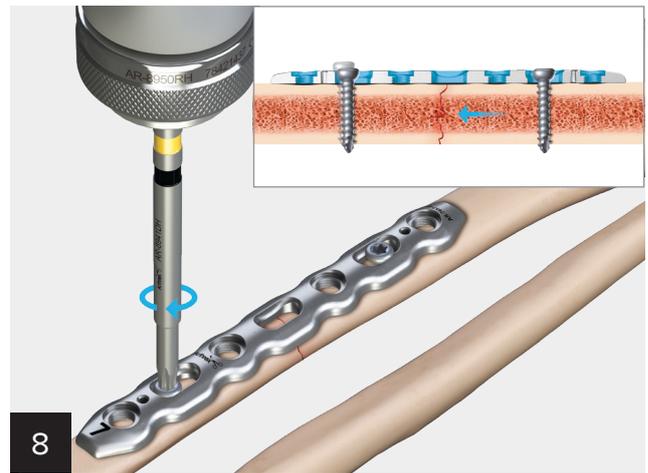
5 Use the depth device to select the appropriate length screw.



6 After the first nonlocking screw is placed, take a fluoroscopic lateral view to assess screw length.



On the opposite side of the fracture, drill eccentrically in the oblong hole. If using a longer plate, the first compression screw should be in the oblong hole nearest to the fracture. Measure the screw depth and insert the nonlocking screw until fully seated, but prior to firmly tightening the screw.



Remove any provisional plate fixation to allow for sliding of the plate in relation to the bone. Then, firmly tighten the screw to achieve axial compression. The maximum shift per compression hole is approximately 1 mm.

If a longer plate is used and further compression is required, partially eccentrically insert another nonlocking screw into a second oblong slot in one fragment. Loosen the first eccentric screw in that fragment before fully seating to allow for plate movement.

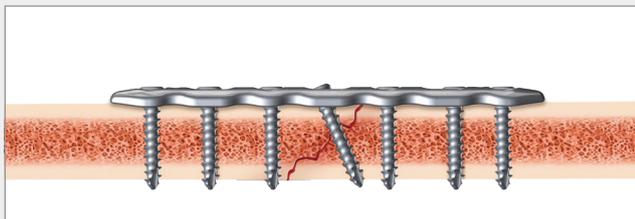


After compression is achieved, fill the remaining holes of the plate in the neutral position. If desired, locking screws may be used in the circular, threaded holes.

Check forearm rotation regularly throughout the procedure and ensure all screws are fully tightened prior to closure.

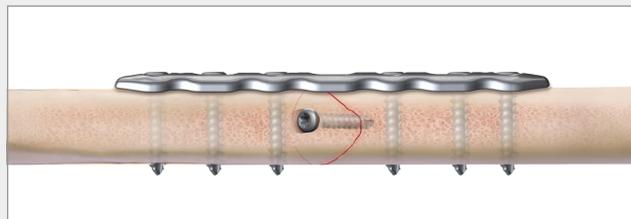
## Surgical Technique Variations

Spiral or oblique fractures may necessitate lag screw fixation, either through the plate or outside of the plating construct.



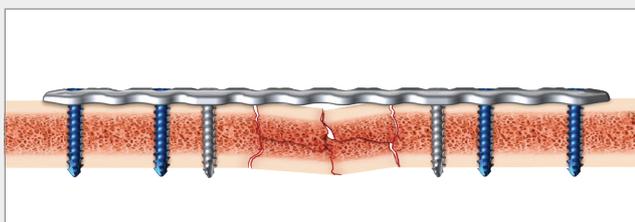
### Lag fixation within the plate

A lag screw is placed through the plate to provide interfragmentary compression. After the lag screw is placed, the remaining holes are filled to create a neutral plating construct.



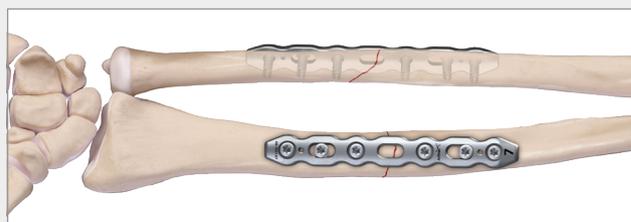
### Lag fixation outside the plate

Prior to placement of the plate, a lag screw can be placed across the fracture. Once the screw is placed, the plate is placed with all screws in a neutral, non-compression mode.



### Bridge plating

Comminuted fractures may not be amenable to compression or lag screw fixation. At this point, a longer plate can be placed over the area of comminution and used as a bridge plate. This allows the fracture to heal while protecting the bone around it.



### Both-bone forearm fracture fixation

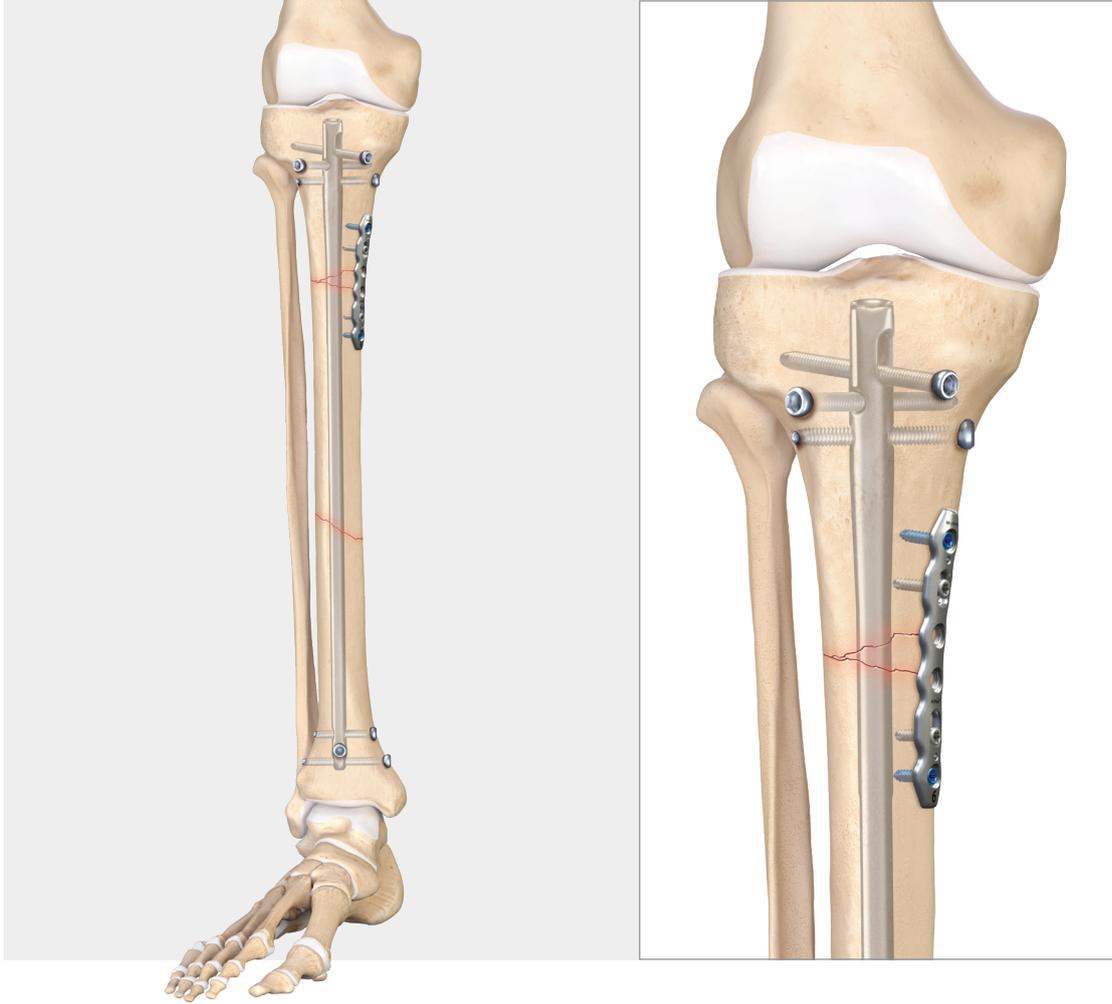
The Arthrex 3.5 mm compression locking plates can also be used to treat both-bone forearm fractures. The simpler of the two fractures should be addressed and preliminary fixation achieved. If both bones have similar fractures, then the ulna will normally be addressed first.

For detailed steps on how to achieve compression, please see the step-by-step instructions above.

## Surgical Technique | Lower Extremity Applications

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The 3.5 mm titanium locking compression plates can be used for various applications, including the lower extremity fracture depicted below.



## Ordering Information

### 3.5 mm Titanium Locking Compression Plates

Product Description	Item Number	Length (mm)
3.5 mm Compression plate, Ti, 5-hole	AR-7657-05	70
3.5 mm Compression plate, Ti, 6-hole	AR-7657-06	82
3.5 mm Compression plate, Ti, 7-hole	AR-7657-07	96
3.5 mm Compression plate, Ti, 8-hole	AR-7657-08	106
3.5 mm Compression plate, Ti, 9-hole	AR-7657-09	120
3.5 mm Compression plate, Ti, 10-hole	AR-7657-10	130
3.5 mm Compression plate, Ti, 12-hole	AR-7657-12	154
3.5 mm Compression plate, Ti, 14-hole	AR-7657-14	178
3.5 mm Compression plate, Ti, 16-hole sterile	AR-7657-16S	204
3.5 mm Compression plate, Ti, 18-hole sterile	AR-7657-18S	228
3.5 mm Compression plate, Ti, 20-hole sterile	AR-7657-20S	252
3.5 mm Compression plate, Ti, 22-hole sterile	AR-7657-22S	278

### Compression Plate Tray

Product Description	Item Number
3.5 mm Titanium Locking Compression Plate Tray	AR-7657S

### Optional Instrumentation

Product Description	Item Number
French bending iron	AR-7650-27
Eccentric drill guide	AR-7650-12

Optional instrumentation releasing winter 2023.

### Screws

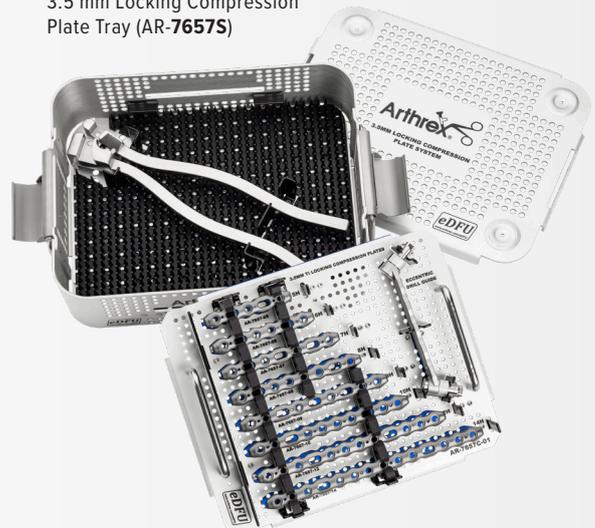
The following screws are compatible with the plates and can be found either in the Wrist Plating System, Titanium Ankle Fracture System, Comprehensive Fixation System (CFS), or KreuLock™ locking compression screw system. Additional 3.5 mm nonlocking screws can be brought in the auxiliary CFS or ankle fracture screw caddies (AR-8950C-10 or AR-9943C-SC).

Product Description	Item Number
Low-profile screw, cortical, 3.5 mm, wrist plating system (DRP)	AR-8735-14
Low-profile screw, locking, Ti, 3.5 mm, wrist plating system (DRP)	AR-8735L-14
3.5 mm Low-profile screw, titanium	AR-8935-XX
3.5 mm Locking screw titanium	AR-8935L-XX
KreuLock compression screws, Ti, 3.5 mm	AR-8935CL-XX

Screws must be purchased in separately.



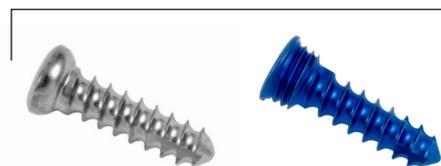
3.5 mm Locking Compression Plate Tray (AR-7657S)



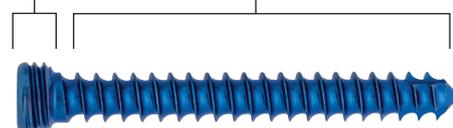
Screws available in the Wrist Plating System (AR-8916S)



Screws available in the Titanium Ankle and Fracture System (AR-9943S) and Comprehensive Fixation System (CFS)(AR-8950S)



Locking head  
Compression Screw (available in the KreuLock Screw System)



Fully-threaded (FT) compression screw with variable-stepped pitch and locking head



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.

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US patent information