2.0 mm LCP Distal Ulna Plate.

For capital and subcapital fractures of the ulna.

Technique Guide

SYNTHES®

Instruments and implants approved by the AO Foundation

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IMPORTANT: This device has not been evaluated for safety and compatibility in the MR environment. This device has not been tested for heating or migration in the MR environment.

Image intensifier control

2.0 mm LCP Distal Ulna Plate.

For capital and subcapital fractures of the ulna.

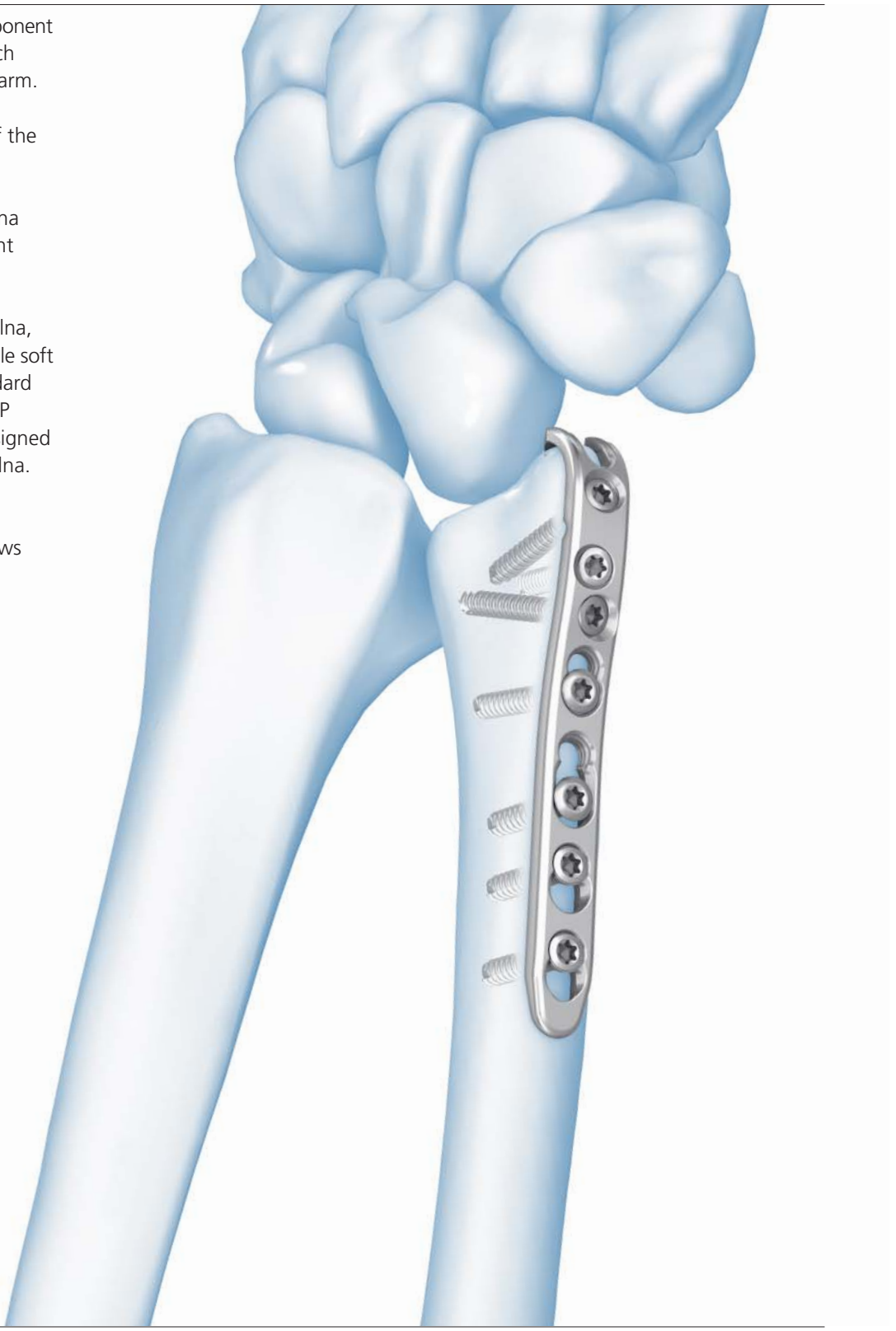
The distal ulna is an essential component of the distal radioulnar joint, which helps provide rotation to the forearm. The distal ulnar surface is also an important platform for stability of the carpus and, beyond it, the hand.

Unstable fractures of the distal ulna therefore threaten both movement and stability of the wrist.

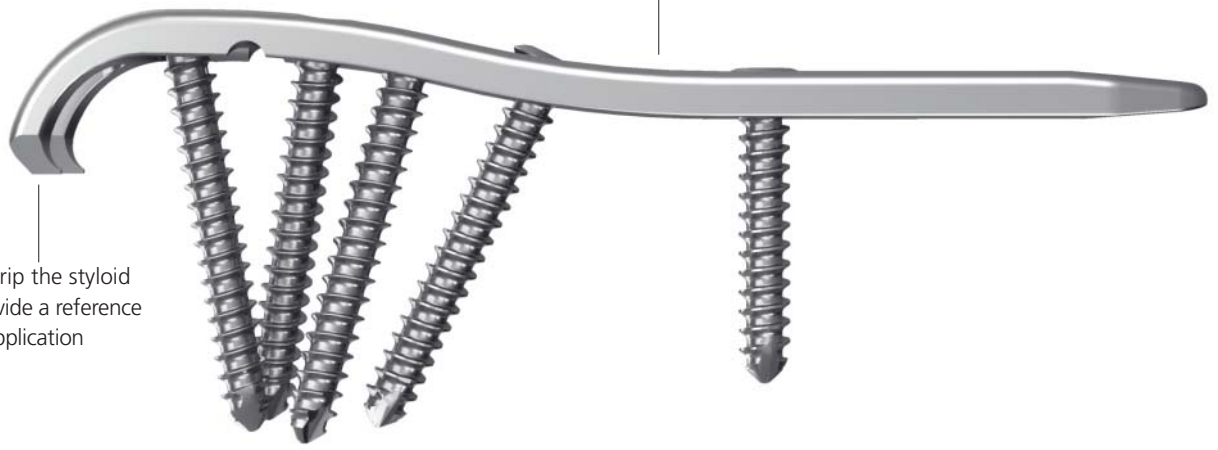
The size and shape of the distal ulna, combined with the overlying mobile soft tissues, make application of standard implants difficult. The 2.0 mm LCP Distal Ulna Plate is specifically designed for use in fractures of the distal ulna.

Features

– Pointed hooks and locking screws in the head
– Anatomically precontoured
– Angular stability



Narrow plate design, low screw-plate profile, rounded edges and polished surface are designed to minimize irritation of overlying soft tissue



Pointed hooks grip the styloid process and provide a reference point for plate application

Round locking holes in the head accept 2.0 mm locking screws

Combi holes accept either 2.0 mm locking or cortex screws and allow locking or compression throughout the length of the plate shaft

Angled locking screws securely hold the ulnar head

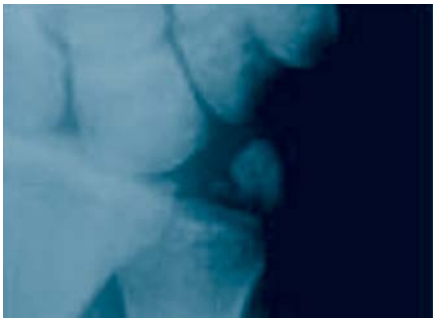
Indications

The 2.0 mm LCP Distal Ulna Plate is indicated for fixation of fractures, osteotomies, nonunions, replantations, and fusions of small bones and small bone fragments, particularly in osteopenic bone.

Clinical Examples

Examples include:
- Fractures of the ulnar head where the articular surface is either displaced, rotated, or tilted
- Comminuted extra-articular fractures of the ulnar neck threatening stable congruency of the distal radioulnar joint

Note: Not all fractures of the distal ulna require internal fixation. Many simple ulnar styloid fractures demand nothing more than symptomatic treatment.



Displaced articular surface

Rotated articular surface

Tilted articular surface

Approach

Required set

01.111.120	Modular Mini Fragment LCP Instruments and Implants Set
or	
01.111.140	Titanium LCP Modular Mini Fragment Instruments and Implants Set

1

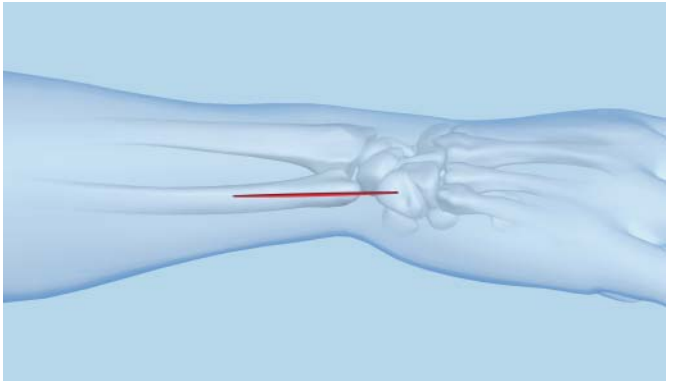
Approach

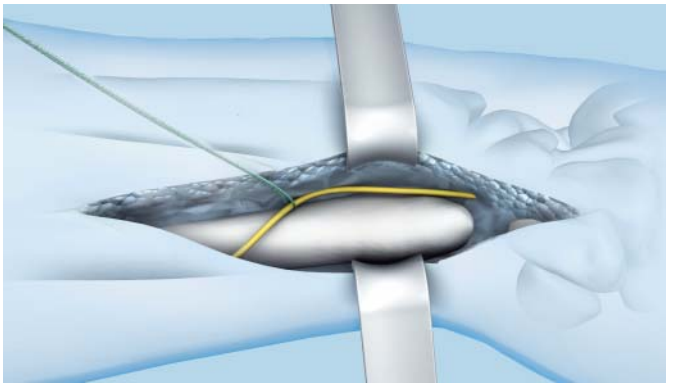
The ideal insertion site for this implant is located toward the ulnar styloid and between the flexor carpi ulnaris and extensor carpi ulnaris tendons.

Make a longitudinal skin incision over the palpable ulna, taking care to avoid the dorsal sensory branch of the ulnar nerve, which crosses the bone at this level.

Once the distal shaft of the ulna is visible, subperiosteal dissection will allow the fracture fragments to be visualized and reduced.

Gently retract the dorsal sensory branch of the ulnar nerve.





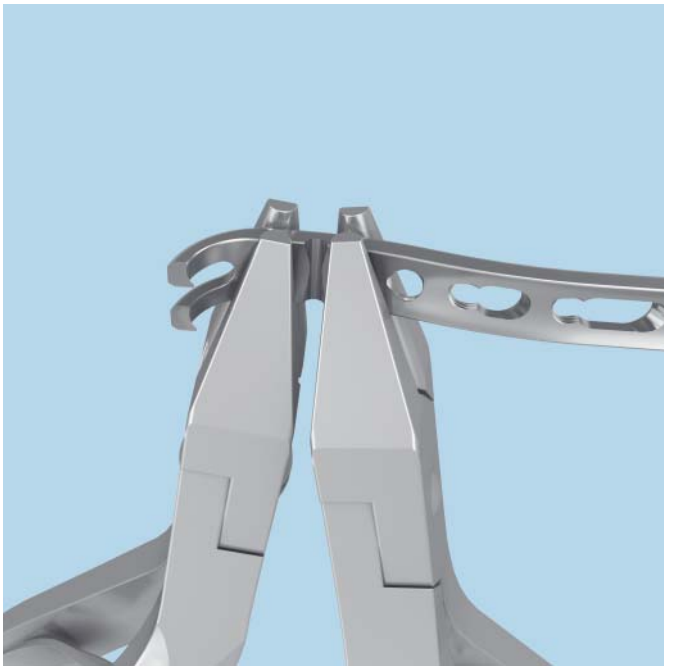
Reduce Fracture and Position Plate

2
Contour plate (optional)

Instrument	
329.12	Bending Pliers, for 1.5 mm and 2.0 mm plates

If necessary, contour the plate using the flat-nosed pliers.

Note: If possible, avoid cutting the plate, since the resulting sharp edges can irritate the overlying soft tissue.



3
Reduce fracture and position plate

Instruments	
292.622*	1.1 mm Threaded Guide Wire, 150 mm
292.623*	1.1 mm Non-Threaded Guide Wire, 150 mm

Expose and clean the fracture. Secure the pointed hooks of the distal ulna plate around the tip of the ulnar styloid, as a reference guide.

* Also available

3. Reduce fracture and position plate continued

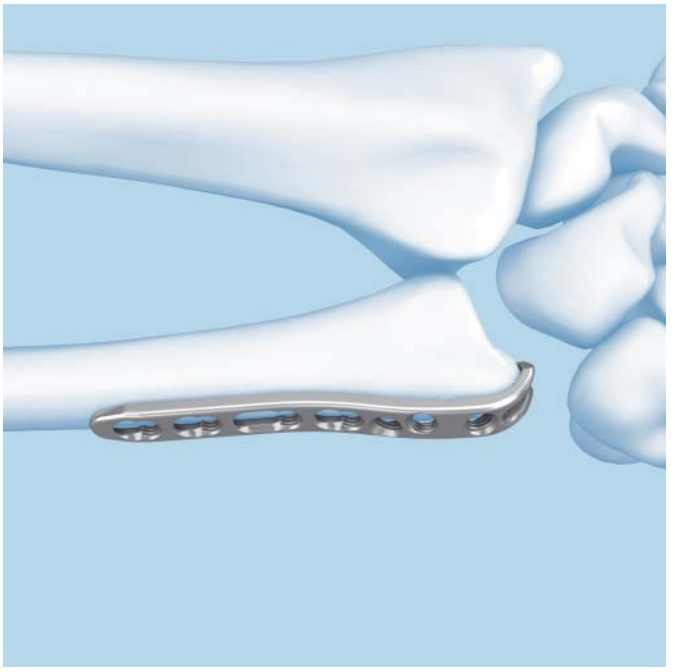
In simple fractures of the ulnar neck, apply the plate to the subcutaneous border of the distal ulna, securing points of fixation in both the head and the shaft.

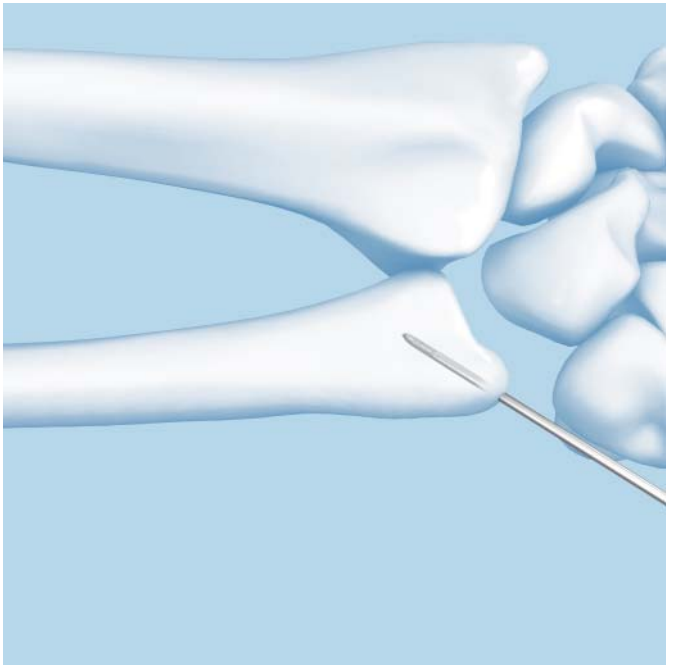
Note: It may be necessary to temporarily stabilize the fracture with a transtyloid 1.1 mm guide wire. The wire should be inserted between the distal hooks of the temporarily applied plate.

Important: The head of the distal ulna is often fragile. Use caution if using pointed reduction forceps, since the force of this instrument may cause further comminution of the ulnar head.

Complete exposure of the ulnar head should not be performed because this will detach essential soft tissue stabilizers.

Much of the reduction will be performed indirectly.





Fix Plate Distally

4

Fix plate distally

Instruments	
310.507	1.5 mm Drill Bit with Depth Mark, mini quick coupling, 96 mm
311.01	Handle, with mini quick coupling
313.842*	2.0 mm Screwdriver Blade, self-retaining, StarDrive, short
or	
313.843	2.0 mm Screwdriver Blade, self-retaining, StarDrive, long
319.006	Depth Gauge, for 2.0 mm and 2.4 mm cortex screws, measures up to 50 mm
323.034	1.5 mm Threaded Drill Guide, with depth gauge

Secure the drill guide in the desired hole. Predrill the hole with the 1.5 mm drill bit through the drill guide, and measure screw length directly from the gauge. Remove the drill bit and drill guide.

Alternatively, screw length may be measured with the depth gauge.

* Also available

4. Fix plate distally continued

Insert the appropriate length 2.0 mm locking screw.

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Adjust length and complete fixation

Multiple options for screw insertion in the distal portion of the plate allow a wide range of fracture patterns to be securely stabilized.

Option 1

In fractures which require length adjustment, place one or two 2.0 mm locking screws in the ulnar head to securely fix the implant distally. Place a 2.0 mm cortex screw in the oblong hole of the shaft, and obtain the correct length of reduction. Use a combination of cortex and locking screws in the surrounding holes to stabilize the fracture securely, as dictated by bone quality.

Option 2

In the case of unstable fractures of the base of the ulnar styloid, a 2.0 mm locking screw can be applied through the most distal hole in the plate. A locking screw does not need to reach the far cortex for stable fixation.

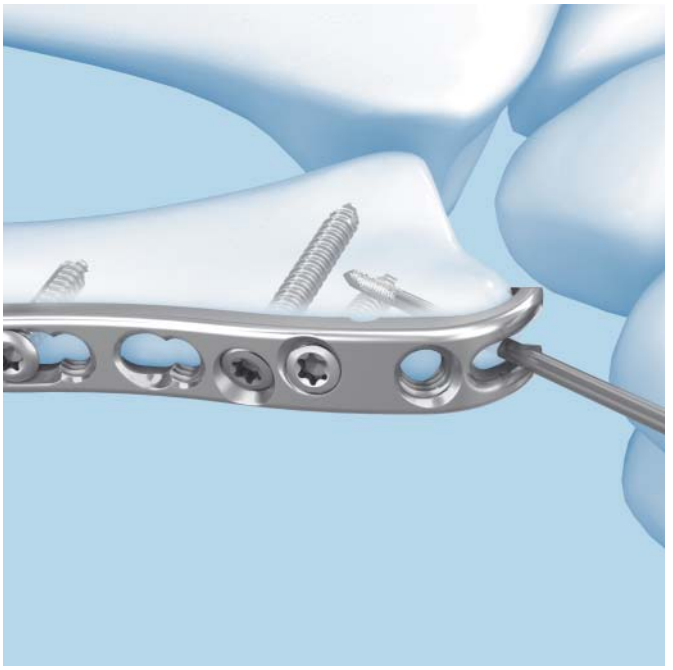
5. Adjust length and complete fixation continued

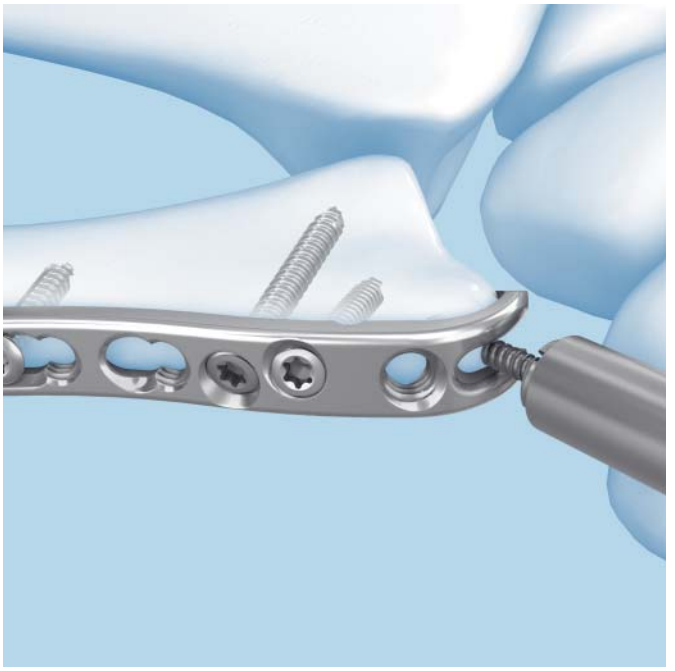
Option 3

Instrument	
314.67.96**	1.5 mm/2.0 mm Cruciform Screwdriver Blade, with holding sleeve
or	
314.667*	1.5 mm Cruciform Screwdriver Blade, with spring holding sleeve, short

In fractures where it is necessary to stabilize the tip of the ulnar styloid process, the distal plate hole is left empty. Remove the 1.1 mm wire, which was used for preliminary fixation (see note, Step 3).

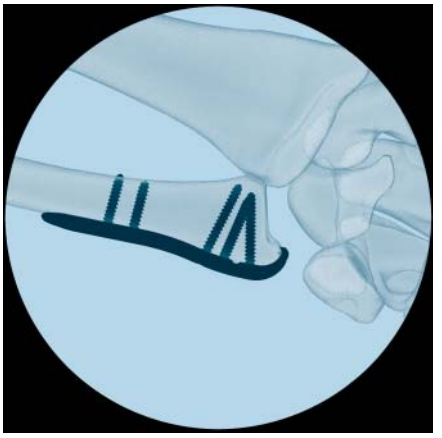
Overdrill the near fragment with a 1.5 mm drill bit. Insert a 1.5 mm cortex screw in lag mode between the arms of the distal hooks.





** Part of the Modular Hand System
* Also available

Important: Use fluoroscopic imaging to verify that no screws enter either the distal radioulnar or ulnocarpal joints.



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Close incision

Use the appropriate method for surgical closure of the incision.

Implant removal

To remove locking screws, unlock all screws from the plate, then remove the screws completely from the bone. This prevents rotation of the plate when removing the last locking screw.

Screws Used with the 2.0 mm LCP Distal Ulna Plate

2.0 mm Locking Screw, self-tapping, with StarDrive recess
- Creates a locked, fixed-angle screw-plate construct
- Threaded conical head

2.0 mm Cortex Screw, self-tapping, with StarDrive recess
- May be used in the DCU portion of the Combi holes in the plate shaft
- Compresses the plate to the bone or creates axial compression

Optional screws

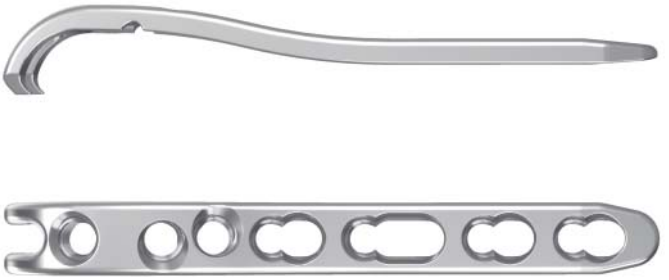
1.5 mm Cortex Screws, self-tapping, with cruciform recess
- Used to provide compression or neutral fixation
- Low-profile head sits flush in the plate hole

Implant-quality 316L stainless steel or Ti-6Al-7Nb alloy

Product Information

2.0 mm LCP Distal Ulna Plate, sterile

Stainless Steel	Titanium	Length (mm)	Holes
242.531S	442.531S	46	7



Required set

01.111.120	Modular Mini Fragment LCP Instruments and Implants Set
or	
01.111.140	Titanium LCP Modular Mini Fragment Instruments and Implants Set

Implant-quality 316L stainless steel or commercially pure (CP) titanium

Selected Instruments from the LCP Modular Mini Fragment System

292.622*	1.1 mm Threaded Guide Wire, 150 mm	
292.623*	1.1 mm Non-Threaded Guide Wire, 150 mm	
310.507	1.5 mm Drill Bit with Depth Mark, mini quick coupling, 96 mm	
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313.843	2.0 mm Screwdriver Blade, self-retaining, StarDrive, long	
314.67.96**	1.5 mm/2.0 mm Cruciform Screwdriver Blade, with holding sleeve	

* Also available
** Part of the Modular Hand System

319.006	Depth Gauge, for 2.0 mm and 2.4 mm Cortex Screws, measures up to 50 mm	
323.034	1.5 mm Threaded Drill Guide, with Depth Gauge	

Optional Instrument

329.12	Bending Pliers, for 1.5 mm and 2.0 mm plates	

SYNTHES®

Synthes (USA)
1302 Wrights Lane East
West Chester, PA 19380
Telephone: (610) 719-5000
To order: (800) 523-0322
Fax: (610) 251-9056

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2566 Meadowpine Boulevard
Mississauga, Ontario L5N 6P9
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