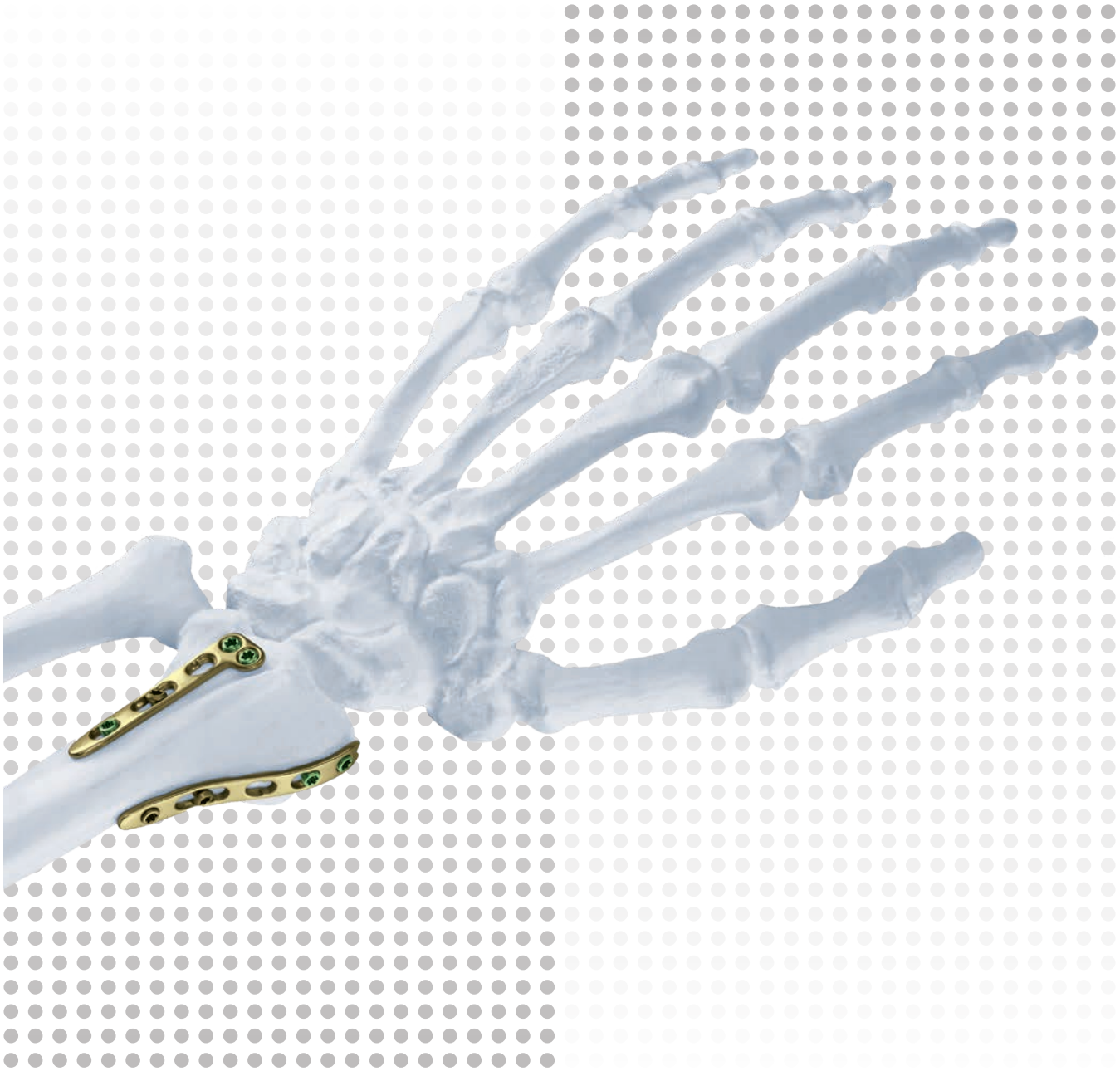
LCP Distal Radius System 2.4

Dorsal and volar plates for internal fracture fixation of bones and bone fragments of the distal radius

Surgical Technique



AO approved by AO Technical Commission

DePuy Synthes
THE ORTHOPAEDICS COMPANY OF Johnson & Johnson

Image intensifier control

This description alone does not provide sufficient background for direct use of DePuy Synthes products. Instruction by a surgeon experienced in handling these products is highly recommended.

Processing, Reprocessing, Care and Maintenance
For general guidelines, function control and dismantling of multi-part instruments, as well as processing guidelines for implants, please contact your local sales representative or refer to:
http://emea.depuysynthes.com/hcp/reprocessing-care-maintenance
For general information about reprocessing, care and maintenance of DePuy Synthes reusable devices, instrument trays and cases, as well as processing of DePuy Synthes non-sterile implants, please consult the Important Information leaflet (SE_023827) or refer to:
http://emea.depuysynthes.com/hcp/reprocessing-care-maintenance

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■ **Notes**
▲ **Precautions**
▲ **WARNINGS**

LCP Distal Radius System 2.4

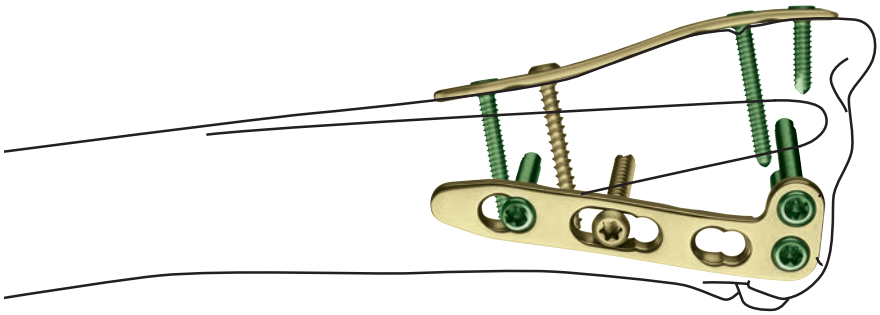
Dorsal and volar plates for internal fracture fixation of bones and bone fragments of the distal radius

Anatomically contoured

- A flat plate and screw profile, rounded edges
- Some plates are contoured and do not have to be bent.

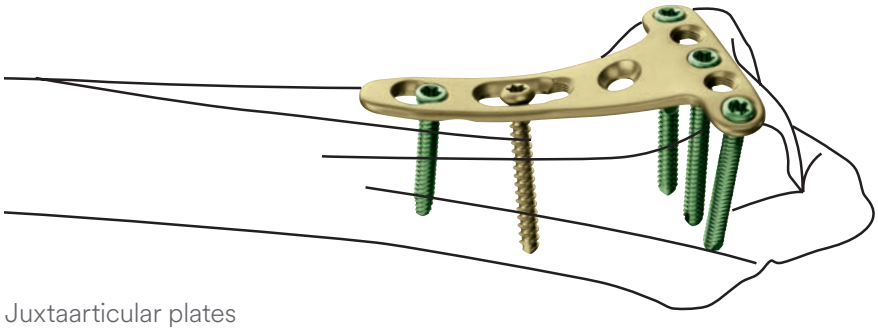
Dorsal plates

Small plate and screw dimensions enable a two-plate technique. Both locking and cortex screws can be inserted in the shaft.

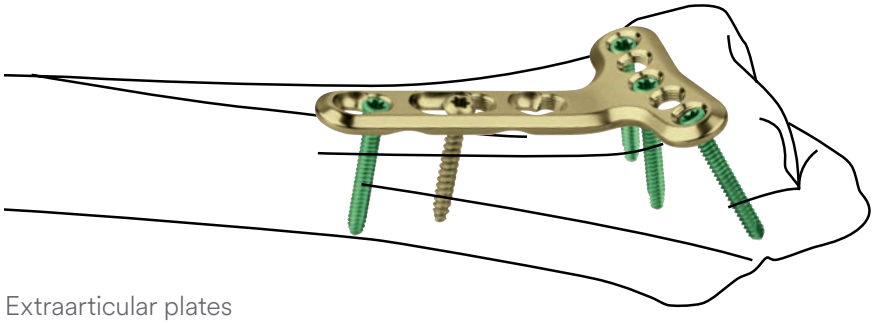


Volar plates

Depending on the indication, plates are selected with juxtaarticular or extraarticular placement. Both locking and cortex screws ∅ 2.4 mm or 2.7 mm can be inserted in the shaft.



Juxtaarticular plates

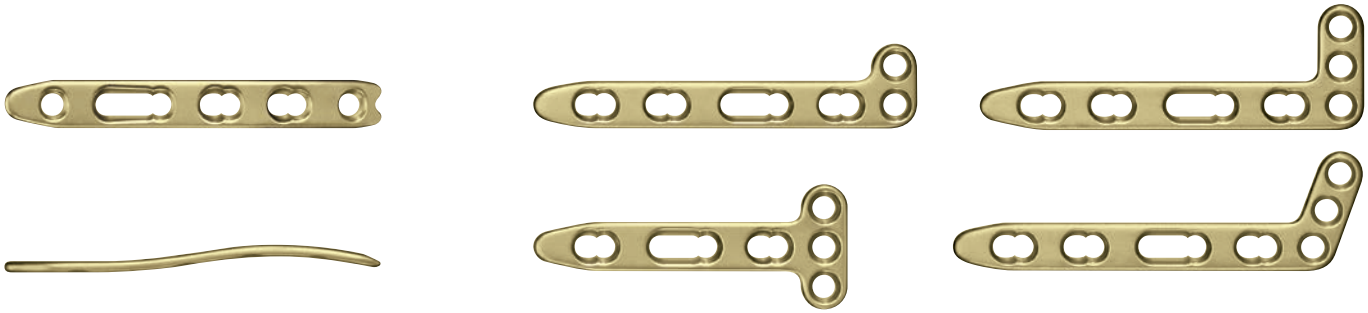


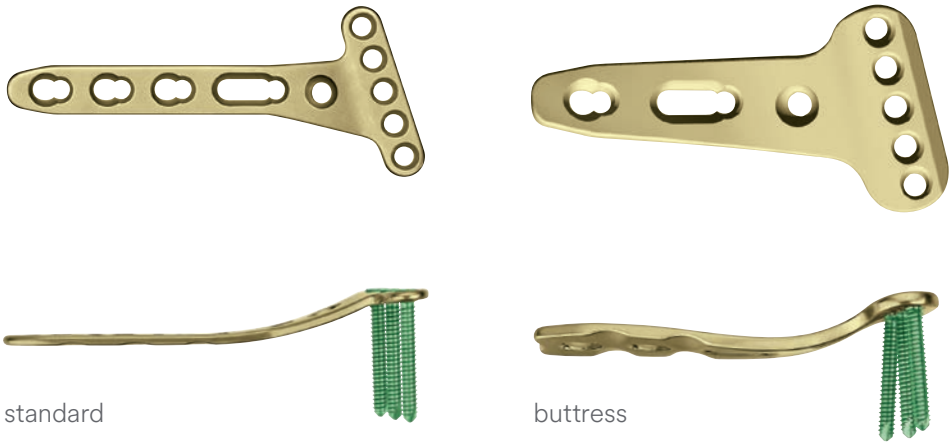
Extraarticular plates

Intended Use, Indications and Contraindications can be found in the corresponding system Instructions for Use.

Available plate system

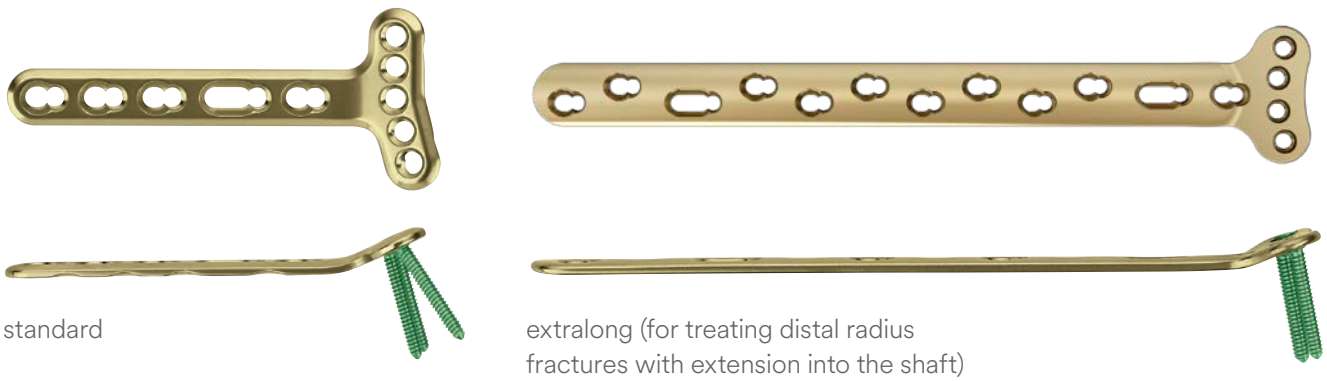
- The plates come in different lengths and shapes
- Compatible with the LCP Compact Hand™ System 2.4





standard

buttress



standard

extralong (for treating distal radius fractures with extension into the shaft)

The AO Principles of Fracture Management

Mission

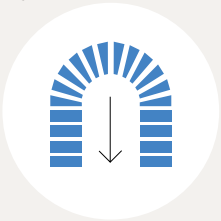
The AO's mission is promoting excellence in patient care and outcomes in trauma and musculoskeletal disorders.

AO Principles[1,2]

1.

Fracture reduction and fixation to restore anatomical relationships.

2.



Fracture fixation providing absolute or relative stability, as required by the "personality" of the fracture, the patient, and the injury.

3.

Preservation of the blood supply to soft-tissues and bone by gentle reduction techniques and careful handling.

4.

Early and safe mobilization and rehabilitation of the injured part and the patient as a whole.

[1] Müller ME, M Allgöwer, R Schneider, H Willenegger. Manual of Internal Fixation. 3rd ed. Berlin, Heidelberg, New York: Springer. 1991
[2] Buckley RE, Moran CG, Apivatthakakul T. AO Principles of Fracture Management: 3rd ed. Vol. 1: Principles, Vol. 2: Specific fractures. Thieme; 2017.

Preoperative Planning

1. Plate selection and contouring

Instruments Needed	
Bending Pliers	347.901

The plates are available in various lengths and configurations. Decide on the desired volar or dorsal approach and select the plates according to the fracture pattern and anatomy of the radius.

Only some plates are anatomically contoured (all palmar plates and the straight plates for the radial column). Contour the plates to the anatomy with the Bending Pliers.

▲ Precautions:

- The plate holes allow a certain degree of deformation. Significant distortion of the threaded holes will reduce locking effectiveness.
- Reverse bending or use of the incorrect instrumentation for bending may weaken the plate and lead to premature plate failure (e.g. breakage). Do not bend the plate beyond what is required to match the anatomy.

2. Screw insertion

Determine whether cortex screws or locking screws will be used for fixation in the shaft.

Recommendation: Use locking head screws in the distal arm of the plates, and locking head and/or cortex screws in the shaft of the plates. If a combination of cortex screws and locking head screws is used, a cortex screw should be used first to pull the plate to the bone.

▲ WARNING:

If a locking head screw is used first, care should be taken to ensure that the plate is held securely to the bone, to avoid spinning of the plate.

■ Note:

2.7 mm cortex screws can only be used in the combination hole of the volar plates.

Insertion of Cortex Screws

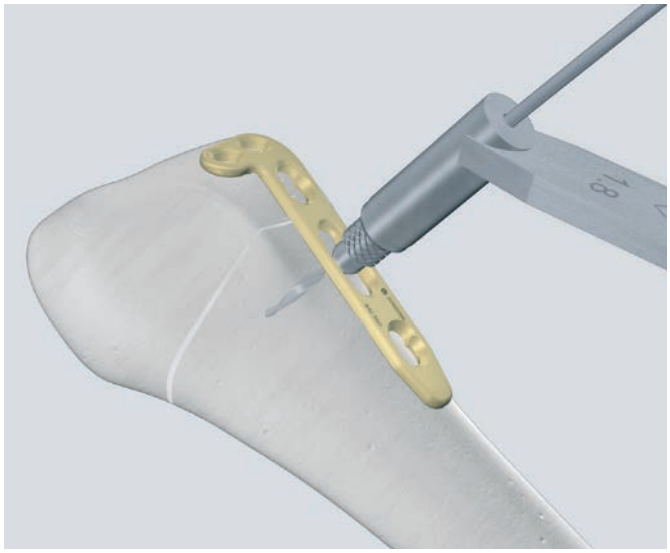
1. Pre-drill screw hole

The insertion of cortex screws is described using the example of a dorsal plate (X42.500).

Instruments Needed	
Handle, with AO coupling	311.420
Screwdriver Shaft, with AO coupling	314.467
Universal Drill Guide 1.8/2.4	323.202
Universal Drill Guide 2.0/2.7	323.260
Depth Gauge, for screws ∅ 2.4	319.005
Depth Gauge, for screws ∅ 2.7	319.010
Drill Bit ∅ 1.8 mm	310.509
Drill Bit ∅ 2.0 mm	310.534
Drill Bit ∅ 2.4 mm	310.530
Drill Bit ∅ 2.7 mm	310.260

According to the selected screw diameter use the appropriate Universal Drill Guide 1.8/2.4 or 2.0/2.7 to pre-drill the screw hole either neutrally (buttress) or off-centre (compression).

For the cortex screw ∅ 2.4 mm, use the 1.8 mm drill bit for the threaded hole and the 2.4 mm drill bit for the gliding hole. For 2.7 mm cortex screws, use the 2.0 mm drill bit for the threaded hole and the 2.7 mm drill bit for the gliding hole.



■ Note:

The universal drill guides are suitable for the combination hole. For cortical screws ∅ 2.4 mm use the Universal Drill Guide 1.8/2.4 and for screws ∅ 2.7 mm use the Universal Drill Guide 2.0/2.7.

2. Determine screw length

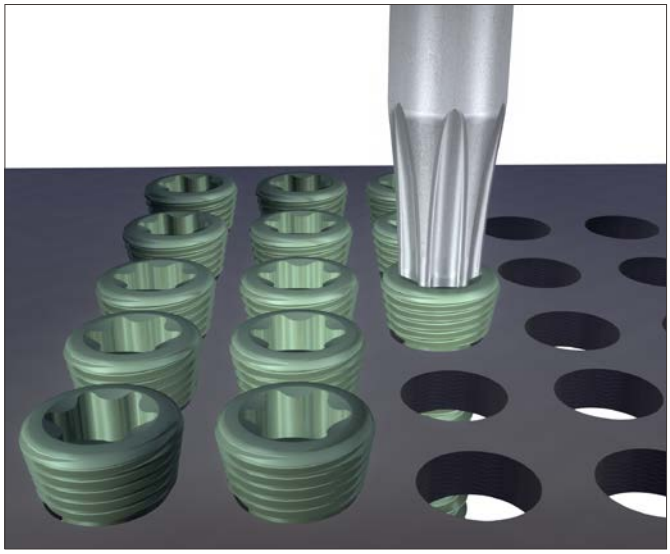
Use the Depth Gauge for screws ∅ 2.4 to determine the screw length.

■ Note:

For cortex screws ∅ 2.7 mm use the Depth Gauge 319.010.

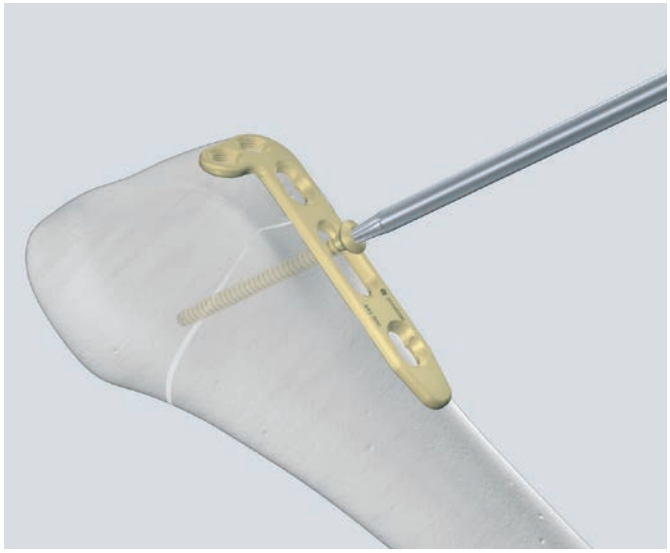
3. Pick up screw

Select and pick up the appropriate cortical screw using the selfholding Stardrive Screwdriver shaft (314.467) and the corresponding handle.



4. Insert self-tapping Cortex screw

Insert the self-tapping cortex screw with the Stardrive Screwdriver shaft (314.467) and the corresponding handle.

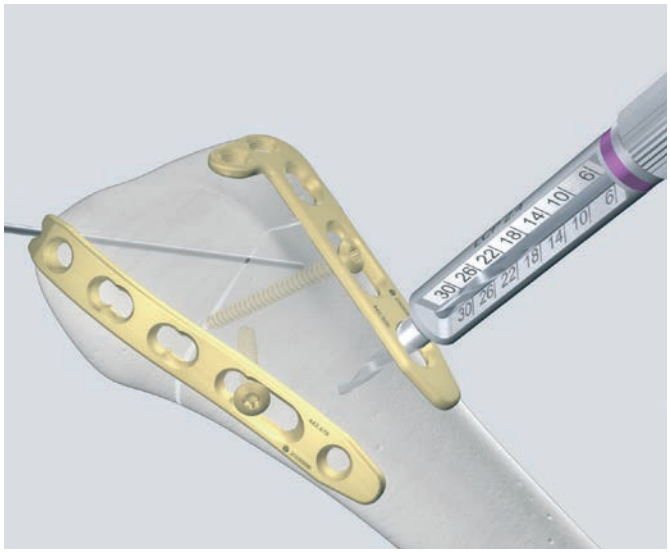


Insertion of Locking Screws

1. Insert LCP drill sleeve

The insertion of locking screws is described using the example of a dorsal plate (X42.500).

Instruments Needed	
Handle, with AO coupling	311.420
Screwdriver Shaft, with AO coupling	314.467
Holding Sleeve, for 314.467	314.468
Drill Sleeve, for LCP screws 2.4	323.029
Drill Sleeve, for LCP screws 2.7	323.033
Depth Gauge, for screws ∅ 2.4	319.005
Depth Gauge, for screws ∅ 2.7	319.010
Drill Bit ∅ 1.8 mm	310.509
Drill Bit ∅ 2.0 mm	310.534
Torque Limiter 0.8 Nm	511.776



Screw the Drill Sleeve for LCP screws ∅ 2.4 mm vertically into a threaded hole until fully seated.

■ Note:

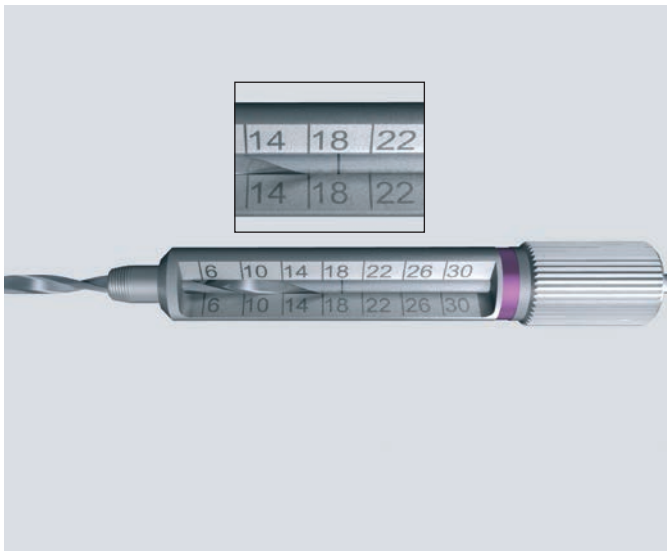
For locking screws ∅ 2.7 mm (head 2.4) use the LCP Drill Sleeve for LCP screws ∅ 2.7 mm.

2. Predrill screw hole

With the Drill Sleeve for LCP screws 2.4 drill to the desired depth with the Drill Bit ∅ 1.8 mm and read the screw length directly from the scale of the drill sleeve.

■ Note:

For locking screws ∅ 2.7 mm (head 2.4) drill with the Drill Bit ∅ 2.0 mm and use the Drill Sleeve for LCP screws 2.7.

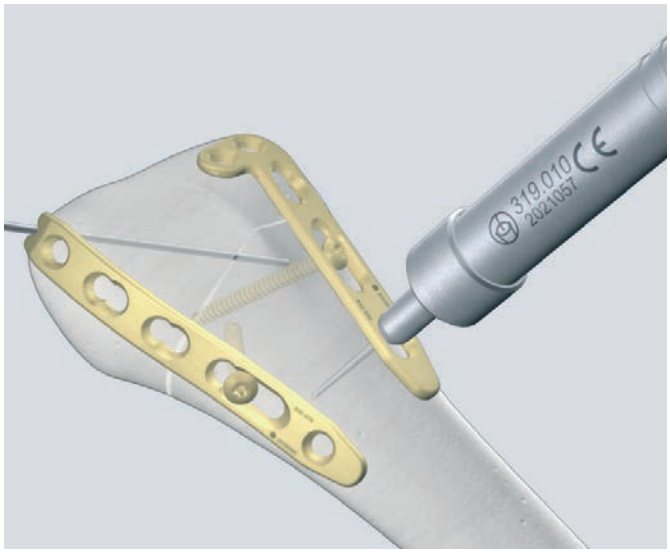


3. Determine screw length (optional)

Use the Depth Gauge for screws ∅ 2.4 to determine the screw length.

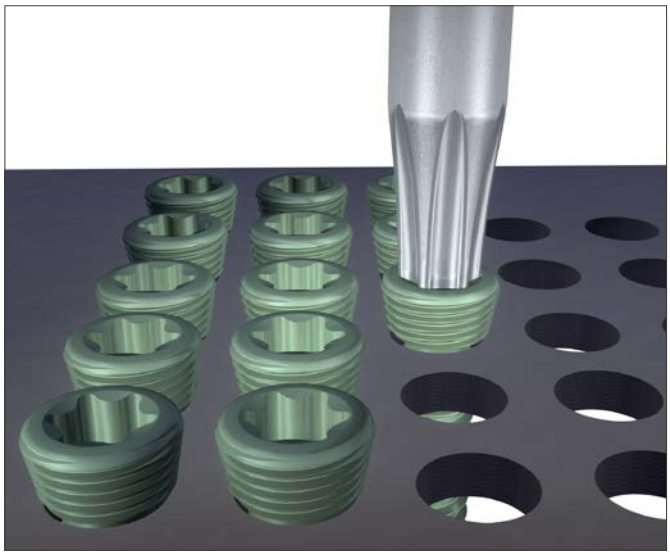
■ Note:

For locking screws ∅ 2.7mm (head 2.4) use the Depth Gauge (319.010).



4. Pick up screw

Select and pick up the appropriate screw using the Stardrive Screwdriver shaft (314.467) and the corresponding handle.

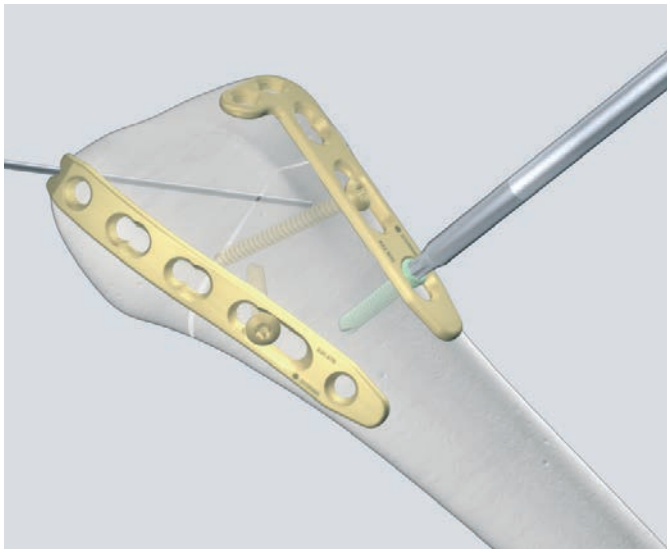


5a. Insert self-tapping locking screw

Insert the locking screw manually with the self-retaining Stardrive Screwdriver. Carefully tighten the locking screw, as excessive force is not necessary to produce effective screw locking.
Alternatively, to apply the correct amount of torque use the Torque Limiter 0.8 Nm for locking the screw.

■ Note:

If the plate is supposed to be pulled to the bone, the locking head screw may be inserted with a holding sleeve (see 5b below).



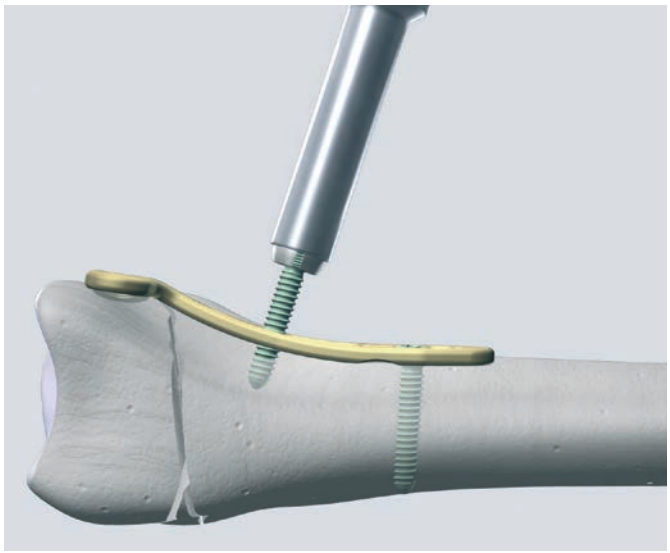
5b. Fine tuning of reduction with holding sleeve

Locking screws are inserted with the aid of a holding sleeve whenever it is desirable to pull the plate to the bone.

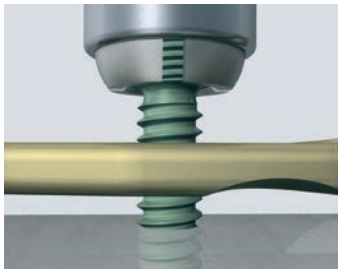
Slide the Holding Sleeve onto the Stardrive Screwdriver shaft (314.467), until it clicks into place.
With the holding sleeve jaws open, mount the appropriate locking screw ∅ 2.4 mm onto the screwdriver, then push the holding sleeve until it secures the screw.

■ Note:

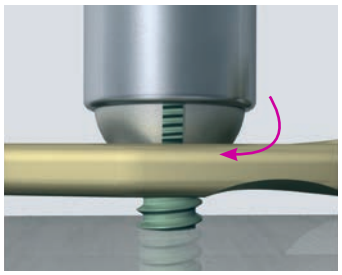
The holding sleeve covers the head of the locking screw ∅ 2.4 mm.

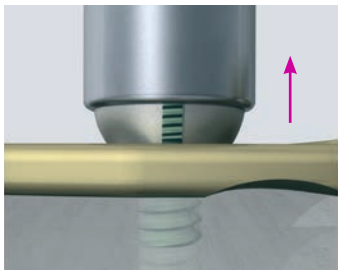


Insert locking screw.

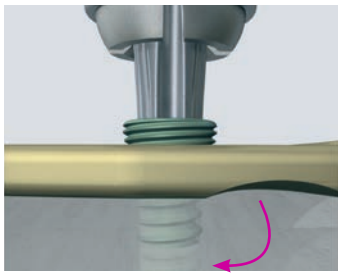


Tighten screw until the plate approaches the bone.





When the plate has reached the desired position, open the holding sleeve jaws and tighten the locking screw ∅ 2.4mm until it is locked.

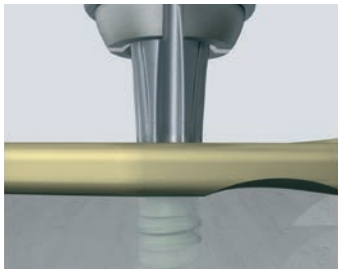


■ Note:

This technique is suitable for pulling the bone towards the plate in order to achieve interfragmentary compression with cortex screws in a following step.
Cortex screws can also be used to draw the bone to the plate, if no locking screws are inserted.

Implant Removal

To remove locking screws, first 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.



Surgical Technique – Dorsal Approach

Stabilizing the intermediate and radial column

Instruments Needed

Bending Pliers	347.901

The treatment of distal radius fractures should provide meticulous reconstruction of the joint surface, stable internal fixation and early functional postoperative treatment.

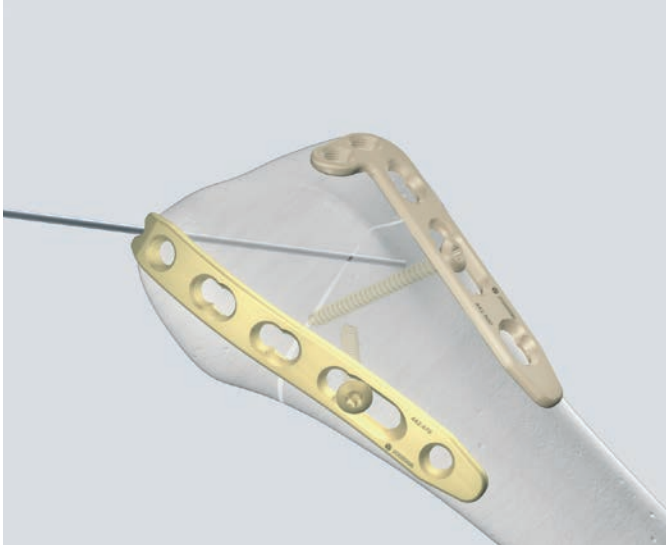
The distal radius and distal ulna form a three-column biomechanical construction:
The ulnar column is the distal ulna, the triangular fibrocartilage and the distal radio-ulnar joint.

The intermediate column is the medial part of the distal radius, with the lunate fossa and the sigmoid notch.

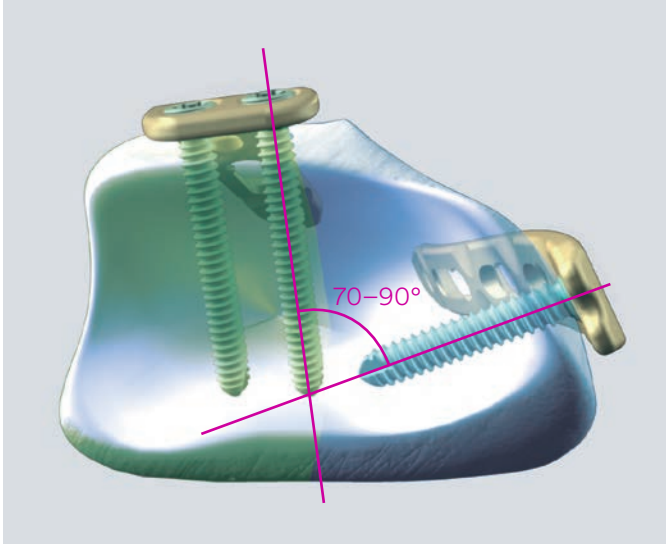
The radial column is the lateral radius with the scaphoid fossa and the styloid process.

A dorsally displaced fracture of the distal radius shows not only dorsiflection in the sagittal plane, but also radial deviation in the frontal plane and supination in the transverse plane.
Stabilization after reduction requires buttressing of the intermediate column as well as the radial column.

In case of a fractured distal ulna, the ulnar column should be stabilized as well.



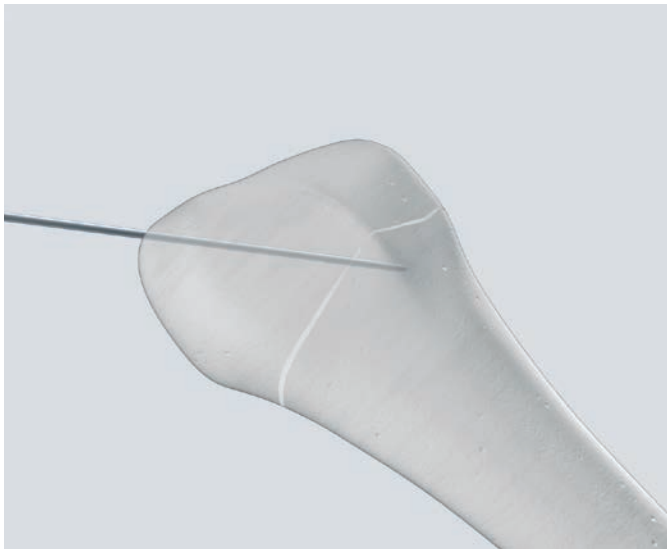
Columns of the Distal Radius. The dorso-radial plate buttresses the radial column, the dorso-ulnar plate the intermediate column.



Dorsal fixation of distal radius fractures: Position of the locking screws 2.4 mm using the double-plating technique.

1. Temporary fixation of fracture with Kirschner wire

Reduction can be preliminarily held with K-wires. A wire introduced across the radial styloid will fit into a small notch (horse-shoe tip) in the distal end of the straight radial plate (refer to step 3).

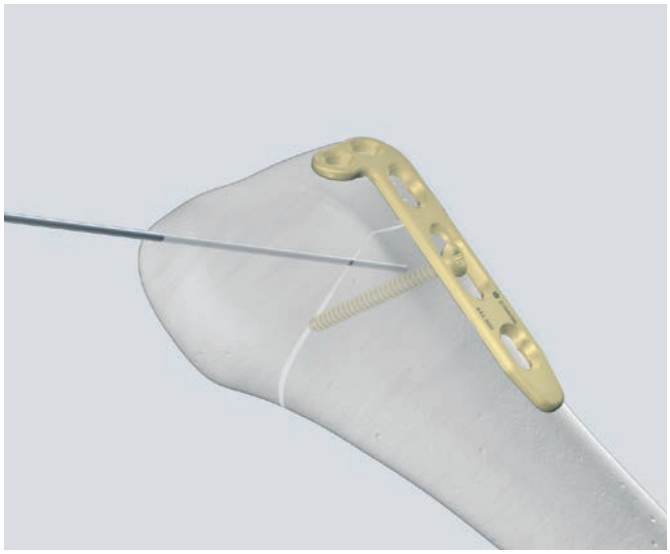


2. Apply dorso-ulnar plate

Provisionally position the plate according to anatomy and fracture pattern. Contour the plate to the bone's anatomy with the Bending Pliers.

Preliminarily fix the plate by inserting a cortex screw ∅ 2.4 mm in the elongated LCP combi-hole of the proximal shaft.

The plate supports the intermediate column and fixes the dorso-ulnar fragment. (Refer to insertion of cortex screws)

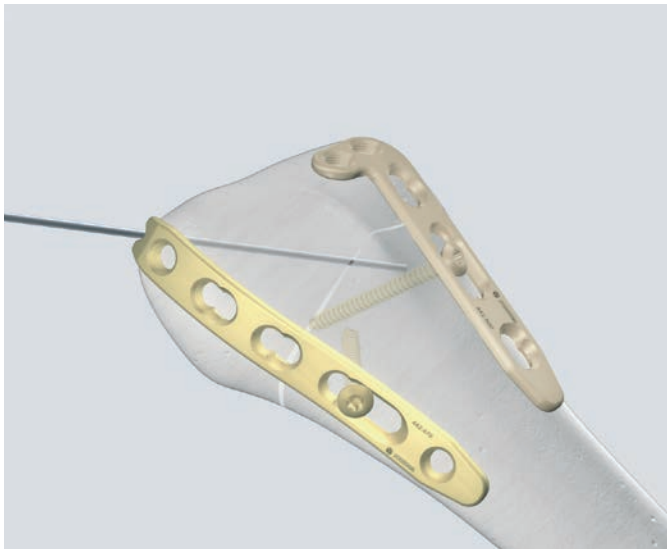


3. Apply dorso-radial plate

Contour radial plate to the anatomy with Bending Pliers if necessary. Use the horse-shoe tip to position the radial plate properly. Correct placement of the radial plate is crucial. It should form an angle of approximately 70° to the dorso-ulnar plate (see also picture on page 12).
After positioning, preliminarily fix the plate by inserting a cortex screw ∅ 2.4mm in the elongated LCP combi-hole of the proximal shaft.

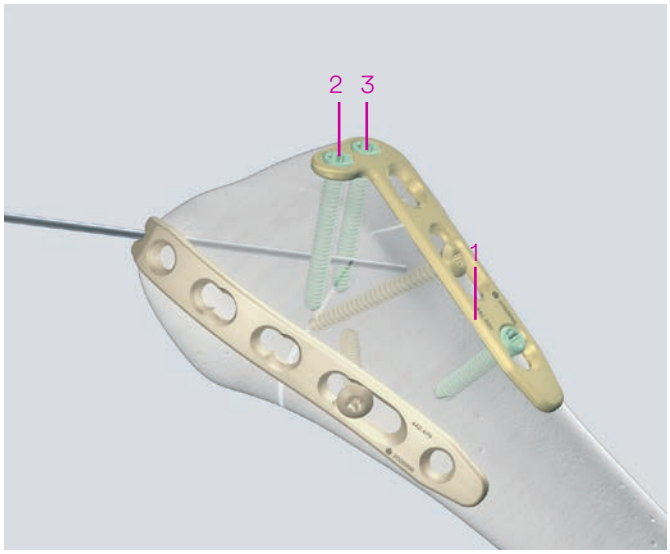
Check the reduction and position of the plates by image intensifier.

The osteosynthesis is then completed as follows:



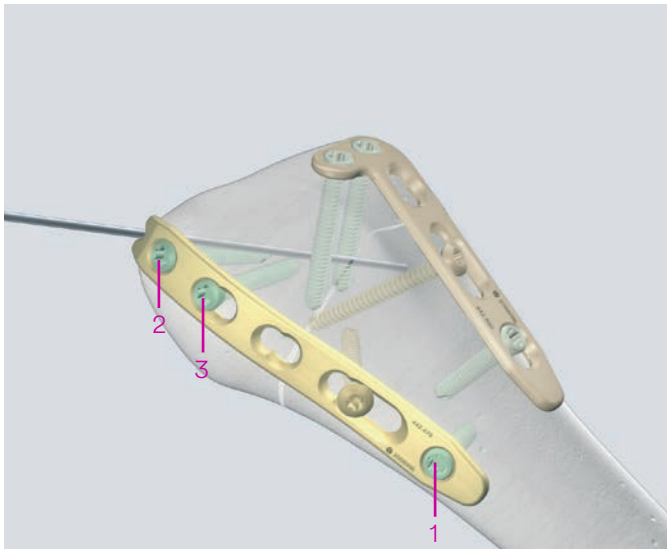
4. Insert the screws in the dorso-ulnar plate

Insert a locking or a cortex screw ∅ 2.4 mm in the most proximal hole in the shaft of the plate (1). Complete internal fixation by inserting locking screws in the distal arm of the plate (2,3). (Refer to insertion of locking screws)



5. Insert the screws in the dorso-radial plate

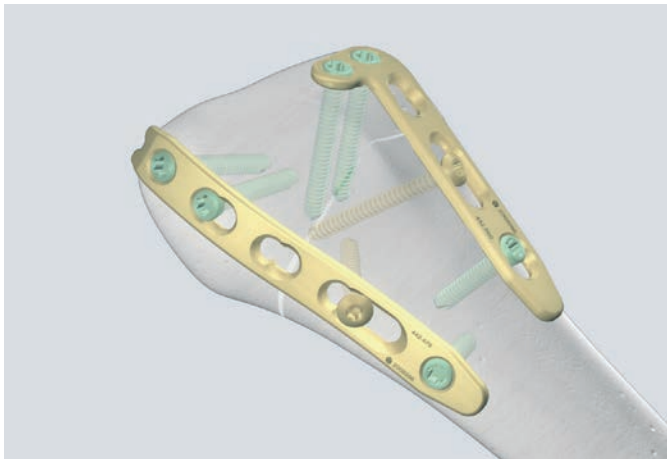
Insert a locking screw ∅ 2.4 mm in the most proximal hole in the shaft of the plate (1). Complete internal fixation by inserting locking screws in the distal arm of the plate (2,3). (Refer to insertion of locking screws)



6. Final fixation

A final fluoroscopy is performed to confirm correct reduction of the fracture, length and position of the implants.

Correct placement of the plates is crucial to provide sufficient support to the radial styloid. In an anterior view during intra-operative fluoroscopy, the dorso-ulnar plate should be projected almost antero-posteriorly, the dorso-radial plate almost laterally, and vice versa for the lateral view. If the plates appear to be parallel, the dorso-radial plate is positioned too far on the ulnar side.



▲ Precaution:

Do not cut the plates distally. The sharp cut end may lead to lesions of the extensor tendons.

Postoperative treatment:

A palmar splint is applied for the first few days to prevent the patient from holding the hand in palmar flexion. Early function is then initiated.

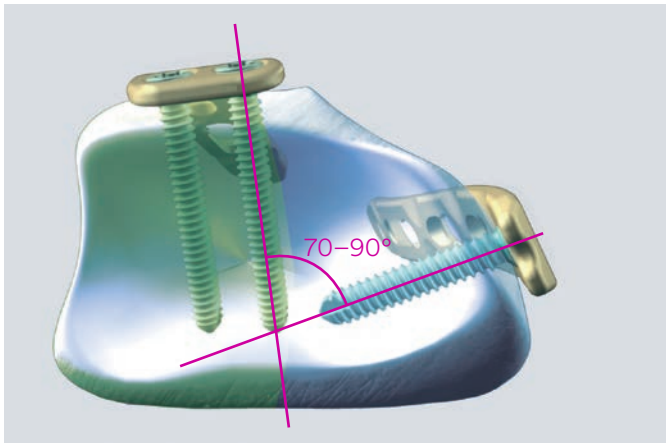


Illustration of the position of the 2.4 mm locking head screws of the "double-plate" technique according to the 3-column theory.

Surgical Technique –
Palmar Approach With Buttress Technique

1. Placement and contouring

Instruments Needed

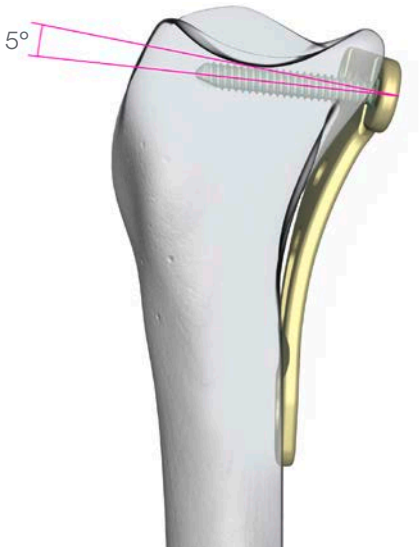
Bending Pliers	347.901

The placement of the plate depends on its three-dimensional shape and the angulation of the screws in the plates head.

According to the desired placement, one may choose from two types of plates:

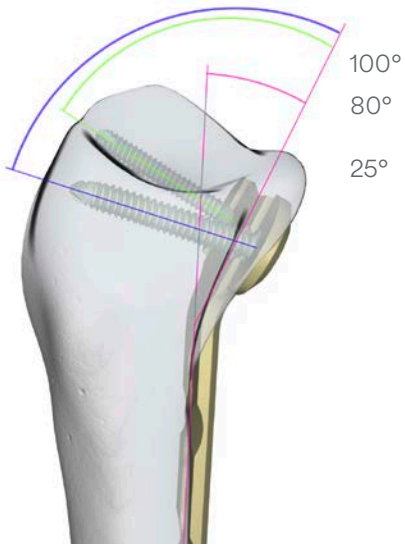
Juxta-articular plates

The distal screws of juxta-articular plates are angled 5° pointing proximally, away from the joint. Therefore plates can be placed very distally. These plates support the articular surface and act as buttress plates.



Extra-articular plates

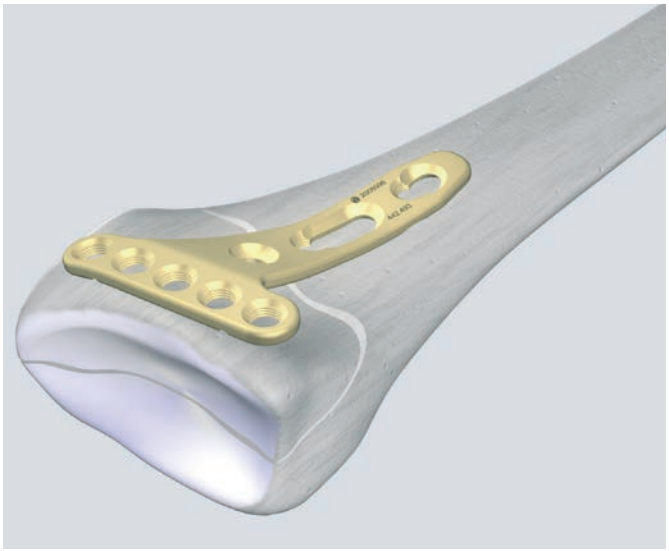
The distal screws of extra-articular plates are directed towards the articular surface. This is the consequence of the bend of the plate's head which follows the slope of the subchondral volar surface. The diverging screws of extra-articular plates buttress the distal radius.



1a. Placement of juxta-articular plates

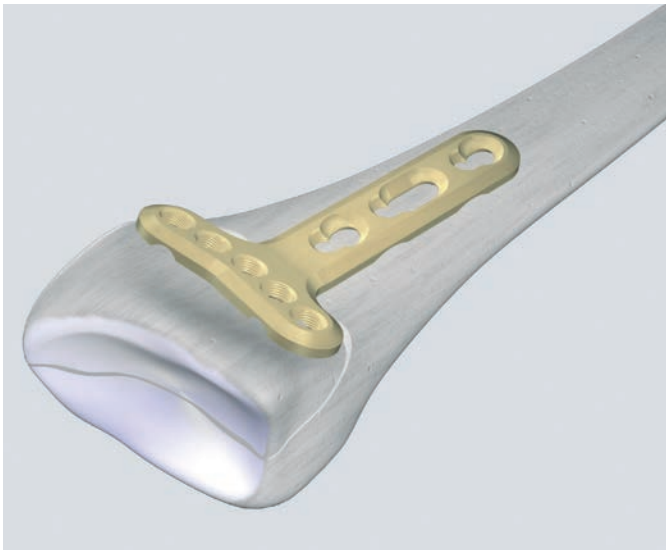
Mark the level of the radio-carpal joint by introducing a needle into the joint.

Apply the plate very distally and contour carefully with the Bending Pliers.



1b. Placement of extra-articular plates

Decide about the correct position of the plate according to the shape of the subchondral volar surface. If needed contour the plate carefully with the Bending Pliers (plates with 5 holes in the head only).

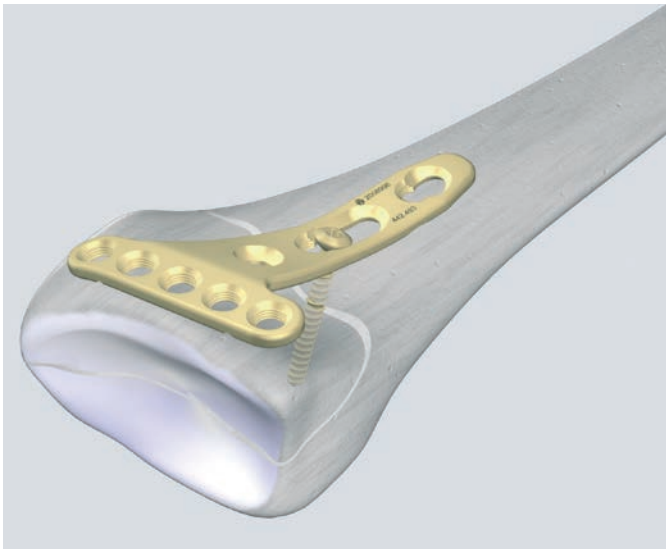


2. Insert screw in elongated LCP combi hole

■ Note:

The insertion of screws works for plates with juxta- and extra-articular placement alike. The following example illustrates the insertion using a standard juxta-articular plate.

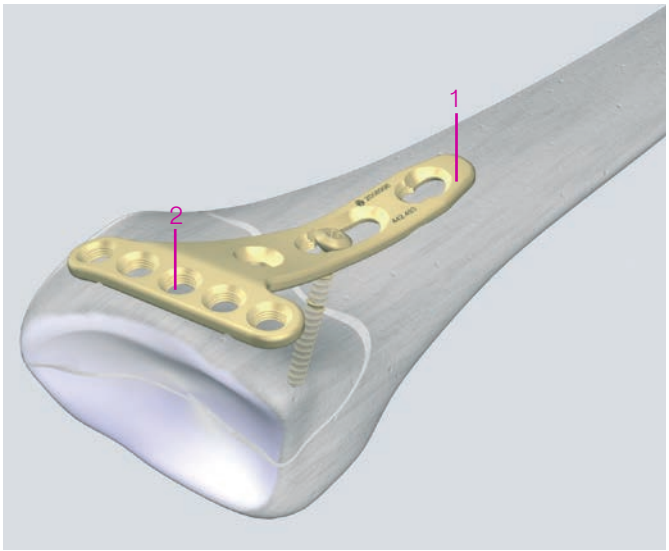
After reduction insert the 2.7 mm cortex screw into the long hole and check the correct position by fluoroscopy. (Refer to insertion of cortex screws)



3. Insert proximal screw and middle distal screw

Insert a locking head screw ∅ 2.4 or ∅ 2.7 mm (head LCP 2.4) into the most proximal hole (1) of the plate's shaft. Alternatively, insert a cortex screw ∅ 2.7 mm.

Then insert a locking screw ∅ 2.4 mm in the middle hole of the distal part of the plate (2).



4. Fine bending of the plate (optional)

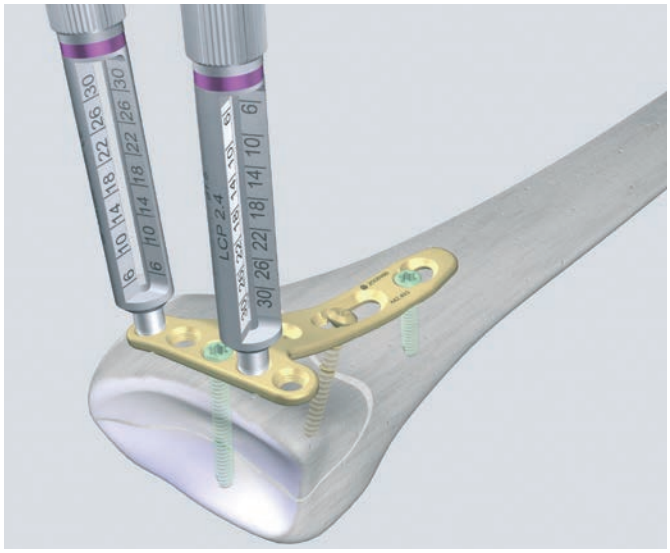
Instruments Needed

LCP Drill Sleeves	323.029

If necessary, fine bending may be achieved in situ with the two LCP Drill Sleeves. Thread them into round holes and apply small incremental force to achieve the required bending.

▲ Precaution:

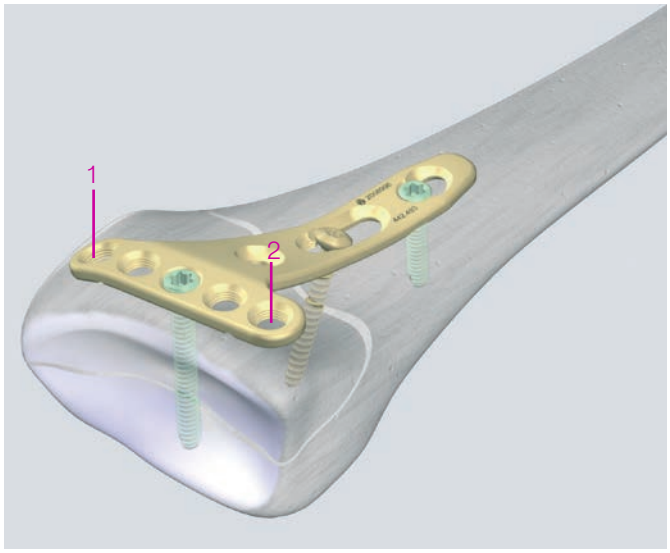
Care should be taken to avoid overbending because the drill guides may become dislodged from the plate hole and damage the plate's threads.



5. Insertion of all distal screws

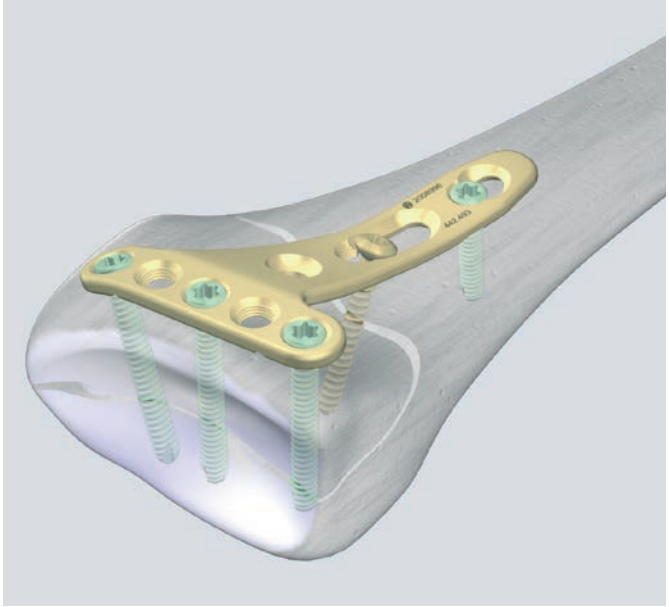
Plates with 5 holes: Insert two more screws in the distal arm of the plate (1,2). In osteoporotic bone, insertion of 4 to 5 locking screws in the distal arm of the plate is recommended.

Plates with 4 holes: Occupation of all four holes with locking screws is recommended. (Refer to insertion of locking screws and insertion of cortex screws)



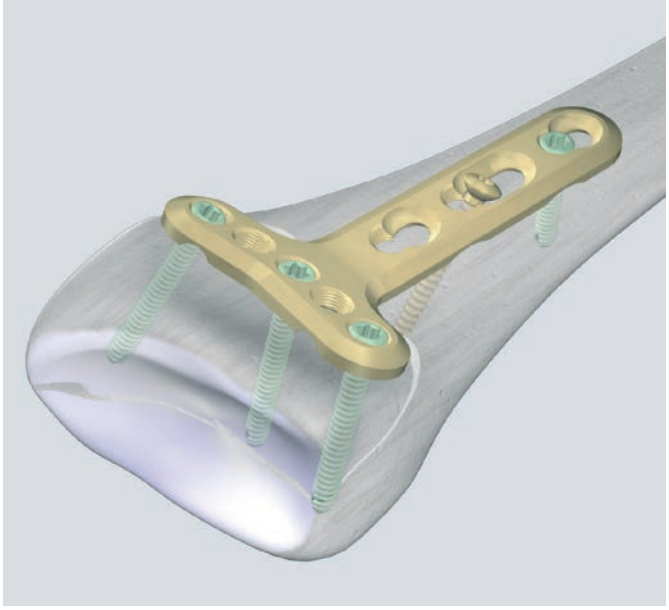
6. Final fixation – overview according to plate type

Juxta-articular plates: A final fluoroscopy is performed to confirm correct reduction of the fracture, length and position of the screws and the implant.

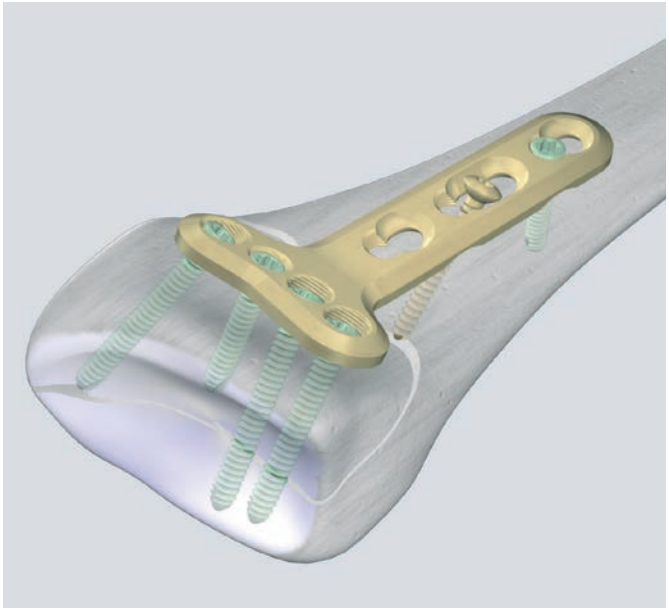


Juxta-articular plate

Extra-articular plates: Confirm proper joint reconstruction, screw placement and screw length using multiple C-arm views. To assure the most distal screws are not in the joint, use additional views, such as 10° titled PA, 20° inclined lateral, and 45° pronated oblique.



Extra-articular plate with 5 holes in the head



Extra-articular plate with 4 holes in the head

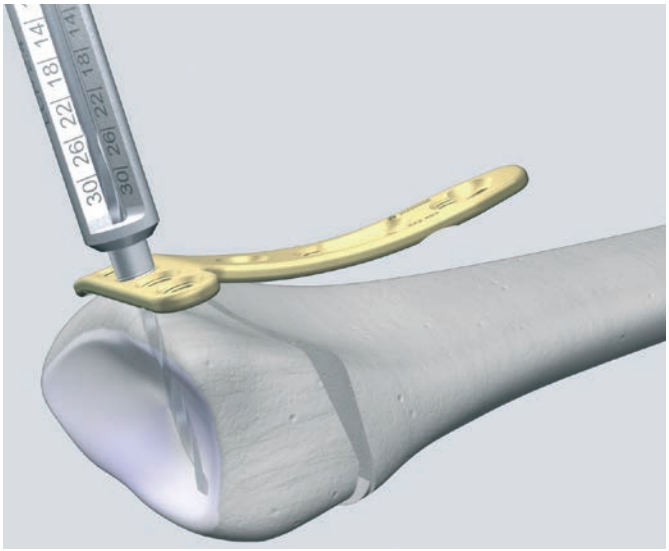
Surgical Technique –
Palmar Approach with “Angled Plate”

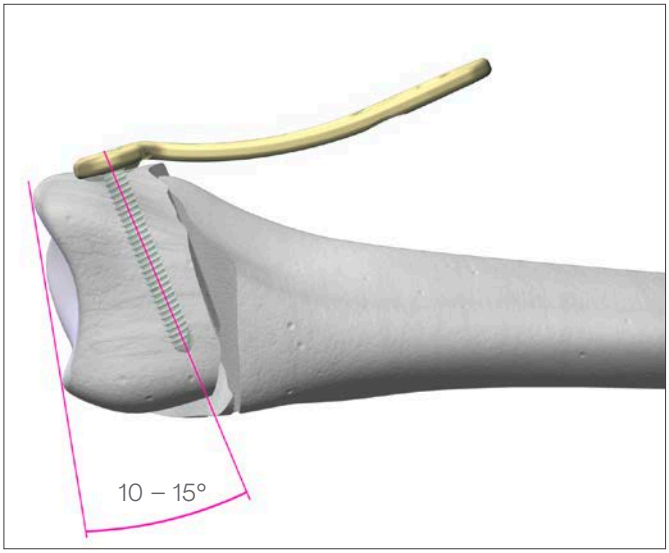
1. Plate placement

Instruments Needed	
LCP Drill Sleeve	323.029
Drill Bit ∅ 1.8 mm	310.509

Plates which are placed juxta-articularly may be used as a reduction aid. This is described in the following.

Apply the plate very distally. Screw the LCP Drill Sleeve into the middle distal plate hole and drill to the desired depth with the Drill Bit at an angle of 10–15° to the radio-carpal joint. Measure the length directly from the threaded drill guide.

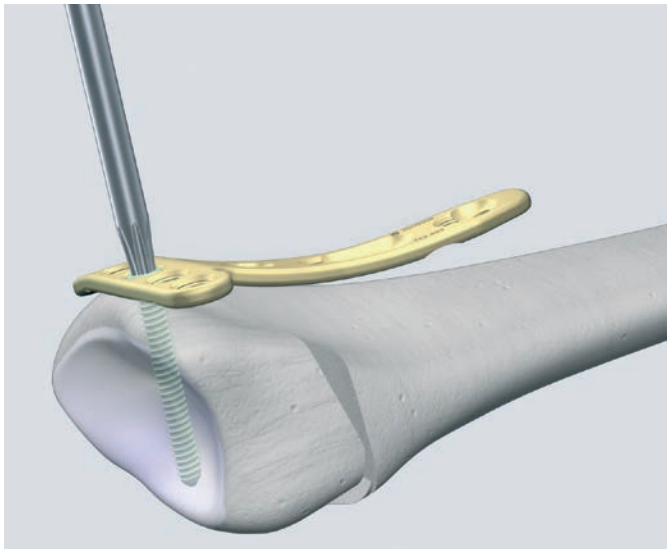


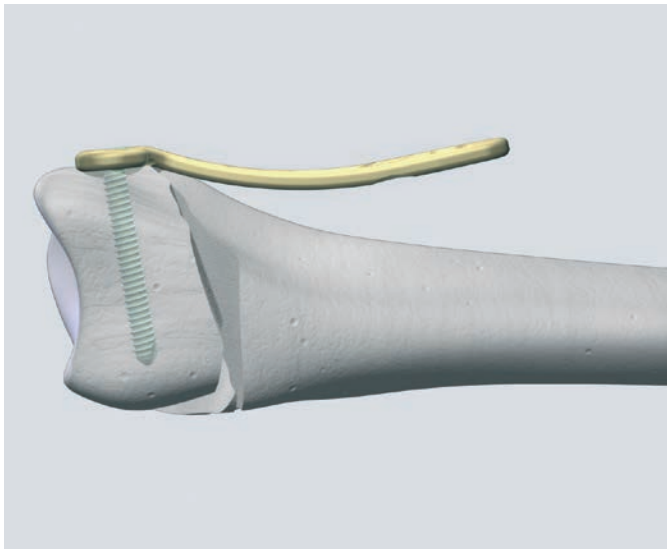


2. Screw insertion

Insert the locking head screw with the Stardrive Screwdriver Shaft (314.467) and the corresponding handle.

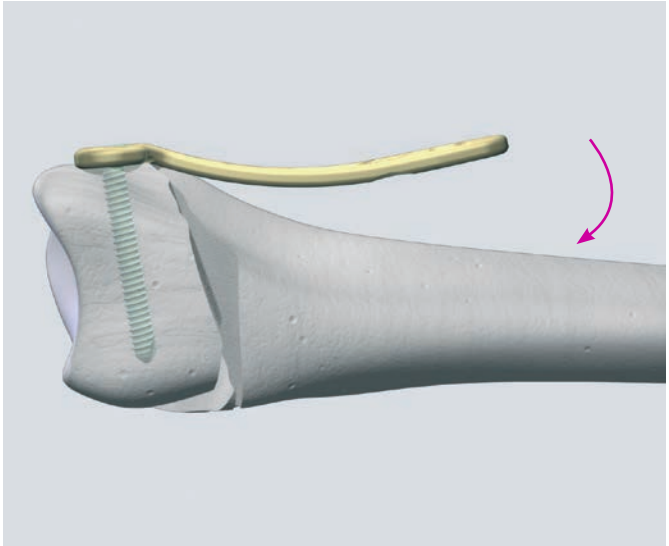
Insert the required number of 2.4 mm locking head screws in the distal part of the plate.





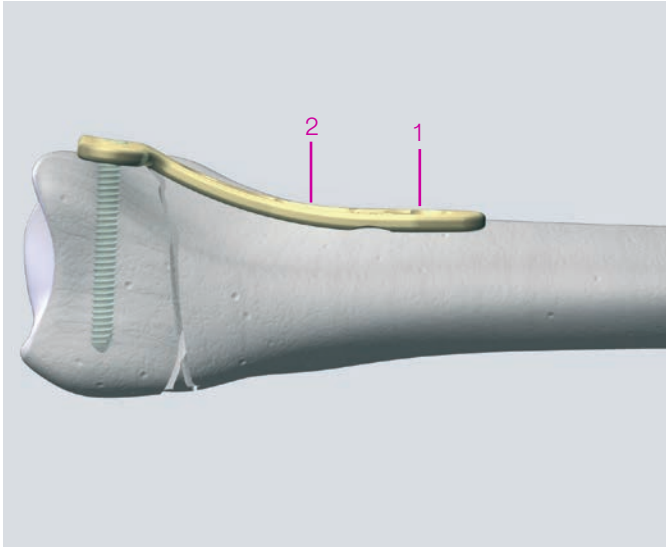
3. Reduction

Reduce the fracture by repositioning the plate onto the shaft.



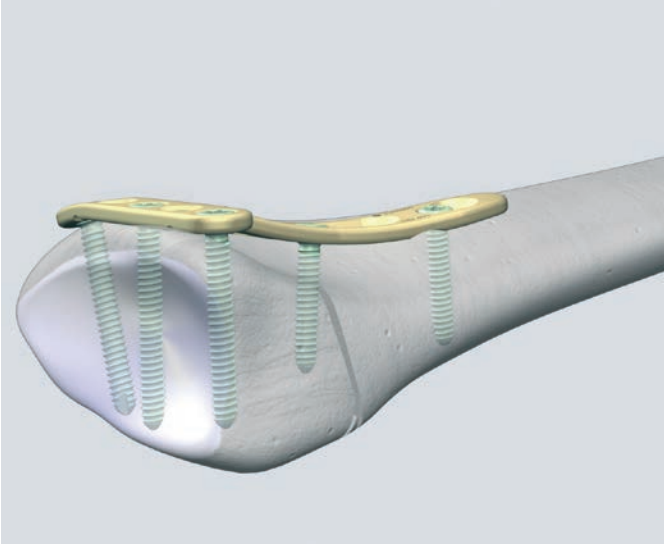
4. Secure plate

Insert at least two screws, either 2.4 mm locking head (1) or 2.7 mm cortex screws (2) in the shaft.



5. Final fixation

A final fluoroscopy is performed to confirm correct reduction of the fracture, length and position of the screws and the implant.



Postoperative treatment

Postoperative treatment with Locking Compression Plates (LCP) does not differ from conventional internal fixation procedures.

Implant Removal

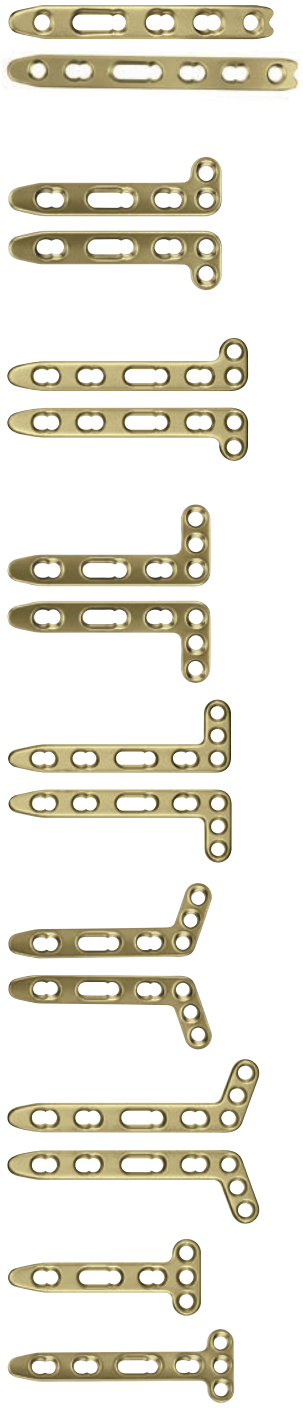
To remove locking screws, first unlock all screws from the plate; then remove the screws completely from the bone. The last screw removed should be a non-locking screw on the shaft. This prevents the plate from spinning when locking screws are removed.

Implants

Dorsal Plates

5 types of dorsal plates, available in right and left (where applicable) and in standard and long design.

X42.479	LCP Distal Radius Plate 2.4, straight, 5 holes
X42.490	LCP Distal Radius Plate 2.4, straight, 6 holes
X42.500	LCP L Distal Radius Plate 2.4, left angled, shaft 3 holes, head 2 holes
X42.502	LCP L Distal Radius Plate 2.4, right angled, shaft 3 holes, head 2 holes
X42.501	LCP L Distal Radius Plate 2.4, left angled, shaft 4 holes, head 2 holes
X42.503	LCP L Distal Radius Plate 2.4, right angled, shaft 4 holes, head 2 holes
X42.506	LCP L Distal Radius Plate 2.4, left angled, shaft 3 holes, head 3 holes
X42.504	LCP L Distal Radius Plate 2.4, right angled, shaft 3 holes, head 3 holes
X42.507	LCP L Distal Radius Plate 2.4, left angled, shaft 4 holes, head 3 holes
X42.505	LCP L Distal Radius Plate 2.4, right angled, shaft 4 holes, head 3 holes
X42.511	LCP L Distal Radius Plate 2.4, oblique, left angled, shaft 3 holes, head 3 holes
X42.508	LCP L Distal Radius Plate 2.4, oblique, right angled, shaft 3 holes, head 3 holes
X42.512	LCP L Distal Radius Plate 2.4, oblique, left angled, shaft 4 holes, head 3 holes
X42.509	LCP L Distal Radius Plate 2.4, oblique, right angled, shaft 4 holes, head 3 holes
X42.477	LCP T Distal Radius Plate 2.4 shaft 3 holes, head 3 holes
X42.478	LCP T Distal Radius Plate 2.4, shaft 4 holes, head 3 holes



X = 2: Stainless Steel
X = 4: TiCP

Volar Plates

Plates for juxta-articular placement, available in right and left; design standard, long, and buttress

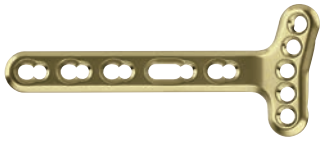
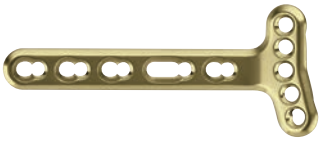
X42.491	LCP Distal Radius Plate 2.4, left, shaft 3 holes, head 5 holes
X42.493	LCP Distal Radius Plate 2.4, right, shaft 3 holes, head 5 holes


X42.492	LCP Distal Radius Plate 2.4, left, shaft 5 holes, head 5 holes
X42.494	LCP Distal Radius Plate 2.4, right, shaft 5 holes, head 5 holes


X42.497	Optional: LCP Buttress Plate 2.4, left, shaft 3 holes, head 5 holes
X42.495	Optional: LCP Buttress Plate 2.4, right, shaft 3 holes, head 5 holes


X42.461	LCP Distal Radius Plate 2.4, extraarticular, left, shaft 3 holes, head 5 holes
X42.458	LCP Distal Radius Plate 2.4, extraarticular, right, shaft 3 holes, head 5 holes

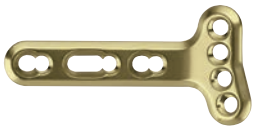

X42.462	LCP Distal Radius Plate 2.4, extraarticular, left, shaft 5 holes, head 5 holes
X42.459	LCP Distal Radius Plate 2.4, extraarticular, right, shaft 5 holes, head 5 holes

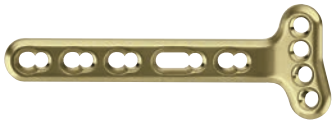
X = 2: Stainless Steel
X = 4: TiCP

All implants are available non-sterile or sterile packed.
Add suffix “S” to article number to order sterile product.

X42.467	LCP Distal Radius Plate 2.4, extraarticular, left, shaft 3 holes, head 4 holes
X42.464	LCP Distal Radius Plate 2.4, extraarticular, right, shaft 3 holes, head 4 holes



X42.468	LCP Distal Radius Plate 2.4, extraarticular, left, shaft 5 holes, head 4 holes
X42.465	LCP Distal Radius Plate 2.4, extraarticular, right, shaft 5 holes, head 4 holes

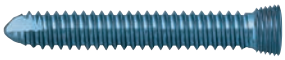


X41.145	LCP Distal Radius Plate 2.4, extra-long, shaft 8 holes, head 4 holes
X41.146	LCP Distal Radius Plate 2.4, extra-long, shaft 10 holes, head 4 holes
X41.147	LCP Distal Radius Plate 2.4, extra-long, shaft 12 holes, head 4 holes

X = 2: Stainless Steel
X = 4: TiCP

All implants are available non-sterile or sterile packed.
Add suffix “S” to article number to order sterile product.

Locking screws

X12.806–830	Locking Screw ∅ 2.4 mm, self-tapping	
X02.206–230	Locking Screw ∅ 2.7 mm (head 2.4), self-tapping	

Cortex screws

X01.756–780	Cortex Screw ∅ 2.4 mm, self-tapping	
X02.870–890	Cortex Screw ∅ 2.7 mm, self-tapping	

All screws with Stardrive, T8 recess. Available in stainless steel (SSt) or titanium alloy (TAN).

X = 2: Stainless Steel (SSt)
X = 4: Titanium Alloy (TAN)

Instruments

311.420	Handle with Quick Coupling	
314.467	Screwdriver Shaft Stardrive, 2.4, self-holding, for Quick Coupling	
314.468	Holding Sleeve for Screws Stardrive 2.4, for Screwdriver Shaft 314.467	
323.029	LCP Drill Sleeve 2.4, with scale up to 30 mm, for Drill Bit 1.8 mm	
323.033	LCP Drill Sleeve for locking screws 2.7 (head 2.4), with scale up to 30 mm, for Drill Bit 2.0 mm	
310.509	Drill Bit ∅ 1.8 mm with marking, length 110/85 mm, 2-fluted, for Quick Coupling	
310.534	Drill Bit ∅ 2.0 mm with marking, length 110/85 mm, 2-fluted, for Quick Coupling	
511.776	Torque Limiter 0.8 Nm, with Quick Coupling	

MRI Information

Torque, Displacement and Image Artifacts according to ASTM F 2213, ASTM F 2052 and ASTM F 2119

Non-clinical testing of worst case scenario in a 3 T MRI system did not reveal any relevant torque or displacement of the construct for an experimentally measured local spatial gradient of the magnetic field of 3.69 T/m. The largest image artifact extended approximately 169 mm from the construct when scanned using the Gradient Echo (GE). Testing was conducted on a 3 T MRI system.

Radio-Frequency-(RF-)induced heating according to ASTM F 2182

Non-clinical electromagnetic and thermal testing of worst case scenario lead to peak temperature rise of 9.5 °C with an average temperature rise of 6.6 °C (1.5 T) and a peak temperature rise of 5.9 °C (3 T) under MRI Conditions using RF Coils (whole body averaged specific absorption rate [SAR] of 2 W/kg for 6 minutes [1.5 T] and for 15 minutes [3 T]).

▲ Precautions:

The above mentioned test relies on non-clinical testing. The actual temperature rise in the patient will depend on a variety of factors beyond the SAR and time of RF application. Thus, it is recommended to pay particular attention to the following points:

- It is recommended to thoroughly monitor patients undergoing MR scanning for perceived temperature and/or pain sensations.
- Patients with impaired thermoregulation or temperature sensation should be excluded from MR scanning procedures.
- Generally, it is recommended to use a MR system with low field strength in the presence of conductive implants. The employed specific absorption rate (SAR) should be reduced as far as possible.
- Using the ventilation system may further contribute to reduce temperature increase in the body.

Not all products are currently available in all markets.
This publication is not intended for distribution in the USA.
Intended use, Indications and Contraindications can be found in the corresponding system Instructions for Use.
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