ChM®

5,0 ChM Locked Plating ChLPsystem

LOCKING PLATES 5.0ChLP

- *IMPLANTS*
- *INSTRUMENT SET 40.5667.700*
- *SURGICAL TECHNIQUE*

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SYMBOLS DESCRIPTION

Ti	Titanium or titanium alloy
Co	Cobalt
L	Left
R	Right
L R	Available versions: left/right
Len	Length
	Torx drive
	Torx drive cannulated
	Hexagonal drive
	Hexagonal drive cannulated
	Cannulated
	Locking
	Diameter [mm]
H	H length [mm]
	Angle
88 - 340	available lengths
4-22	Available number of holes
1.8	Thickness [mm]
1:1	Scale 1:1
	Number of threaded holes in the shaft part of the plate
	Number of locking holes in the plate
VA	Variable angle
C	Cortical
	Cancellous
Ster Non Ster	Available in sterile/ non- sterile condition
	Refer to surgical technique

	Caution - pay attention to a special procedure.
	Perform the activity under X-Ray control.
	Information about the next stages of a procedure.
	Proceed to the next stage.
	Return to the specified stage and repeat the activity.
	Before using the product, carefully read the Instructions for Use. It contains, among others, indications, contraindications, side effects, recommendations and warnings related to the use of the product.
	The above description is not a detailed instruction of conduct. The surgeon decides about choosing the operating procedure.

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The manufacturer reserves the right to introduce design changes.
Updated INSTRUCTIONS FOR USE are available at the following website: ifu.chm.eu

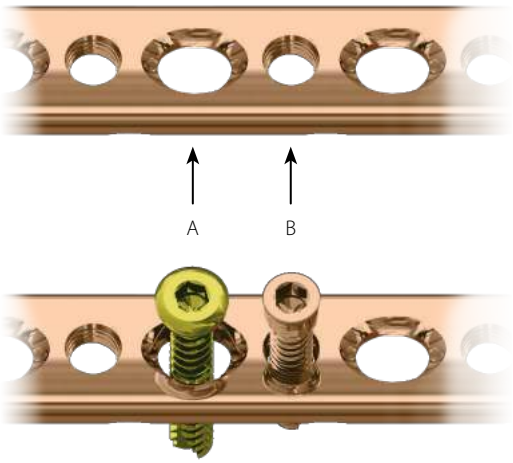
I. INTRODUCTION

The main purpose of surgical treatment of bone fractures is to reconstruct the anatomical bone structure and to restore its function.
Internal stabilization with locking plates enables accurate fracture reduction, stable fixation, blood flow preservation and functional activation of injured limb.

System **ChLP** consists of titanium plates and screws combining locking screws technique with conventional treatment techniques using plates. This system is the improvement of existing stabilization methods. Locking screws system enables angular fixation using conventional surgical techniques. It is particularly indicated in:

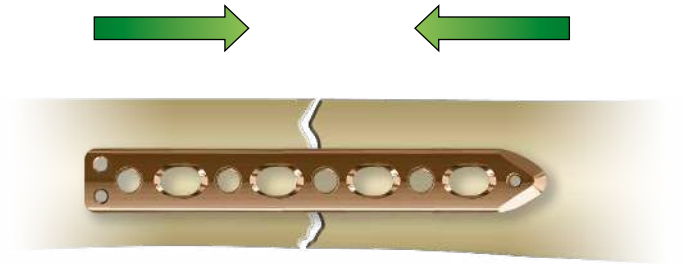
- multifragmental fractures;
- non-unions or malunions;
- osteopenia;
- osteotomy stabilization;
- when conventional screws applying is insufficient or does not bring expected effects.

Locking plates are provided with holes A for conventional cortical screws with or without compression and with threaded holes B for locking screws.
Compression holes designed in ChLP System enable compression in both directions.



Plates design allows to perform classical dynamic compression.

Advantages of using locking plates system over conventional methods of fracture



treatment using plates:

- enable stable fixation ensuring angular stabilization in fracture site;
- enable compression using conventional cortical and cancellous screws, combination with conventional and locking screws is available;
- reduced bone-plate contact ensures better blood flow of perimplant tissues;
- locking screws enable uni-cortical plate position against the bone;
- plates can be contoured to match the anatomical bone shape that is particularly important in periarticular fractures.

The following instruction does not refer to particular fracture types as the locking plates system includes different plates that are relevant to many different fractures.

ChLP System was divided as follows:

- 4.0ChLP System;
- 4.5ChLP System;
- 5.0ChLP System;
- 7.0ChLP System.

Division is based on the screw head diameter; however, screws with different cortical thread diameter in one system range are available.

Additionally, systems were differentiated with colors as follows:

- 4.0ChLP System – green;
- 4.5ChLP System – gold;
- 5.0ChLP System – brown;
- 7.0ChLP System – blue.

Before product usage, read the Instructions For Use carefully. The IFU is supplied with the product and attached at the end of this document. It includes, among others: the indications, contraindications, adverse effects, warnings and recommendations associated with product usage.

II. PLATE SELECTION AND CONTOURING

Wide size range of locking plates enables proper plate selection.
Locking plate contouring is not recommended due to possiblity of threaded holes damaging.
Bottom surface of the plate does not have to contact with the bone if locking screws are used. There is no necessity of accurate plates contouring. Advanced shaped plates do not require additional bending in most cases.

If the plate bending is necessary, remember not to deform threaded holes excessively.

- perform it between locking holes;
- do not bend the plate more than 20° – 25°;
- do not bend the plate back and forth;
- before bending insert the locking screws in the bending area, that decreases the threaded holes deformation degree.

II.1. INDICATIONS

5.0 locking plate system is designed to stabilize the fracture, osteotomy, and is indicated in the case of non-union of fractured bone, such as:

- clavicle,
- shoulder-blade,
- humeral bone,
- radial bone,
- elbow bone,
- tibial bone,
- calf bone.

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5.0ChLP CLAVICULAR PLATE WITH HOOK

III. CATALOGUE PAGES
III.1. PLATES

5.0 ChM Locked Plating ChLP system

H		Ti L	Ti R
12	5	3.4025.505	3.4026.505
	6	3.4025.506	3.4026.506
	7	3.4025.507	3.4026.507
15	5	3.4027.505	3.4028.505
	6	3.4027.506	3.4028.506
	7	3.4027.507	3.4028.507

Ti					
3.5200.xxx	✓	✓	✓		3.5
3.5205.xxx	✓		✓		3.5
3.5231.xxx	✓	✓		✓	3.9
3.5225.xxx	✓	✓	✓		2.4
3.1306.xxx	✓		✓		3.5
3.5207.006	✓	✓			3.5
3.1221.050	✓	✓			

Palette for 5.0ChLP 3.4025÷3.4030	40.5758.650

Plate 3.4025.505 trial	43.4025.505
Plate 3.4026.505 trial	43.4026.505
Plate 3.4027.505 trial	43.4027.505
Plate 3.4028.505 trial	43.4028.505

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Indications

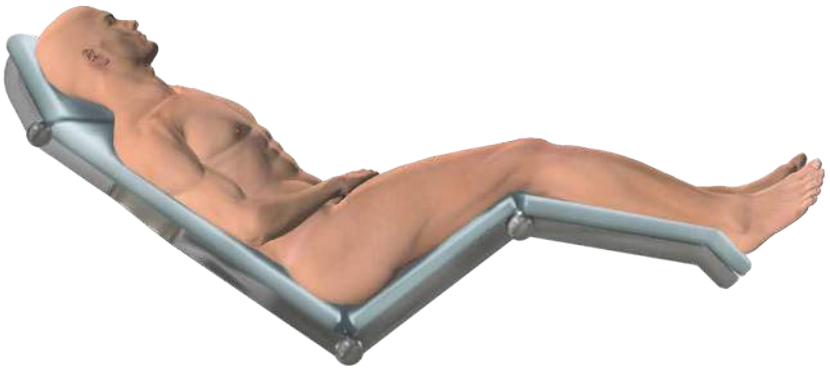
- The clavicle shoulder end fractures.
- Acute and inveterate dislocation of the acromioclavicular joint.

Contraindications

Absolute:
- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

Relative:
- Stable lateral clavicle fractures.
- Significant weakening of the bone making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area or surgical site.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position



Surgical approach

Anterior-upper approach of the sabre cut type.

Procedure stages

The fracture of the end of the clavicle connecting to the shoulder

- Uncovering the fracture.
- The choice of implants – determining the length and depth of the hook and the position of the implant.
- Installing the plate and adjusting the fracture *„to the plate."*
- The installation of locking and/or compression screws.

Dislocation of the acromioclavicular joint

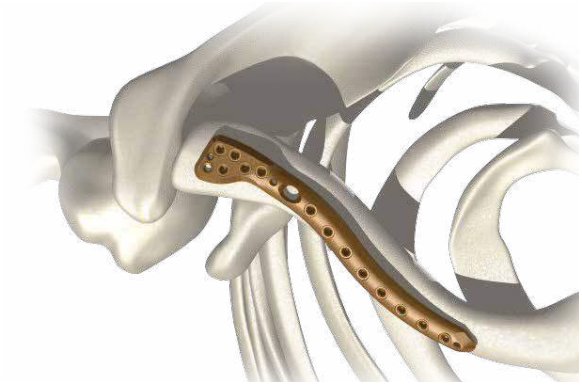
- Covering and *"cleansing"* of the joint - the possibility of the meniscus damage.
- The choice of implants – determining the length and depth of the hook and the position of the implant.
- Initial positioning and installing of the chosen plate. Ligamentous-capsularis reconstruction indicated.
- The installation of locking and/or compression screws.

5.0ChLP CLAVICLE S PLATE

5.0 ChM Locked Plating ChLP system

	Len	Ti L	Ti R
3	71	3.7015.503	3.7014.503
4	80	3.7015.504	3.7014.504
5	90	3.7015.505	3.7014.505
6	99	3.7015.506	3.7014.506
8	116	3.7015.508	3.7014.508
3-11	71 - 143		

Ti					
3.5200.xxx	✓	✓	✓		3.5
3.5205.xxx	✓		✓		3.5
3.5231.xxx	✓	✓		✓	3.9
3.5225.xxx	✓	✓	✓		2.4
3.1306.xxx	✓		✓		3.5
3.5207.006	✓	✓			3.5
3.1221.050	✓	✓			



Palette for 5.0ChLP plates - 3.7014/3.7015	40.5758.630

Plate 3.7014.505 trial	43.7014.505
Plate 3.7015.505 trial	43.7015.505

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Indications

- The clavicle fractures.
- Non-union or malunions of clavicle.

Contraindications

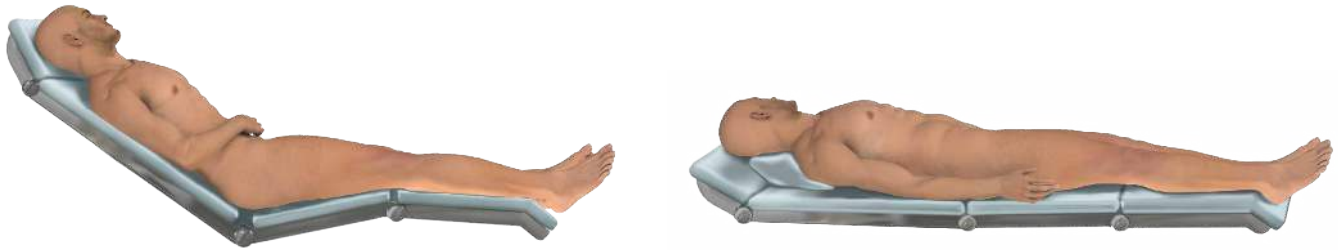
Absolute:

- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

Relative:

- Significant weakening of the bone making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area or surgical site.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position



Beach-chair or lying on the back position.

Surgical approach

Horizontal incision parallel to the clavicle in the supraclavicular fossae or above the clavicular area.

Procedure stages

- Surgical approach and revealing the fracture.
- The initial reduction of fracture.
- The choice of implants – determining the length and position of the implant.
- Initial stabilization of the plate using bone forceps or compression screws.
- Insertion of the screws.

5.0ChLP HUMERUS PLATE

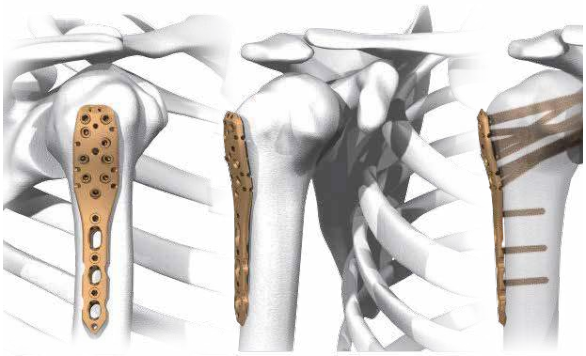
5,0 ChM Locked Plating ChLPsystem

Ster
Non Ster

	Len	Ti
3	101	3.4034.503
4	116	3.4034.504
5	131	3.4034.505
6	146	3.4034.506
8	176	3.4034.508

3-12 | 101 236

	Ti					
	3.5200.xxx	✓	✓	✓		3.5
	3.5205.xxx	✓		✓		3.5
	3.5231.xxx	✓	✓		✓	3.9
	3.5225.xxx	✓	✓	✓		2.4
	3.1306.xxx	✓		✓		3.5
	3.5207.006	✓	✓			3.5
	3.1221.050	✓	✓			



Palette for 5.0ChLP plates - 3.4034 40.5758.510

Aiming block 40.5671.000

Plate 3.4034.504 trial 43.4043.504

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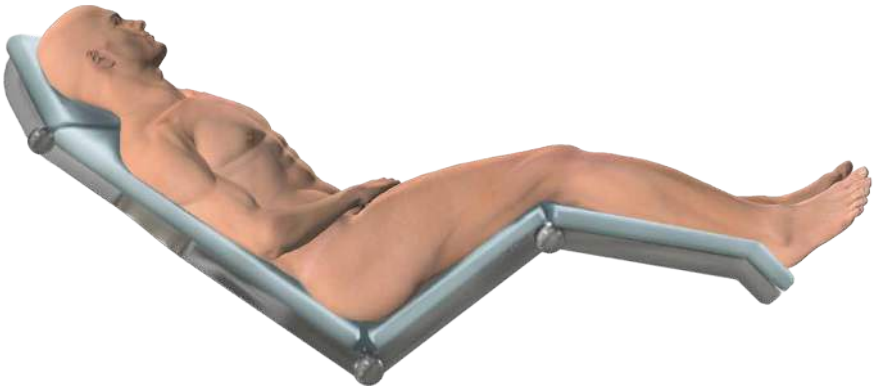
Indications

- Comminuted fracture of the head and the proximal humeral metaphysis.
- Fracture-dislocations.
- Osteopenic and osteoporotic bone fractures.
- Non-union or malunions of fractured bone.

Contraindications

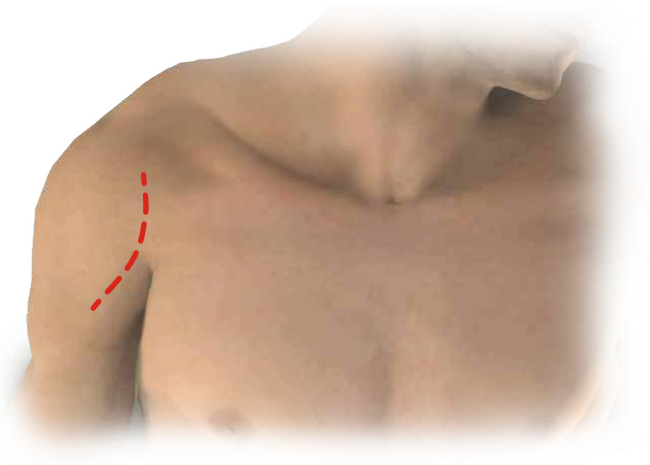
- Abnormal perfusion of fracture area or surgical site.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position



Beach-chair or lying on the back position.

Surgical approach



The deltopectoral approach is intended.

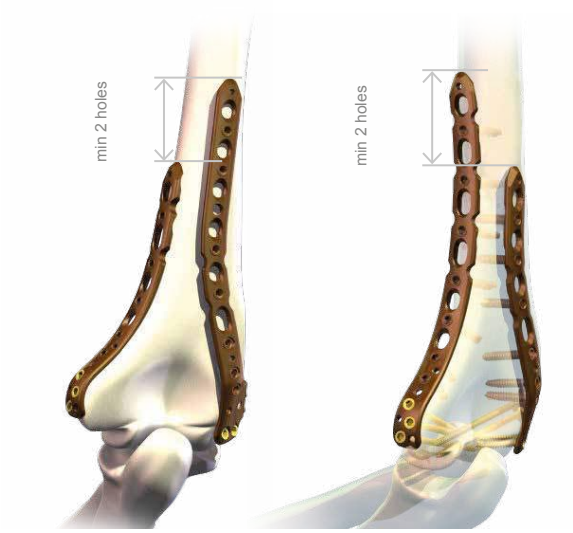
Procedure stages

- The initial reduction of fracture, stabilization using Kirschner wires and applying sutures for the detached tendons with bone fragments.
- The choice of implants - determining the length and position of the implant.
- Insertion of the aiming block to the plate and its positioning under the X-Ray control.
- Introduction of the plate - the lateral position from the LHBT groove.
- Introduction of the cortical screw to the hole for positioning.
- The introduction of the screws to the head of the humeral bone under the X-Ray control.
- Applying soft tissues to the plate.
- Stabilization of the shaft of the plate.
- Removal of the aiming block.
- Closing the wound.

5.0ChLP DISTAL MEDIAL HUMERUS PLATE

Ti			
	Len	L	R
3	89	3.7001.503	3.7000.503
4	107	3.7001.504	3.7000.504
5	121	3.7001.505	3.7000.505
6	136	3.7001.506	3.7000.506

	Ti					
	3.5200.xxx	✓	✓	✓		3.5
	3.5205.xxx	✓		✓		3.5
	3.5231.xxx	✓	✓		✓	3.9
	3.5225.xxx	✓	✓	✓		2.4
	3.1306.xxx	✓		✓		3.5
	3.1220.xxx	✓		✓		2.7
	3.5207.006	✓	✓			3.5
	3.1221.050		✓			



Palette for 5.0ChLP plates - 3.7000-3.7003	40.5758.610	Aiming block L [3.7001]	40.5728.100	Plate 3.7000.504 trial	43.7000.504
		Aiming block R [3.7000]	40.5728.200	Plate 3.7001.504 trial	43.7001.504

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Indications

- Inner and periarticular fractures of the distal end of the humeral bone.
- Fractures of the distal end of the humeral bone extending to the shaft.
- Corrective osteotomy.
- Non-union of fractured bone.

Contraindications

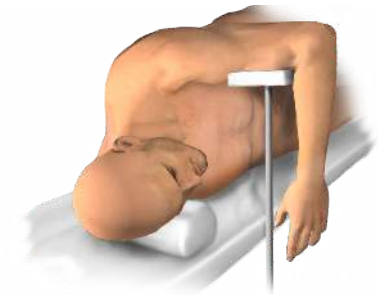
Absolute:

- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

Relative:

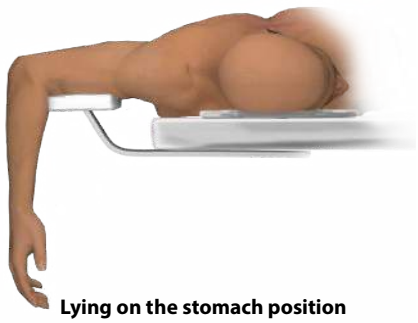
- Significant weakening of the bone ***(by disease, infection or prior implantation)*** making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area or surgical site.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position



Lateral lying position

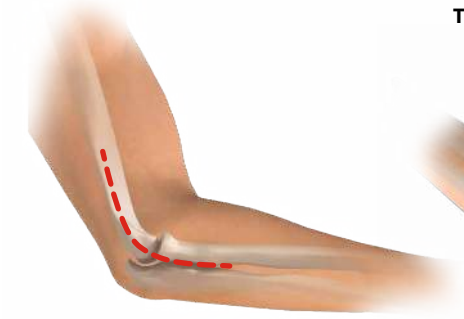
Lying on the back position



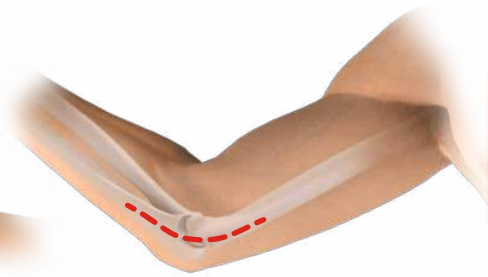
Lying on the stomach position

Surgical approach

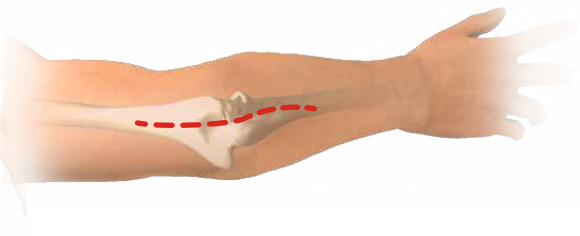
The approach is dependent on the fracture type



Lateral approach



Medial approach



Posterior approach

Particular attention should be paid to the ulnar nerve - it is essential to expose it.
Lateral, medial or both approaches simultaneously may be implemented.
Posterior approach that bypasses the olecranon makes it possible to conduct the osteotomy of the olecranon which in result allows a better view of the fracture site.

Procedure stages

- Reduction of fracture and stabilization of the fracture fragments with Kirschner wires - particular attention should be paid to the reconstruction of the articular surfaces. Please note that the plates are provided with holes for initial stabilization using Kirschner wires.
- The choice of implants - determining the length and position of the implant.

ATTENTION: In the case of stabilization using two plates, the implants should be of different length as to avoid overloading of the shaft of the humeral bone. Two-holes difference in length is indicated.

- Adjusting the shape of the implant, if necessary.
- Positioning of the plate using the compression screw in the extended hole.
- Temporary stabilization of the implant using Kirschner wires.
- Introduction of the screws in the distal parts of the plate.

ATTENTION: When inserting the screws in the distal parts of the plate make sure they do not move into the articular surfaces or olecranon fossae.

- Stabilization of the shaft using locking or compression screws.

5.0ChLP DISTAL DORSOLATERAL HUMERUS PLATE

Ti	Len	L	R
3	95	3.7003.503	3.7002.503
4	109	3.7003.504	3.7002.504
5	123	3.7003.505	3.7002.505
6	137	3.7003.506	3.7002.506

Ti					
3.5200.xxx	✓	✓	✓		3.5
3.5205.xxx	✓		✓		3.5
3.5231.xxx	✓	✓		✓	3.9
3.5225.xxx	✓	✓	✓		2.4
3.1306.xxx	✓		✓		3.5
3.5207.006	✓	✓			3.5
3.1221.050		✓			

Palette for 5.0ChLP plates - 3.7000-3.7003	40.5758.610	Aiming block L [3.7003]	40.5729.100	Plate 3.7003.504 trial	43.7003.504
		Aiming block R [3.7002]	40.5729.200	Plate 3.7002.504 trial	43.7002.504

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Indications

- Inner and periarticular fractures of the distal end of the humeral bone.
- Fractures of the distal end of the humeral bone extending to the shaft.
- Corrective osteotomy.
- Non-union of fractured bone.

Contraindications

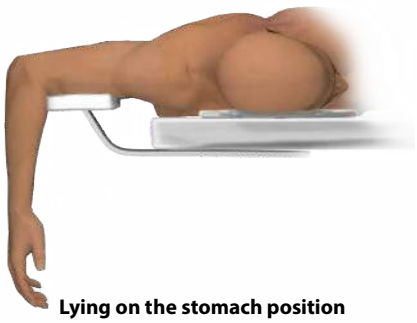
Absolute:
- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

Relative:
- Significant weakening of the bone making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area or surgical site.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position

Lateral lying position

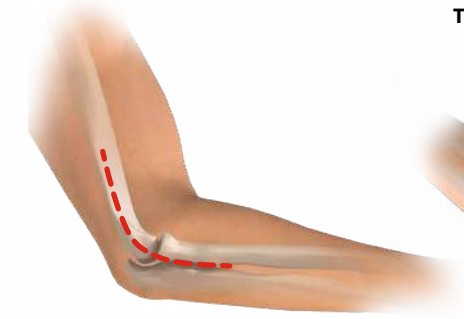
Lying on the back position



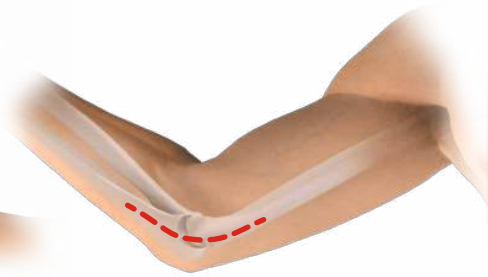
Lying on the stomach position

Surgical approach

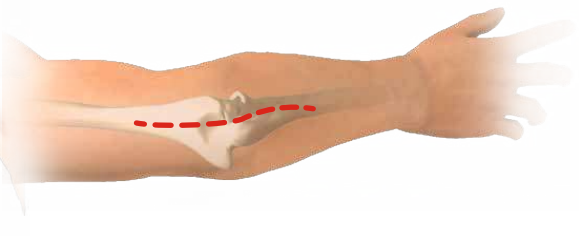
The approach is dependent on the fracture type



Lateral approach



Medial approach



Posterior approach

Particular attention should be paid to the ulnar nerve - it is essential to expose it.
Lateral, medial or both approaches simultaneously may be implemented.
Posterior approach that bypasses the olecranon makes it possible to conduct the osteotomy of the olecranon which in result allows a better view of the fracture site.

Procedure stages

- Reduction of fracture and stabilization of the fracture fragments using Kirschner wires - particular attention should be paid to the reconstruction of the articular surfaces. Please note that the plates are provided with holes for initial stabilization using Kirschner wires.
- The choice of implants - determining the length and position of the implant.
  Attention: In the case of stabilization using two plates, the implants should be of different length as to avoid overloading of the shaft of the humeral bone. Two holes difference in length is indicated.
- Adjusting the shape of the implant, if necessary.
- Positioning of the plate using the compression screw in the extended hole.
- Temporary stabilization of the implant using Kirschner wires.
- Introduction of the screws in the distal parts of the plate.
  Attention: When inserting the screws in the distal parts of the plate make sure they do not move into the articular surfaces or olecranon fossae.
- Stabilization of the shaft using locking or compression screws.

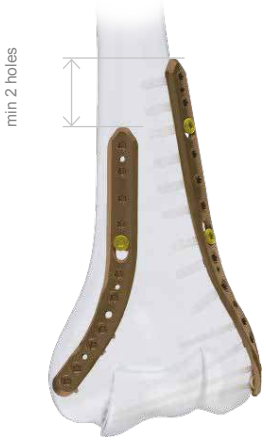
5.0ChLP DISTAL LATERAL HUMERUS PLATE

*	Len	L	R
		Ti	
4	91	3.7037.604	3.7036.604
6	111	3.7037.606	3.7036.606
8	131	3.7037.608	3.7036.608
10	151	3.7037.610	3.7036.610
12	171	3.7037.612	3.7036.612

* holes number in shaft part of the plate

	Ti					
3.5200.xxx	✓	✓	✓			3.5
3.5205.xxx	✓		✓			3.5
3.5231.xxx	✓	✓		✓		3.9
3.5225.xxx	✓	✓	✓			2.4
3.1306.xxx	✓		✓			3.5
3.5207.006	✓	✓				3.5
3.1221.050	✓	✓				

180°
3.7071 / 3.7072
+
3.7036 / 3.7037



90°
3.7040 / 3.7041
+
3.7036 / 3.7037

Palette for 5.0ChLP plates	40.6291.000	Aiming block R [3.7036]	40.8210.000	Plate 3.7036.606 trial	43.7036.606
		Aiming block L [3.7037]	40.8211.000	Plate 3.7037.606 trial	43.7037.606

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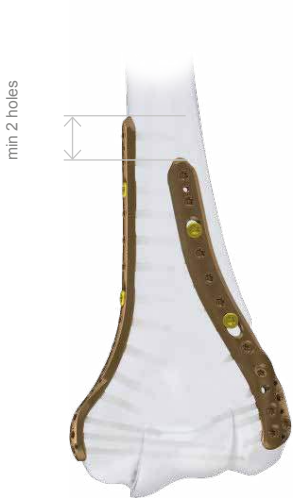
5.0ChLP DISTAL POSTERIOR LATERAL HUMERUS PLATE

*	Len	Ti L	Ti R
4	75	3.7039.604	3.7038.604
6	94	3.7039.606	3.7038.606
8	113	3.7039.608	3.7038.608
10	131	3.7039.610	3.7038.610
12	150	3.7039.612	3.7038.612

* holes number in shaft part of the plate

Ti					
3.5200.xxx	✓	✓	✓		3.5
3.5205.xxx	✓		✓		3.5
3.5231.xxx	✓	✓		✓	3.9
3.5225.xxx	✓	✓	✓		2.4
3.1306.xxx	✓		✓		3.5
3.5207.006	✓	✓			3.5
3.1221.050	✓	✓			



90°
3.7071 / 3.7072
+
3.7038 / 3.7039

Palette for 5.0ChLP plates	40.6291.000	Aiming block R [3.7038]	40.8212.000	Plate 3.7038.606 trial	43.7038.606
		Aiming block L [3.7039]	40.8213.000	Plate 3.7039.606 trial	43.7039.606

5.0ChLP DISTAL POSTERIOR MEDIAL HUMERUS PLATE

*	Len	Ti L	Ti R
4	84	3.7041.604	3.7040.604
6	104	3.7041.606	3.7040.606
8	124	3.7041.608	3.7040.608
10	144	3.7041.610	3.7040.610
12	164	3.7041.612	3.7040.612

* holes number in shaft part of the plate

Ti					
3.5200.xxx	✓	✓	✓		3.5
3.5205.xxx	✓		✓		3.5
3.5231.xxx	✓	✓		✓	3.9
3.5225.xxx	✓	✓	✓		2.4
3.1306.xxx	✓		✓		3.5
3.5207.006	✓	✓			3.5
3.1221.050	✓	✓			

90°
3.7040 / 3.7041
+
3.7036 / 3.7037

Palette for 5.0ChLP plates	40.6291.000	Aiming block R [3.7040]	40.8214.000	Plate 3.7040.606 trial	43.7040.606
		Aiming block L [3.7041]	40.8215.000	Plate 3.7041.606 trial	43.7041.606

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5.0ChLP DISTAL MEDIAL HUMERUS PLATE

*	Len	Ti L	Ti R
4	91	3.7071.604	3.7072.604
6	111	3.7071.606	3.7072.606
8	131	3.7071.608	3.7072.608
10	151	3.7071.610	3.7072.610
12	171	3.7071.612	3.7072.612

* holes number in shaft part of the plate

Ti					
3.5200.xxx	✓	✓	✓		3.5
3.5205.xxx	✓		✓		3.5
3.5231.xxx	✓	✓		✓	3.9
3.5225.xxx	✓	✓	✓		2.4
3.1306.xxx	✓		✓		3.5
3.5207.006	✓	✓			3.5
3.1221.050	✓	✓			

180°
3.7071 / 3.7072
+
3.7036 / 3.7037

90°
3.7071 / 3.7072
+
3.7038 / 3.7039

90°
3.7071 / 3.7072
+
3.7073 / 3.7074

Palette for 5.0ChLP plates	40.6291.000	Aiming block L [3.7071]	40.8217.000	Plate 3.7071.606 trial	43.7071.606
		Aiming block R [3.7072]	40.8216.000	Plate 3.7072.606 trial	43.7072.606

5.0ChLP DISTAL DORSOLATERAL HUMERUS PLATE

*	Len	Ti L	Ti R
4	75	3.7073.604	3.7074.604
6	94	3.7073.606	3.7074.606
8	113	3.7073.608	3.7074.608
10	132	3.7073.610	3.7074.610
12	151	3.7073.612	3.7074.612

* holes number in shaft part of the plate

	Ti					
3.5200.xxx	✓	✓	✓			3.5
3.5205.xxx	✓		✓			3.5
3.5231.xxx	✓	✓		✓		3.9
3.5225.xxx	✓	✓	✓			2.4
3.1306.xxx	✓		✓			3.5
3.5207.006	✓	✓				3.5
3.1221.050	✓	✓				

90°
3.7071 / 3.7072
+
3.7073 / 3.7074

Palette for 5.0ChLP plates	40.6291.000	Aiming block L [3.7073]	40.8219.000	Plate 3.7073.606 trial	43.7073.606
		Aiming block R [3.7074]	40.8218.000	Plate 3.7074.606 trial	43.7074.606

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Indications

- Inner and periarticular fractures of the distal end of the humeral bone.
- Fractures of the distal end of the humeral bone extending to the shaft.
- Corrective osteotomy.
- Non-union of fractured bone.

Contraindications

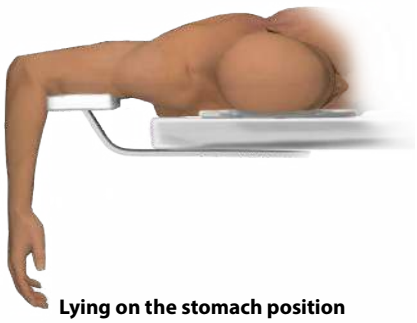
Absolute:
- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

Relative:
- Significant weakening of the bone making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area or surgical site.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position

Lateral lying position

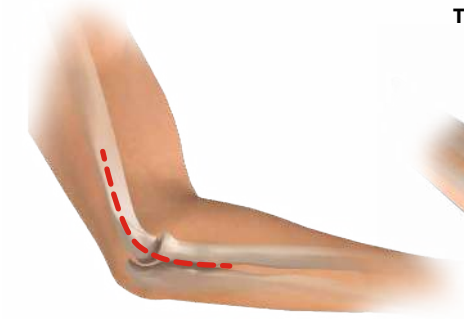
Lying on the back position



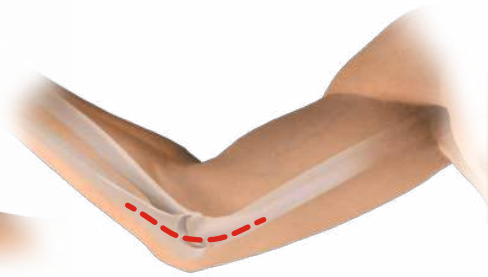
Lying on the stomach position

Surgical approach

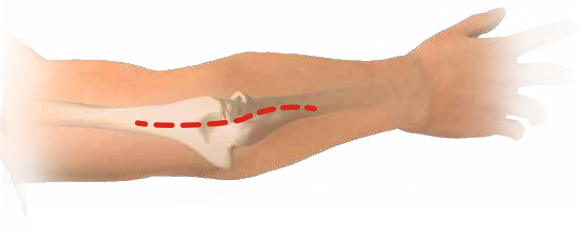
The approach is dependent on the fracture type



Lateral approach



Medial approach



Posterior approach

Particular attention should be paid to the ulnar nerve - it is essential to expose it.
Lateral, medial or both approaches simultaneously may be implemented.
Posterior approach that bypasses the olecranon makes it possible to conduct the osteotomy of the olecranon which in result allows a better view of the fracture site.

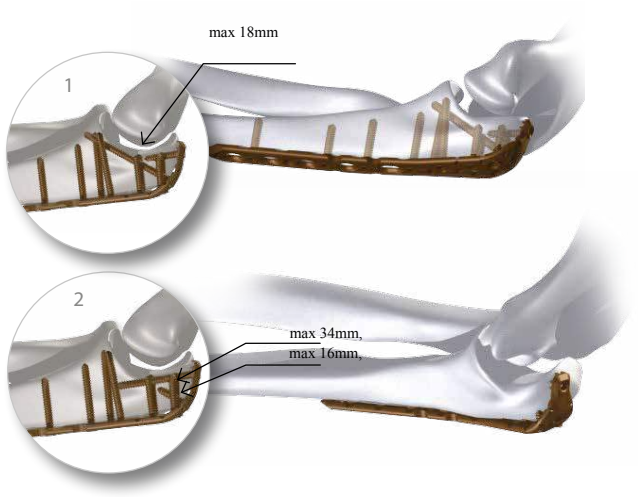
Procedure stages

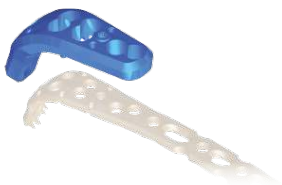
- Reduction of fracture and stabilization of the fracture fragments using Kirschner wires - particular attention should be paid to the reconstruction of the articular surfaces. Please note that the plates are provided with holes for initial stabilization using Kirschner wires.
- The choice of implants - determining the length and position of the implant.
  Attention: In the case of stabilization using two plates, the implants should be of different length as to avoid overloading of the shaft of the humeral bone. Two holes difference in length is indicated.
- Adjusting the shape of the implant, if necessary.
- Positioning of the plate using the compression screw in the extended hole.
- Temporary stabilization of the implant using Kirschner wires.
- Introduction of the screws in the distal parts of the plate.
  Attention: When inserting the screws in the distal parts of the plate make sure they do not move into the articular surfaces or olecranon fossae.
- Stabilization of the shaft using locking or compression screws.

5.0ChLP OLECRANON PLATE

Ti			
	Len	L	R
2	88	3.4097.502	3.4098.502
4	121	3.4097.504	3.4098.504
6	151	3.4097.506	3.4098.506
8	181	3.4097.508	3.4098.508
2-12	88 - 240		

Ti					
3.5200.xxx	✓	✓	✓		3.5
3.5205.xxx	✓		✓		3.5
3.5231.xxx	✓	✓		✓	3.9
3.5225.xxx	✓	✓	✓		2.4
3.1306.xxx	✓		✓		3.5
3.5207.006	✓	✓			3.5
3.1221.050	✓	✓			





Palette for 5.0ChLP plates - 3.4097/3.4098	40.5758.620	Aiming block L [3.4097]	40.5731.100	Plate 3.4097.504 trial	43.4097.504
		Aiming block R [3.4098]	40.5731.200	Plate 3.4098.504 trial	43.4098.504

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Indications

- The intra-articular and extra-articular fractures of proximal end of the elbow bone.
- Fractures of the proximal end of the elbow bone extending to the shaft of the bone.
- Corrective osteotomy.
- Non-union of fractured bone.

Contraindications

Absolute:

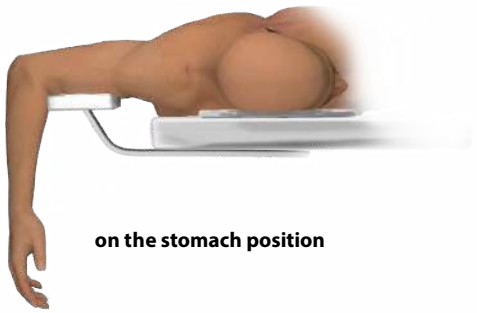
- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

Relative:

- Weakened bone ***(by disease, infection or prior implantation)*** making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

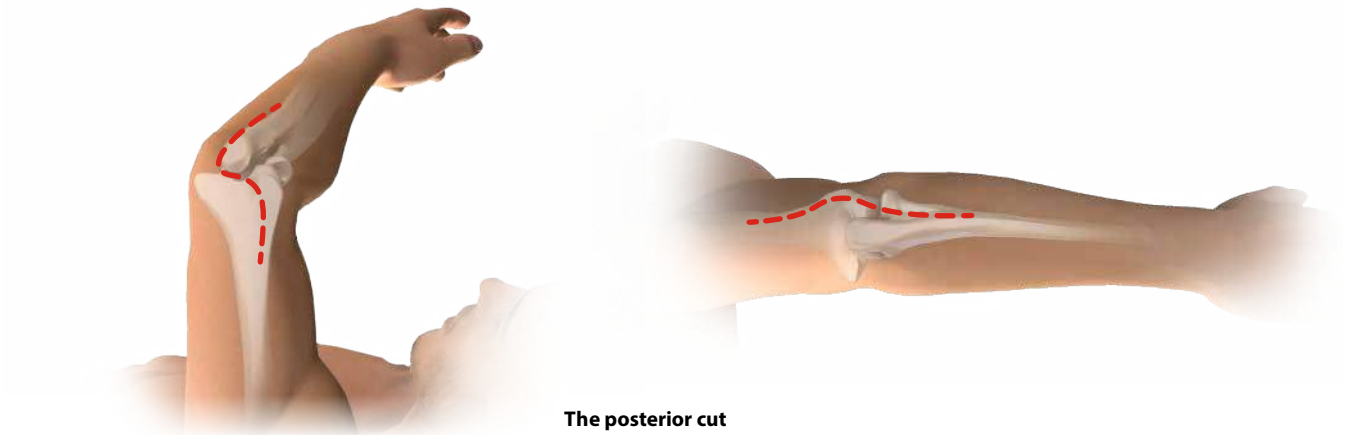
The patient's position

on the back position



on the stomach position

Surgical approach



The posterior cut

Particular attention should be paid to the ulnar nerve - it is essential to expose it.

Procedure stages

- Reduction of fracture and stabilization of the fracture fragments using Kirschner wires - particular attention should be paid to the reconstruction of the articular surfaces. Please note that the plates are provided with holes for initial stabilization using Kirschner wires.
- The choice of implants - determining the length and position of the implant.
- Adjusting the shape of the implant carefully, if necessary.
- Positioning of the plate using the compression screw in the extended hole.
- Restoring the continuity of the articular surfaces.
- Radiological control.
- Introduction of the screws in the distal and proximal parts of the plate under the X-Ray control.
  Attention: When inserting the screws in the distal parts of the plate make sure they do not move into the articular surfaces.
- Wound drainage according to the situation.
- Provided that the anastomosis is stable, increasing of efficiency shall not be implemented until the second postoperative day.

5.0ChLP WRIST ARTHRODESIS PLATES

	Ti
1 Len	STRAIGHT
130	3.7033.004
2 Len	SHORT BEND
131	3.7034.004
3 Len	STANDARD BEND
140	3.7035.004

	Ti					
3.5200.xxx	✓	✓	✓	✓		3.5
3.5205.xxx	✓		✓	✓		3.5
3.5231.xxx	✓	✓			✓	3.9
3.5225.xxx	✓	✓	✓	✓		2.4
3.1306.xxx	✓		✓	✓		3.5
3.1220.xxx	✓		✓	✓		2.7
3.5207.006	✓	✓				3.5
3.1221.050		✓				

Palette for 5.0ChLP plates - 3.7033-3.7035	40.5758.660

Plate 3.7033.004 trial	43.7033.004
Plate 3.7034.004 trial	43.7034.004
Plate 3.7035.004 trial	43.7035.004

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Indications

- Post-traumatic wrist arthrosis
- Advanced wrist arthrosis with instability, after infection past.
- Spastic deformities.
- Paresis after brachial plexus injury.
- Rheumatoid joint inflammations.

Contraindications

Absolute:

- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

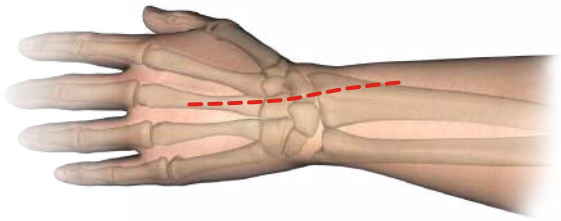
Relative:

- Significant weakening of the bone making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area or surgical site.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position

Lying on the back position

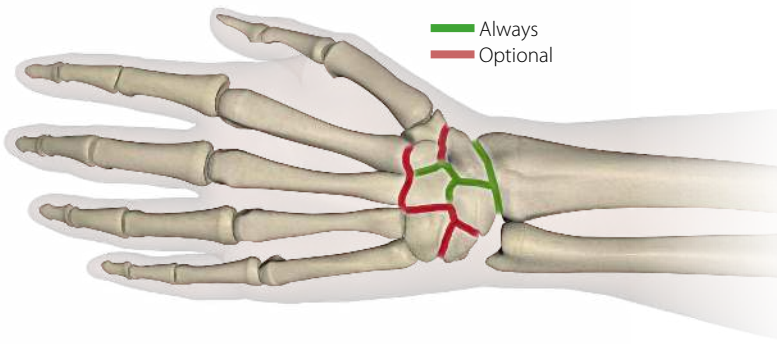
Surgical approach



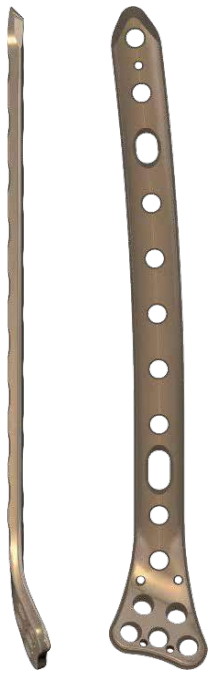
Incision ***„smooth S"*** at dorsal wrist side below Lister's tubercle to the 1/3 distal end of the 3rd metacarpal.

Procedure stages

- Remove cartilage from the fused joints ***(according to the drawing)***.
- Dorsal surface decortication of the: radial, scaphoid, lunar, capitate bone and Lister's tubercle removing.
- Insert bone graft.
- Insertion of the plate and its positioning.
- Temporary stabilization of the implant using Kirschner wires.
- Introduction of the screws in the distal part of the plate.
- Introduction of the screws in the proximal part of the plate.
- Making X-Ray film to make sure the plate and screws are positioned properly.
- Closing the wound.



5.0ChLP RADIUS VOLAR PLATE



*	Len	Ti L	Ti R
5	73	3.7067.605	3.7068.605
7	97	3.7067.607	3.7068.607
9	122	3.7067.609	3.7068.609
11	148	3.7067.611	3.7068.611
5-15	73 - 194		

* holes number in shaft part of the plate

Ti					
3.5200.xxx	✓	✓	✓		3.5
3.5205.xxx	✓		✓		3.5
3.5231.xxx	✓	✓		✓	3.9
3.5225.xxx	✓	✓	✓		2.4
3.1306.xxx	✓		✓		3.5
3.5207.006	✓	✓			3.5
3.1221.050		✓			

Palette for 5.0ChLP plates - 3.7067/3.7068	40.6269.000	Aiming block L [3.7067]	40.5742.100
		Aiming block R [3.7068]	40.5742.200

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Indications

- Fractures of the distal part of the radius and the fractures extending to the shaft of the radius.
- Non-union or malunions of fractured bone.

Contraindications

Absolute:

- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

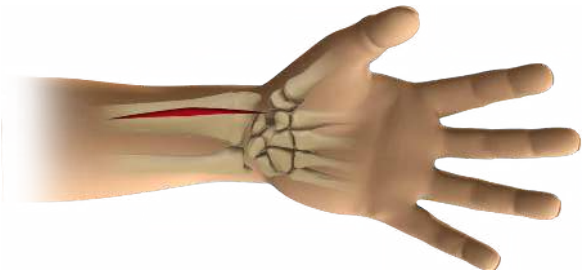
Relative:

- Weakened bone ***(by disease, infection or prior implantation)*** making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

Pozycja pacjenta

Lying on the back position.

Surgical approach



In volar approach, make a longitudinal incision between the radial wrist flexor tendon and the radial artery.

Procedure stages

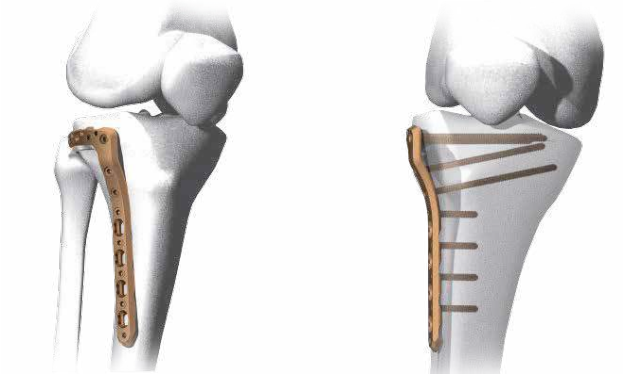
- Reduction of fracture and stabilization of the fracture fragments using Kirschner wires.
- The choice of implants - determining the length and position of the implant.
- Insertion of the plate and its positioning.
- Temporary stabilization of the implant using Kirschner wires.
- Introduction of the screws in the distal parts of the plate.
- Stabilization of the shaft using locking or compression screws.
- Making X-Ray films as to make sure the plate and screws are positioned properly.
- Wound closure.

5.0ChLP NARROW TIBIAL PLATE

5,0 ChM Locked Plating ChLPsystem

Ti			
	Len	L	R
4	109	3.4011.504	3.4012.504
5	124	3.4011.505	3.4012.505
6	139	3.4011.506	3.4012.506
8	169	3.4011.508	3.4012.508
4-16	109 289		

Ti					
3.5200.xxx	✓	✓	✓		3.5
3.5205.xxx	✓		✓		3.5
3.5231.xxx	✓	✓		✓	3.9
3.5225.xxx	✓	✓	✓		2.4
3.1306.xxx	✓		✓		3.5
3.5207.006	✓	✓			3.5
3.1221.050	✓	✓			



Palette for 5.0ChLP plates - 3.4011/3.4012	40.5758.520

Plate 3.4011.505 trial	43.4011.505
Plate 3.4012.505 trial	43.4012.505

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Indications

- Articular and extra-articular, metaphysial and epiphysial comminuted fractures of the proximal part of the tibia and fractures extending to the shaft of the tibia.
- Non-union or malunions of fractured bone.

Contraindications

Absolute:

- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

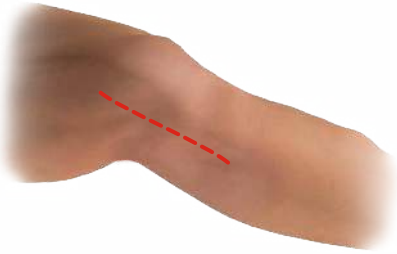
Relative:

- Weakened bone ***(by disease, infection or prior implantation)*** making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position

Surgical approach

Lateral S cut - recommended for simple articular and extra-articular fractures



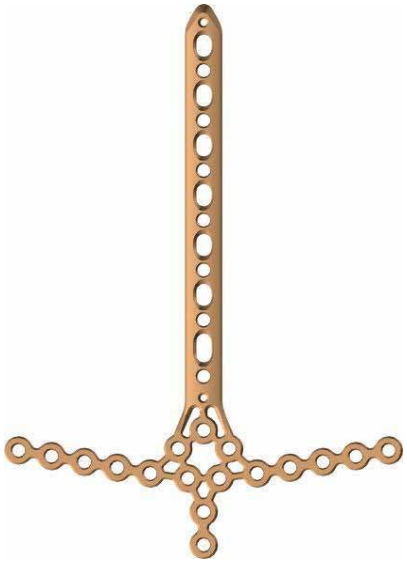
Straight anterior-lateral cut - recommended for more complex articular fractures.

Anterior-lateral approach. The cut performed between the tibia and fibula bone and should begin approximately 1 cm proximally from the lateral condyle of the tibia to the desired length of the plate. In the minimally invasive technique, a short cut and additional cuts for the access to the holes of the shaft of the plate should be performed.

Procedure stages

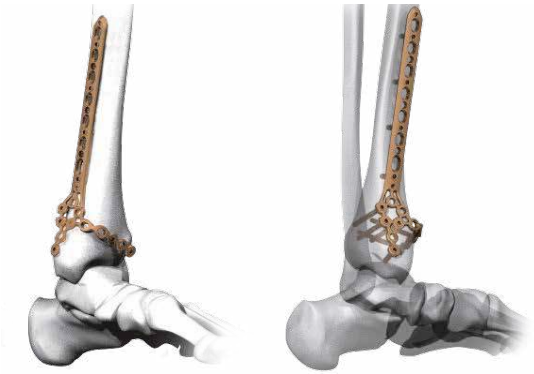
- Reduction of fracture and stabilization of the fracture fragments using Kirschner wires.
- The choice of implants - determining the length and position of the implant.
- Insertion of the plate and its positioning.
- Temporary stabilization of the implant using Kirschner wires.
- Introduction of the screws in the distal parts of the plate.
- Stabilization of the shaft using locking or compression screws.
- Positioning of the plate using the compression screw in the extended hole.
- Making X-Ray film in both A-P and lateral position as to make sure the plate and screws are positioned properly.
- Closing the wound.

5.0ChLP DISTAL MEDIAL TIBIAL PLATE



	Len	Ti
7	167	3.4033.507
9	197	3.4033.509

	Ti					
	3.5200.xxx	✓	✓	✓		3.5
	3.5205.xxx	✓		✓		3.5
	3.5231.xxx	✓	✓		✓	3.9
	3.5225.xxx	✓	✓	✓		2.4
	3.1306.xxx	✓		✓		3.5
	3.5207.006	✓	✓			3.5
	3.1221.050	✓	✓			



Palette for 5.0ChLP plates - 3.4033 40.5758.560

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Indications

- Comminuted fractures of the distal part of the tibial bone.
- Non-union or malunions of fractured bone.

Contraindications

Absolute:

- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

Relative:

- Weakened bone ***(by disease, infection or prior implantation)*** making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position

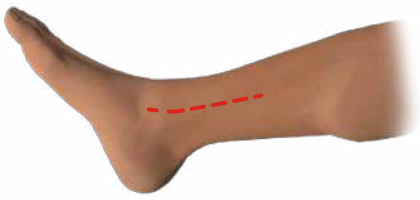
Lying on the back position

Surgical approach

Surgical approach depends on the positioning of the implant on the distal base of the tibia. Different surgical approaches may be applied: anterior, anterior-lateral or medial one.

Anterior approach.

Medial approach.



Anterio-lateral approach.

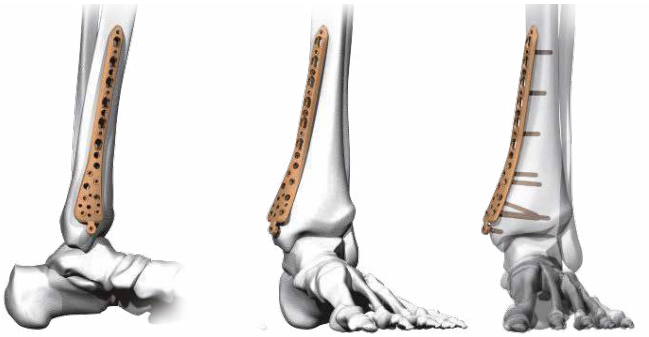
Procedure stages

- Reduction of fracture and stabilization of the fracture fragments using Kirschner wires.
- The choice of implants - determining the length and position of the implant.
- Shaping the implant - bending arms of the plate, cutting away unnecessary holes.
- Insertion of the plate and its positioning.
- Temporary stabilization of the implant using Kirschner wires, setting-compressing screw or compression screw.
- Introduction of the screws in the distal parts of the plate ***(Attention: Reduction of the bone fragments will not be possible after using locking screws. Avoid clashes of the screws!)***.
- Stabilization of the shaft using locking or compression screws.
- Making X-Ray film in both A-P and lateral position as to make sure the plate and screws are positioned properly.
- Closing the wound.

5.0ChLP DISTAL MEDIAL TIBIAL PLATE

Ti	Len	L	R
4	123	3.4039.504	3.4040.504
6	153	3.4039.506	3.4040.506
8	183	3.4039.508	3.4040.508
4-14	123 - 273		

Ti					
3.5200.xxx	✓	✓	✓		3.5
3.5205.xxx	✓		✓		3.5
3.5231.xxx	✓	✓		✓	3.9
3.5225.xxx	✓	✓	✓		2.4
3.1306.xxx	✓		✓		3.5
3.5207.006	✓	✓			3.5
3.1221.050	✓	✓			



Palette for 5.0ChLP plates - 3.4039/3.4040	40.5758.570	Aiming block [3.4039]	40.5726.100	Plate 3.4039.506 trial	43.4039.506
		Aiming block [3.4040]	40.5726.200	Plate 3.4040.506 trial	43.4040.506

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Indications

- Comminuted fractures of the distal part of the tibial bone and the fractures extending to the shaft of the tibia.
- Non-union or malunions of fractured bone.

Contraindications

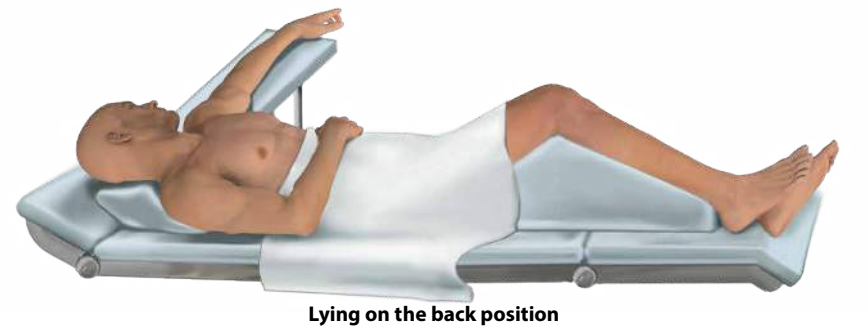
Absolute:

- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

Relative:

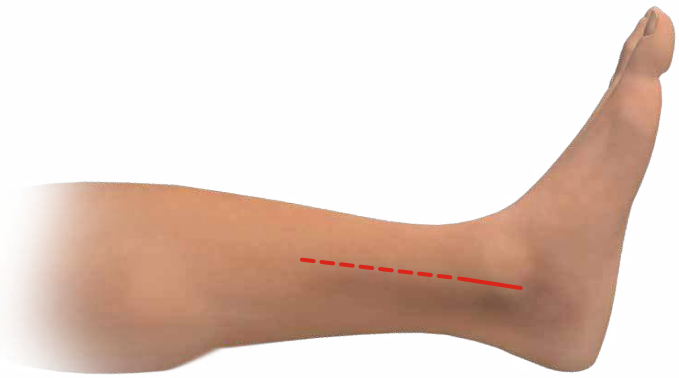
- Weakened bone ***(by disease, infection or prior implantation)*** making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position



Lying on the back position

Surgical approach



Medial approach. The cut begins approximately 1 cm proximally from the medial ankle to the desired length of the plate. In the minimally invasive technique, a cut above the medial ankle and short cuts for the access to the holes of the shaft of the plate should be performed.

Procedure stages

- Reduction of fracture and stabilization of the fracture fragments using Kirschner wires.
- The choice of implants - determining the length and position of the implant.
- Insertion of the plate and its positioning.
- Temporary stabilization of the implant using Kirschner wires.
- Introduction of the screws in the distal parts of the plate.
- Stabilization of the shaft using locking or compression screws.
- Making X-Ray film in both A-P and lateral position as to make sure the plate and screws are positioned properly.
- Closing the wound.

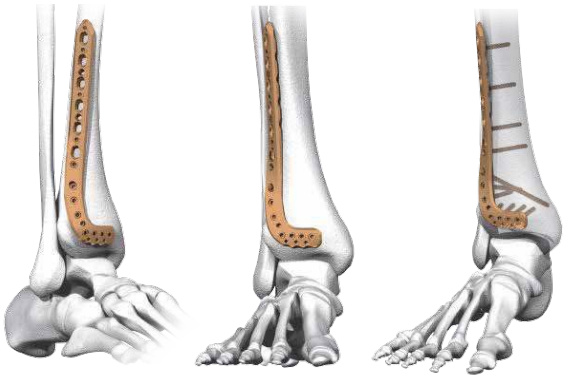
5.0ChLP DISTAL TIBIAL L PLATE

5.0 ChM Locked Plating ChLPsystem

Ti	Len	L	R
4	120	3.4051.504	3.4052.504
6	150	3.4051.506	3.4052.506
8	180	3.4051.508	3.4052.508

3-16 | 105 300

Ti					
3.5200.xxx	✓	✓	✓		3.5
3.5205.xxx	✓		✓		3.5
3.5231.xxx	✓	✓		✓	3.9
3.5225.xxx	✓	✓	✓		2.4
3.1306.xxx	✓		✓		3.5
3.5207.006	✓	✓			3.5
3.1221.050	✓	✓			



Palette for 5.0ChLP plates - 3.4051/3.4052	40.5758.580	Aiming block L [3.4051]	40.5723.100	Plate 3.4051.506 trial	43.4051.506
		Aiming block R [3.4052]	40.5723.200	Plate 3.4052.506 trial	43.4052.506

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Indications

- Comminuted fractures of the distal part of the tibial bone and the fractures extending to the shaft of the tibia.
- Non-union or malunions of fractured bone.

Contraindications

Absolute:

- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

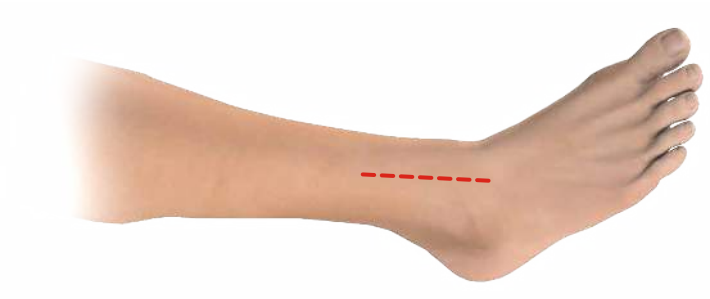
Relative:

- Weakened bone ***(by disease, infection or prior implantation)*** making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position

Lying on the back position

Surgical approach



Anterior-lateral approach. The cut performed between the tibia and fibula bone and should begin approximately 1 cm proximally from the medial ankle to the desired length of the plate. In the minimally invasive technique, a short cut and additional cuts for the access to the holes of the shaft of the plate should be performed.

Procedure stages

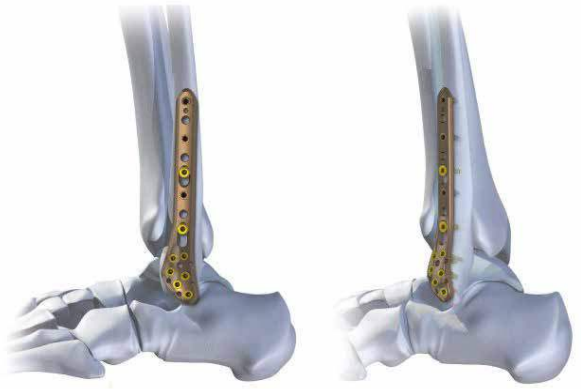
- Reduction of fracture and stabilization of the fracture fragments using Kirschner wires.
- The choice of implants - determining the length and position of the implant.
- Insertion of the plate and its positioning.
- Temporary stabilization of the implant using Kirschner wires.
- Introduction of the screws in the distal parts of the plate.
- Stabilization of the shaft using locking or compression screws.
- Making X-Ray film in both A-P and lateral position as to make sure the plate and screws are positioned properly.
- Closing the wound.

5.0ChLP DISTAL LATERAL FIBULA PLATE

*	Len	Ti L	Ti R
4	85	3.7029.604	3.7030.604
5	95	3.7029.605	3.7030.605
6	105	3.7029.606	3.7030.606
8	125	3.7029.608	3.7030.608
10	145	3.7029.610	3.7030.610

* holes number in shaft part of the plate

Ti					
3.5200.xxx	✓	✓	✓		3.5
3.5205.xxx	✓		✓		3.5
3.5231.xxx	✓	✓		✓	3.9
3.5225.xxx	✓	✓	✓		2.4
3.1306.xxx	✓		✓		3.5
3.5207.006	✓	✓			3.5
3.1221.050	✓	✓			



Palette for 5.0ChLP plates - 3.7029/3.7030	40.5758.690

Plate 3.7029.605 trial	43.7029.605
Plate 3.7030.605 trial	43.7030.605

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Indications

- Comminuted fractures of fibula in its distal part with or without the damage to tibiofibular syndesmosis.
- Non-union or malunions of fractured bone.

Contraindications

Absolute:

- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

Relative:

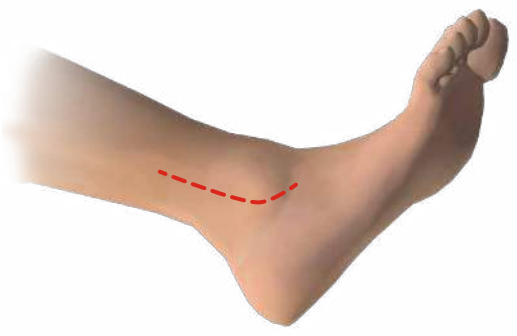
- Weakened bone ***(by disease, infection or prior implantation)*** making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position

Lying on the back position.

Surgical approach

Lateral approach.



Postero-lateral approach.

Procedure stages

- Reduction of fracture and stabilization of the fracture fragments using Kirschner wires.
- The choice of implants - determining the length and position of the implant.
- Insertion of the plate and its positioning.
- Temporary stabilization of the implant using Kirschner wires.
- Introduction of the screws in the distal parts of the plate.
- Stabilization of the shaft using locking or compression screws.
- Making X-Ray film in both A-P and lateral position as to make sure the plate and screws are positioned properly.
- Closing the wound.

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5.0ChLP CALCANEAL PLATE

5,0 ChM Locked Plating ChLP system

2.0 | L R | Ster Non Ster

Ti	
L	R
3.4057.000	3.4058.000

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4.5ChLP CALCANEAL PLATE WITH HOOK

5,0 ChM Locked Plating ChLP system

2.0 | L R | Ster Non Ster

Ti	
L	R
3.4059.000	3.4060.000

	Ti					
3.5200.xxx	✓	✓	✓			3.5
3.5205.xxx	✓		✓			3.5
3.5231.xxx	✓	✓		✓		3.9
3.5225.xxx	✓	✓	✓			2.4
3.5207.006	✓	✓				3.5
3.1221.050	✓	✓				

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Indications

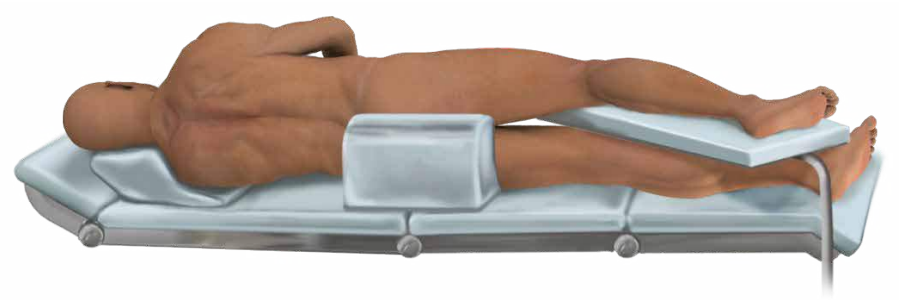
- Articular, extra-articular fractures and comminuted fractures of calcaneus.

Contraindications

Absolute:
- Health condition precluding surgery.
- Allergic reactions to the metal from which the implant is made.
- Active infection.

Relative:
- Weakened bone ***(by disease, infection or prior implantation)*** making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that exclude the potential benefits of the treatment.

The patient's position



Position: laying on the side.

Surgical approach

Lateral approach.

Procedure stages

- Reduction of fracture and stabilization of the fracture fragments using Kirschner wires.
- The choice of implants - determining the length and position of the implant.
- Shaping the implant - bending arms of the plate, cutting away unnecessary holes.
- Insertion of the plate and its positioning.
- Temporary stabilization of the implant using Kirschner wires,
- Introduction of the screws ***(Attention: Reduction of the bone fragments will not be possible after using locking screws. Avoid clashes of the screws!)***.
- Making X-Ray film in both A-P and lateral position as to make sure the plate and screws are positioned properly.
- Closing the wound.

5.0ChLP STRAIGHT RECONSTRUCTION PLATE

2.8
Ster
Non Ster

	Len	Ti
4	88	3.4022.804
5	102	3.4022.805
6	116	3.4022.806
7	130	3.4022.807
8	144	3.4022.808
10	172	3.4022.810
4-22	88 - 340	

	Ti					
	3.5200.xxx	✓	✓	✓		3.5
	3.5205.xxx	✓		✓		3.5
	3.5231.xxx	✓	✓		✓	3.9
	3.5225.xxx	✓	✓	✓		2.4
	3.1306.xxx	✓		✓		3.5
	3.5207.006	✓	✓			3.5
	3.1221.050	✓	✓			

Palette for 5.0ChLP reconstruction plates

40.5758.600

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5.0ChLP NARROW COMPRESSION LIMITED CONTACT PLATE

2.8	Len	Ti
5	88	3.3157.505
6	103	3.3157.506
7	118	3.3157.507
8	133	3.3157.508
10	163	3.3157.510
12	193	3.3157.512
4-18	73-283	

	Ti					
	3.5200.xxx	✓	✓	✓		3.5
	3.5205.xxx	✓		✓		3.5
	3.5231.xxx	✓	✓		✓	3.9
	3.5225.xxx	✓	✓	✓		2.4
	3.1306.xxx	✓		✓		3.5
	3.5207.006	✓	✓			3.5
	3.1221.050	✓	✓			

Palette for 5.0ChLP straight plates 40.5758.550

4.5ChLP NARROW STRAIGHT RECONSTRUCTION PLATE

	Len	Ti
4	88	3.4080.504
5	102	3.4080.505
6	116	3.4080.506
7	130	3.4080.507
8	144	3.4080.508

4-22 | 88 - 340

	Ti					
	3.5200.xxx	✓	✓	✓		3.5
	3.5205.xxx	✓		✓		3.5
	3.5231.xxx	✓	✓		✓	3.9
	3.5225.xxx	✓	✓	✓		2.4
	3.1306.xxx	✓		✓		3.5
	3.5207.006	✓	✓			3.5
	3.1221.050	✓	✓			

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5.0ChLP TUBULAR STRAIGHT PLATE 1/3

2.0
Ster
Non Ster

	Len	Ti
4	45	3.4081.004
5	57	3.4081.005
6	69	3.4081.006
7	81	3.4081.007
8	93	3.4081.008
10	117	3.4081.010
3-12	33 - 141	

	Ti					
	3.5200.xxx	✓	✓	✓		3.5
	3.5205.xxx	✓		✓		3.5
	3.5231.xxx	✓	✓		✓	3.9
	3.5225.xxx	✓	✓	✓		2.4
	3.5207.006	✓	✓			3.5
	3.1221.050	✓	✓			

ChM®

5.0ChLP POSTERIOR NARROW TIBIA PLATE

Ster Non Ster

*	Len	Ti
4	66	3.7094.604
6	86	3.7094.606

* holes number in shaft part of the plate

ChM®

5.0CHLP POSTERIOR WIDE TIBIA PLATE

Ster Non Ster

*	Len	Ti
4	66	3.7095.604
6	86	3.7095.606

* holes number in shaft part of the plate

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5.0ChLP POSTEROLATERAL DISTAL FIBULA PLATE

Ster
Non Ster

	Len	L (Ti)	R (Ti)
4	86	3.7031.604	3.7032.604
6	106	3.7031.606	3.7032.606

				TiA	Co	VA			
	3.5200.xxx	T15	✓	✓			✓		3.5
	3.5225.xxx	T15	✓	✓			✓		2.4
	3.1306.xxx	T15		✓			✓		3.5
	4.5236.xxx	T15	✓		✓	✓	✓		3.5
	3.5207.006	T15	✓	✓					3.5
	3.5208.000	T15	✓	✓					3.5
	3.1221.050	T15	✓	✓					

ChM®

5.0ChLP DISTAL POSTERIOR TIBIA PLATE

Ster
Non Ster

	Len	L (Ti)	R (Ti)
4	64	3.7271.604	3.7272.604
6	84	3.7271.606	3.7272.606

				TiA	Co	VA			
	3.5200.xxx	T15	✓	✓			✓		3.5
	3.5225.xxx	T15	✓	✓			✓		2.4
	3.1306.xxx	T15		✓			✓		3.5
	4.5236.xxx	T15	✓		✓	✓	✓		3.5
	3.5207.006	T15	✓	✓					3.5
	3.5208.000	T15	✓	✓					3.5
	3.1221.050	T15	✓	✓					

5.0ChLP MEDIAL DISTAL POSTERIOR TIBIA PLATE

	Len	L	R
4	66	3.7281.604	3.7280.604

3.5200.xxx	T15	✓	✓				✓	3.5
3.5225.xxx	T15	✓	✓				✓	2.4
3.1306.xxx	T15		✓				✓	3.5
4.5236.xxx	T15	✓		✓	✓	✓		3.5
3.5207.006	T15	✓	✓					3.5
3.5208.000	T15	✓	✓					3.5
3.1221.050	T15	✓	✓					

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LOCKING ELEMENTS

Ti | Ster / Non Ster

5,0 ChM Locked Plating ChLP system

III.2. SCREWS

	3.5200.xxx	✓		✓	✓		3.5
	3.5225.xxx	✓		✓	✓		2.4
	3.1306.xxx	✓			✓		3.5
	3.1220.xxx	✓			✓		2.7
	3.5205.xxx	✓			✓		3.5
	3.5231.xxx	✓		✓		✓	3.9
	3.5207.006	✓		✓			3.5
	3.1289.xxx		✓	✓	✓		3.5
	3.1214.xxx		✓	✓	✓		2.4
	3.1283.xxx		✓		✓		3.5
	3.1290.xxx		✓		✓		3.5
	3.1379.xxx		✓	✓		✓	3.9
	3.1289.006		✓	✓			3.5
	3.1221.050			✓			

Stand for screws 5.0ChLP

40.5748.700

ChM®

LOCKING ELEMENTS

Ster
Non Ster

5.0 ChM Locked Plating ChLPsystem

5.0ChLP SELF-TAPPING SCREW 3.5

Ti

SUGGESTED			
12	3.5200.012	12	3.1289.012
14	3.5200.014	14	3.1289.014
16	3.5200.016	16	3.1289.016
18	3.5200.018	18	3.1289.018
20	3.5200.020	20	3.1289.020
22	3.5200.022	22	3.1289.022
24	3.5200.024	24	3.1289.024
26	3.5200.026	26	3.1289.026
28	3.5200.028	28	3.1289.028
30	3.5200.030	30	3.1289.030
32	3.5200.032	32	3.1289.032
34	3.5200.034	34	3.1289.034
36	3.5200.036	36	3.1289.036
38	3.5200.038	38	3.1289.038
40	3.5200.040	40	3.1289.040
42	3.5200.042	42	3.1289.042
44	3.5200.044	44	3.1289.044
46	3.5200.046	46	3.1289.046
48	3.5200.048	48	3.1289.048
50	3.5200.050	50	3.1289.050
52	3.5200.052	52	3.1289.052
54	3.5200.054	54	3.1289.054
56	3.5200.056	56	3.1289.056
58	3.5200.058	58	3.1289.058
60	3.5200.060	60	3.1289.060
65	3.5200.065	65	3.1289.065
70	3.5200.070	70	3.1289.070
75	3.5200.075	75	3.1289.075
80	3.5200.080	80	3.1289.080
85	3.5200.085	85	3.1289.085

core diameter	2.8	
drill with scale	2.8	40.5653.222
guide sleeve	5.0/2.8	40.5673.728
screwdriver tip	S2.5	40.5676.000
screwdriver tip	T15	40.5677.000

4.5ChLP SCREW 2.4

Ti

SUGGESTED			
10	3.5225.010	10	3.1214.010
12	3.5225.012	12	3.1214.012
14	3.5225.014	14	3.1214.014
16	3.5225.016	16	3.1214.016
18	3.5225.018	18	3.1214.018
20	3.5225.020	20	3.1214.020
22	3.5225.022	22	3.1214.022
24	3.5225.024	24	3.1214.024
26	3.5225.026	26	3.1214.026
28	3.5225.028	28	3.1214.028
30	3.5225.030	30	3.1214.030
32	3.5225.032	32	3.1214.032
34	3.5225.034	34	3.1214.034
36	3.5225.036	36	3.1214.036
38	3.5225.038	38	3.1214.038
40	3.5225.040	40	3.1214.040

core diameter	1.8	
drill	1.8	40.2063.222
guide sleeve	5.0/1.8	40.5673.718
screwdriver tip	2.5	40.5676.000
screwdriver tip	T15	40.5677.000

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ChM®

LOCKING ELEMENTS

Ster
Non Ster

5,0 ChM Locked Plating ChLPsystem

CORTICAL SELF-TAPPING SCREW 3.5

Ti

SUGGESTED

12	3.1306.012	12	3.1283.012
14	3.1306.014	14	3.1283.014
16	3.1306.016	16	3.1283.016
18	3.1306.018	18	3.1283.018
20	3.1306.020	20	3.1283.020
22	3.1306.022	22	3.1283.022
24	3.1306.024	24	3.1283.024
26	3.1306.026	26	3.1283.026
28	3.1306.028	28	3.1283.028
30	3.1306.030	30	3.1283.030
32	3.1306.032	32	3.1283.032
34	3.1306.034	34	3.1283.034
36	3.1306.036	36	3.1283.036
38	3.1306.038	38	3.1283.038
40	3.1306.040	40	3.1283.040
45	3.1306.045	45	3.1283.045
50	3.1306.050	50	3.1283.050
55	3.1306.055	55	3.1283.055
60	3.1306.060	60	3.1283.060
65	3.1306.065	65	3.1283.065
70	3.1306.070	70	3.1283.070
75	3.1306.075	75	3.1283.075
80	3.1306.080	80	3.1283.080
85	3.1306.085	85	3.1283.085

CORTICAL SELF-TAPPING SCREW 2.7

Ti

10	3.1220.010
12	3.1220.012
14	3.1220.014
16	3.1220.016
18	3.1220.018
20	3.1220.020
22	3.1220.022
24	3.1220.024
26	3.1220.026
28	3.1220.028
30	3.1220.030
32	3.1220.032
34	3.1220.034
36	3.1220.036
38	3.1220.038
40	3.1220.040

core diameter	2.4	
drill with scale	2.5	40.5912.222
compression guide	2.5/2.8	40.4804.700
screwdriver tip	S2.5	40.5676.000
screwdriver tip	T15	40.5677.000

core diameter	1.8	
drill	1.8	40.2063.181
compression guide	1.8	40.4897.018
star screwdriver	T8	40.0669.000

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LOCKING ELEMENTS

Ster
Non Ster

5,0 ChM Locked Plating ChLP system

5.0ChLP CONICAL SELF-TAPPING SCREW 3.5

Ti

SUGGESTED			
18	3.5205.018	18	3.1290.018
20	3.5205.020	20	3.1290.020
22	3.5205.022	22	3.1290.022
24	3.5205.024	24	3.1290.024
26	3.5205.026	26	3.1290.026
28	3.5205.028	28	3.1290.028
30	3.5205.030	30	3.1290.030
35	3.5205.035	35	3.1290.035
40	3.5205.040	40	3.1290.040
45	3.5205.045	45	3.1290.045
50	3.5205.050	50	3.1290.050
55	3.5205.055	55	3.1290.055
60	3.5205.060	60	3.1290.060
65	3.5205.065	65	3.1290.065
70	3.5205.070	70	3.1290.070
75	3.5205.075	75	3.1290.075
80	3.5205.080	80	3.1290.080
85	3.5205.085	85	3.1290.085
90	3.5205.090	90	3.1290.090

core diameter	2.8	
drill with scale	2.8	40.5653.222
guide sleeve	5.0/2.8	40.5673.728
screwdriver tip	S2.5	40.5676.000
screwdriver tip	T15	40.5677.000

5.0ChLP CANCELLOUS SCREW 3.9

Ti

SUGGESTED			
35	3.5231.035	35	3.1379.035
40	3.5231.040	40	3.1379.040
45	3.5231.045	45	3.1379.045
50	3.5231.050	50	3.1379.050
55	3.5231.055	55	3.1379.055
60	3.5231.060	60	3.1379.060
65	3.5231.065	65	3.1379.065
70	3.5231.070	70	3.1379.070
75	3.5231.075	75	3.1379.075
80	3.5231.080	80	3.1379.080

core diameter	2.5	
drill with scale	2.5	40.5912.222
guide sleeve	2.5	40.5673.725
screwdriver tip	S2.5	40.5676.000
screwdriver tip	T15	40.5677.000

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LOCKING ELEMENTS

Ster
Non Ster

5,0 ChM Locked Plating ChLPsystem

5.0ChLP RESISTANCE SCREW

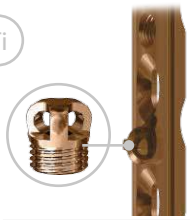
Ti

6	3.5207.006

6	3.1289.006

5.0ChLP CERCLAGE SCREW

Ti



3.1221.050

* Wire diameter max. 1.5 mm

40.5748.600

PALETTES FOR IMPLANTS

Name		Catalogue no.	Pcs,	
Palette for 5.0ChLP reconstruction plates;				
	Palette	40.5758.100	1	40.5758.600
	Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	
	Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	
implants not included;				
Palette for 5.0ChLP 3.4025÷3.4030;				
	Palette	40.5758.150	1	40.5758.650
	Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	
	Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	
implants not included;				
Palette for 5.0ChLP plates - 3.7014/3.7015;				
	Palette	40.5758.130	1	40.5758.630
	Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	
	Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	
implants not included;				
Palette for 5.0ChLP plates - 3.7048/3.7049;				
	Palette	40.5758.140	1	40.5758.640
	Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	
	Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	
implants not included;				
Palette for 5.0ChLP plates - straight;				
	Palette	40.5758.050	1	40.5758.550
	Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	
	Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	
implants not included;				

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PALETTES FOR IMPLANTS

5,0 ChM Locked Plating ChLPsystem

Palette for 5.0ChLP plates - 3.4011/3.4012;

Palette	40.5758.020	1	40.5758.520
Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	
Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	

implants not included;

3.7091/3.7092
Palette for 5.0ChLP plates - 3.7091/3.7092
3.7091/3.7092

Aiming block [3.7091]	40.8223.000	1	40.6294.000
Aiming block [3.7092]	40.8222.000	1	
Protective guide 7/5	40.5672.000	2	
Palette	40.6295.000	1	
Container with solid bottom 1/2 306x272x85mm	12.0751.102	1	
Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	

implants not included, with additional instruments;

Palette for 5.0ChLP plates - 3.7029/3.7030;

Palette	40.5758.190	1	40.5758.690
Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	
Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	

implants not included;

Palette for 5.0ChLP plates - 3.4033;

Palette	40.5758.060	1	40.5758.560
Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	
Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	

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PALETTES FOR IMPLANTS

5.0 ChM Locked Plating ChLPsystem

implants not included;

Palette for 5.0ChLP plates - 3.4039/3.4040;

	Aiming block [3.4039]	40.5726.100	1	40.5758.070
	Aiming block [3.4040]	40.5726.200	1	
	Protective guide 7/5	40.5672.000	2	
	Palette	40.5758.270	1	
	Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	40.5758.570
	Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	

implants not included, with additional instruments;

Palette for 5.0ChLP plates - 3.4051/3.4052;

	Aiming block L [3.4051]	40.5723.100	1	40.5758.080
	Aiming block R [3.4052]	40.5723.200	1	
	Protective guide 7/5	40.5672.000	2	
	Palette	40.5758.280	1	
	Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	40.5758.580
	Perforated aluminum cover1/2 306x272x15mm Gray	12.0751.200	1	

implants not included, with additional instruments;

Palette for 5.0ChLP plates - 3.4034;

	Aiming block	40.5671.000	1	40.5758.010
	Protective guide 7/5	40.5672.000	2	
	Palette	40.5758.210	1	
	Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	40.5758.510
	Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	

implants not included, with additional instruments;

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PALETTES FOR IMPLANTS

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Palette for 5.0ChLP plates - 3.4097/3.4098;

	Aiming block L [3.4097]	40.5731.100	1	40.5758.120
	Aiming block R [3.4098]	40.5731.200	1	
	Protective guide 7/5	40.5672.000	2	
	Palette	40.5758.320	1	
	Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	40.5758.620
	Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	

implants not included, with additional instruments;

Palette for 5.0ChLP plates

	Aiming block [3.7037]	40.8211.000	1	40.6291.000
	Aiming block [3.7039]	40.8213.000	1	
	Aiming block [3.7041]	40.8215.000	1	
	Aiming block [3.7071]	40.8217.000	1	
	Aiming block [3.7073]	40.8219.000	1	
	Aiming block [3.7036]	40.8210.000	1	
	Aiming block [3.7038]	40.8212.000	1	
	Aiming block [3.7040]	40.8214.000	1	
	Aiming block [3.7072]	40.8216.000	1	
	Aiming block [3.7074]	40.8218.000	1	
	Protective guide 7/5	40.5672.000	2	
	Palette	40.6291.100	1	
	Palette	40.6291.200	1	
	Container with solid bottom 1/2 306x272x135mm	12.0751.102	1	
	Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	

implants not included, with additional instruments;

Palette for 5.0ChLP plates - 3.7000-3.7003;

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PALETTES FOR IMPLANTS

5,0 ChM Locked Plating ChLPsystem

Aiming block L [3.7003]	40.5729.100	1	40.5758.110	40.5758.610
Aiming block R [3.7002]	40.5729.200	1		
Aiming block L [3.7001]	40.5728.100	1		
Aiming block R [3.7000]	40.5728.200	1		
Protective guide 7/5	40.5672.000	2		
Palette	40.5758.310	1		
Container with solid bottom 1/2 306x272x85mm	12.0751.100	1		
Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1		

implants not included, with additional instruments;

Palette for 5.0ChLP plates - 3.7033-3.7035;

Palette	40.5758.160	1	40.5758.660
Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	
Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	

implants not included;

Palette for 5.0ChLP plates - 3.7067/3.7068

Aiming block L [3.7067]	40.5742.100	1	40.6269.000
Aiming block R [3.7068]	40.5742.200	1	
Palette	40.6268.000	1	
Container with solid bottom 1/2 306x272x85mm	12.0751.100	1	
Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	

implants not included; with additional instruments;

Stand for screws 5.0ChLP;

Stand for screws 5.0ChLP	40.5748.600	1	40.5748.700
Container with solid bottom 1/2 306x272x135mm	12.0751.102	1	
Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	

implants not included;

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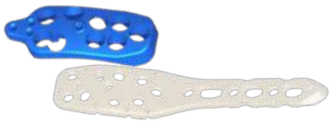
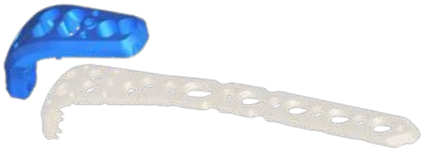
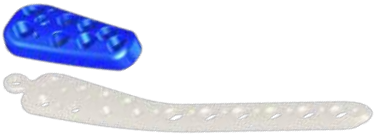
III.3. INSTRUMENTS FOR 5.0CHLP PLATE

A. Universal instrument set

40.5667.700	Name	Pcs	Catalogue No.
	Guide sleeve 5.0/1.5	2	40.5673.715
	Guide sleeve 5.0/1.8	2	40.5673.718
	Guide sleeve 5.0/2.5	2	40.5673.725
	Guide sleeve 5.0/2.8	4	40.5673.728
	Compression guide 2.5/2.8	1	40.4804.700
	Drill 1.8/220	2	40.2063.222
	Drill with scale 2.5/220	2	40.5912.222
	Drill with scale 2.8/220	2	40.5653.222
	Kirschner wire 1,5/220	4	40.4592.220
	Kirschner wire2.0/220	2	40.4815.220
	Setting-compressing screw 2.8/180	2	40.5674.728
	Screw length measure	1	40.5675.100
	Depth measure	1	40.4639.500
	Screwdriver tip S2.5	1	40.5676.000
	Screwdriver tip T15	1	40.5677.000
	Torque limiting ratchet handle 2Nm	1	40.6652.000
	Bender for plates 4/6	2	40.4250.000
	Hexagonal screwdriver S2.5	1	40.0321.000
	Star screwdriver T15	1	40.0670.000
	Cortical tap HA 3.5 with handle	1	40.2548.000
	Tap 5.0ChLP - 3.5	1	40.5661.000
	Screwdriver	1	40.4746.000
	Stand for instrument set of 5.0ChLP plate	1	40.5668.700
	Container with solid bottom 1/1 595x275x86mm	1	12.0750.100
	Perforated aluminum lid 1/1 595x275x15mm gray	1	12.0750.200

B. Additional instruments

Instruments not included in the instrument set **[40.5667.700]**

	Name	Pcs	Catalogue No.
	Protective guide 7.0/5.0	2	**40.5672.000**
	Aiming block **[3.4034]**	1	**40.5671.000**
	Aiming block L **[3.7003]**	1	**40.5729.100**
	Aiming block R **[3.7002]**	1	**40.5729.200**
	Aiming block L **[3.7001]**	1	**40.5728.100**
	Aiming block R **[3.7000]**	1	**40.5728.200**
	Aiming block L **[3.4097]**	1	**40.5731.100**
	Aiming block R **[3.4098]**	1	**40.5731.200**
	Aiming block L **[3.4039]**	1	**40.5726.100**
	Aiming block R **[3.4040]**	1	**40.5726.200**
	Aiming block L **[3.4051]**	1	**40.5723.100**
	Aiming block R **[3.4052]**	1	**40.5723.200**
	Aiming block L **[3.7067]**	1	**40.5742.100**
	Aiming block R **[3.7068]**	1	**40.5742.200**

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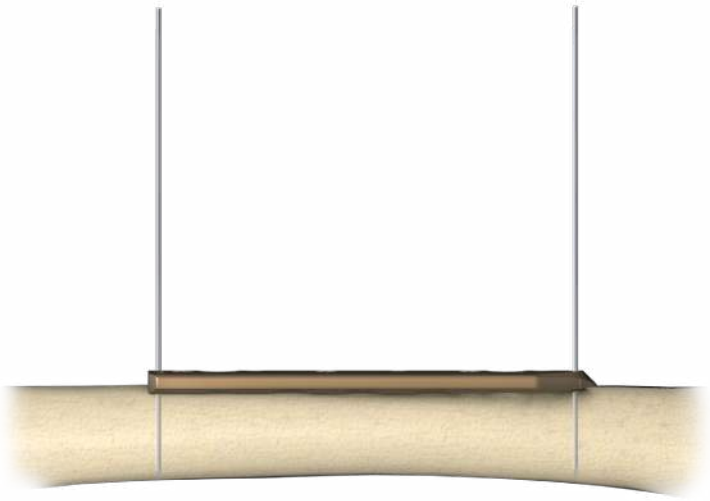
IV. SURGICAL TECHNIQUE

IV.1. TEMPORARY PLATE ATTACHMENT

40.4815.220

When fracture is reduced and the plate position is confirmed, determine its temporary location using Kirschner wires 2.0 **[40.4815.220]**.
Wires can be inserted in proximal holes of the plate and the most distal ones.

Confirm the plate position is correct taking X-Ray image.



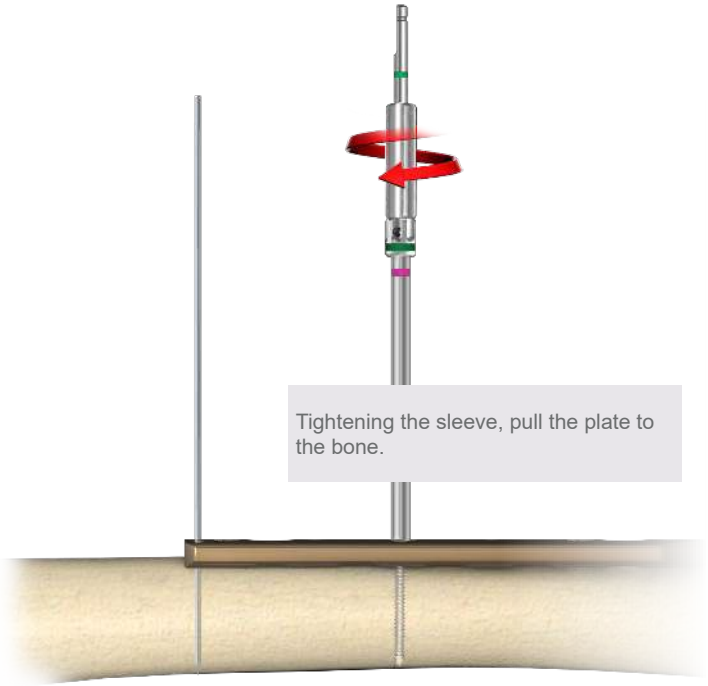
40.5674.728

40.5673.728

The Setting-compressing screw 2.8/180 **[40.5674.728]** can be used to stabilize and tighten the plate up to the bone for temporary purposes. The screw is to be inserted via the Guide sleeve 5.0/2.8 **[40.5673.728]**.

Locking screw Ø3.5 can be inserted in the hole after removal of the Setting-compressing screw 2.8/180.

Insert self drilling pin of setting-compressing screw.



Tightening the sleeve, pull the plate to the bone.

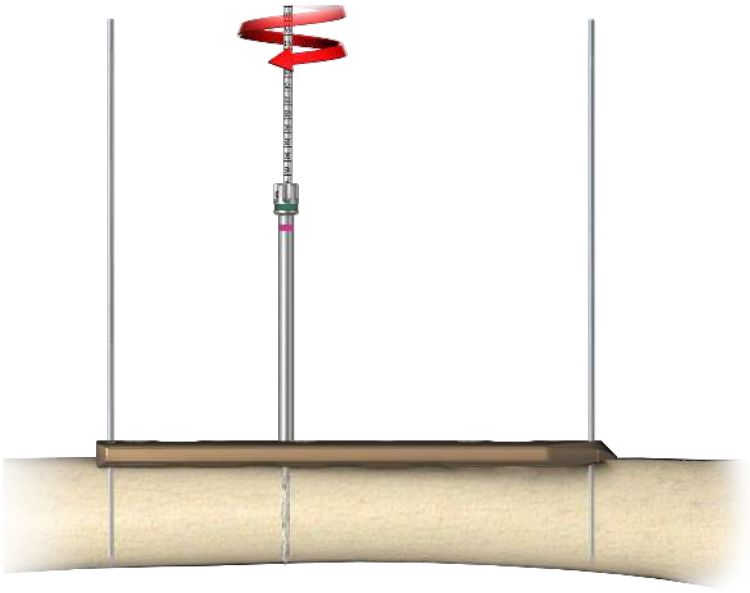
IV.2. LOCKING SCREW Ø3.5 INSERTION

It is important to drill exactly in the axis of a locking hole. Use always the appropriate guide sleeve when drilling. The guide sleeve will ensure the locking screw take an axial position towards the hole of the plate and be correctly locked in the plate. Unprepared drilling of a hole can lead to: thread skewing and jamming the screw, incorrect screw locking and problems when removing the screws *(thread seizure)*.

Guide sleeve screwing.


40.5673.728

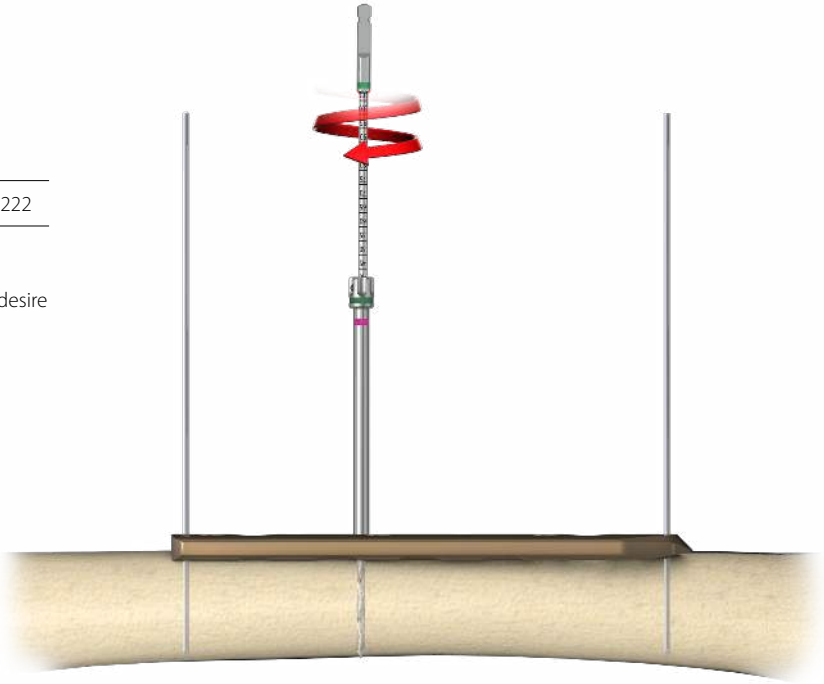
Insert the Guide sleeve 5.0/2.8 **[40.5673.728]** into the plate.



Drilling the hole


40.5653.222

Ream the hole using the Drill with scale 2.8/220 **[40.5653.222]** until the desire depth is reached.



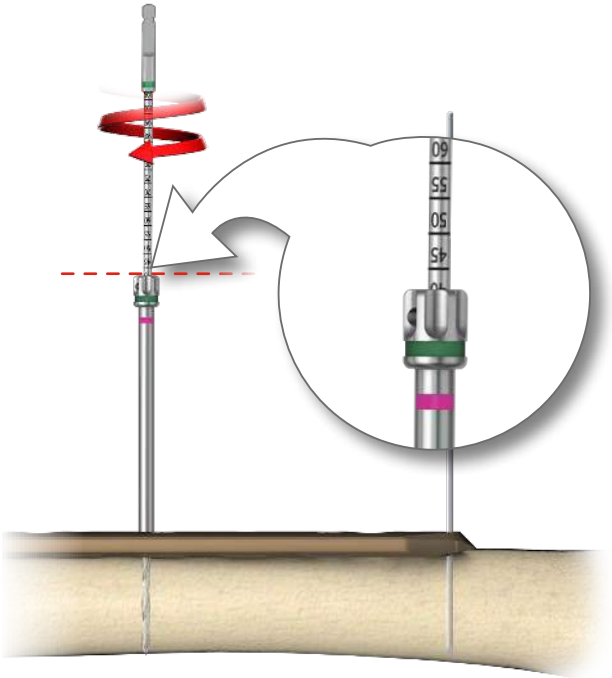
Hole depth measurement

OPTION I


40.5673.728


40.5653.222

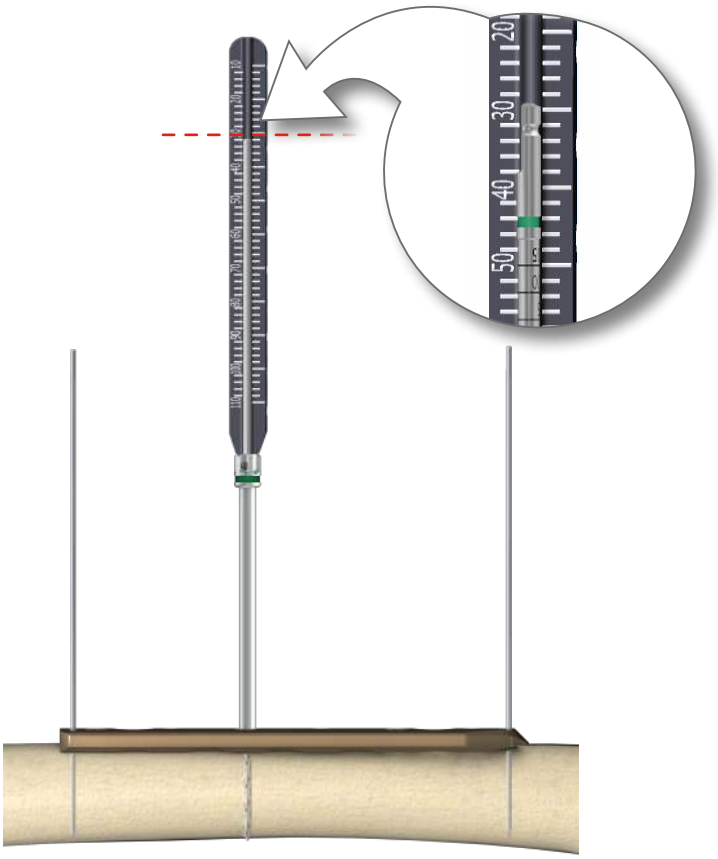
Read the value on the Drill with scale **[40.5653.222]** or



OPTION II

	40.5673.728
	40.5653.222
	40.5675.100

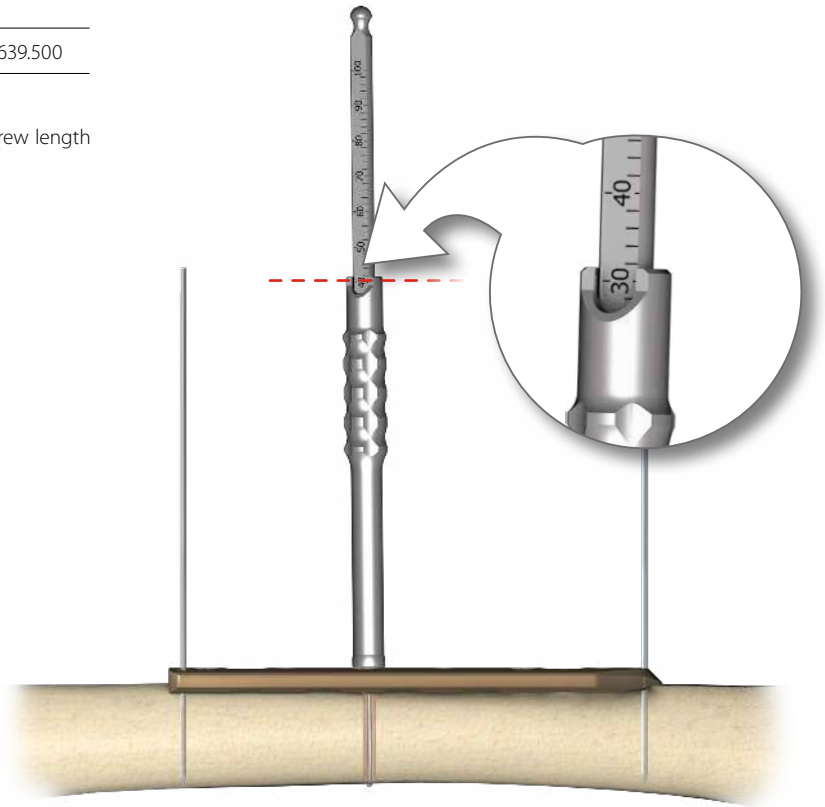
use the Screw length measure **[40.5675.100]**.



OPTION III

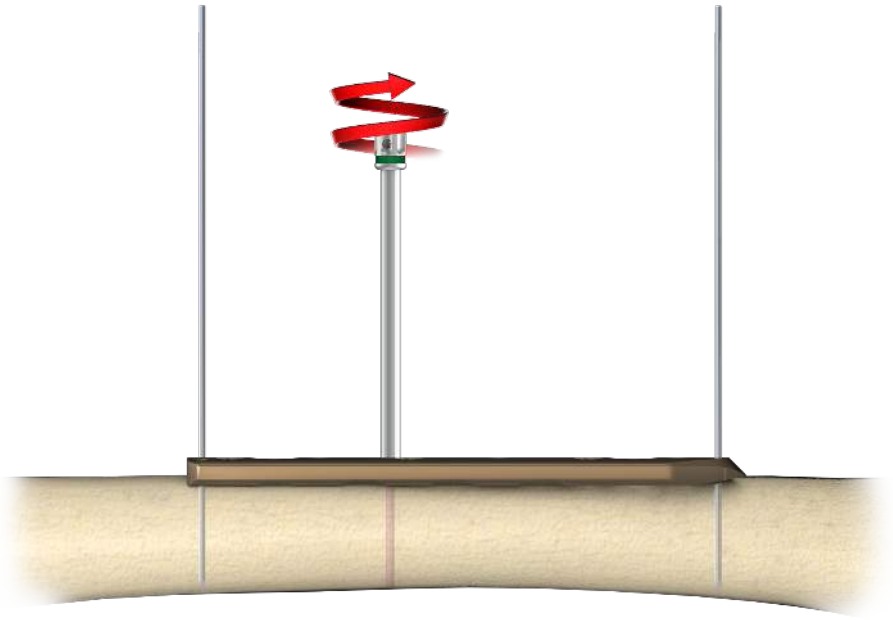
	40.4639.500

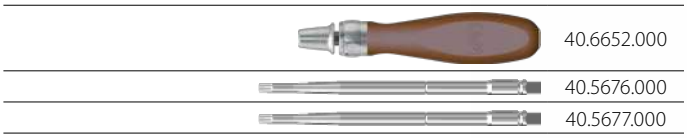
Unscrew the Guide sleeve 5.0/2.8 **[40.5673.728]** and define the screw length using the Depth measure **[40.4639.500]**.



Screw insertion

Remove the Guide sleeve 5.0/2.8 **[40.5673.728]**.



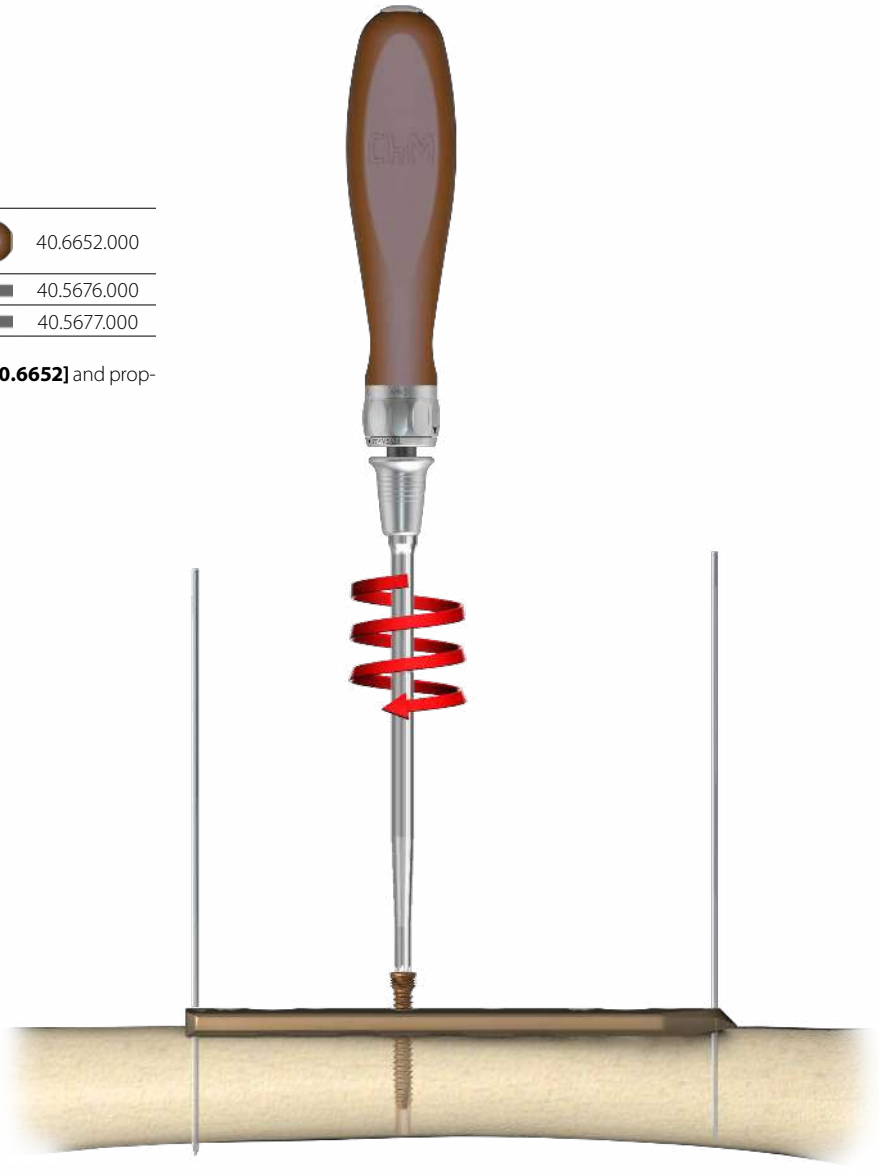


40.6652.000

40.5676.000

40.5677.000

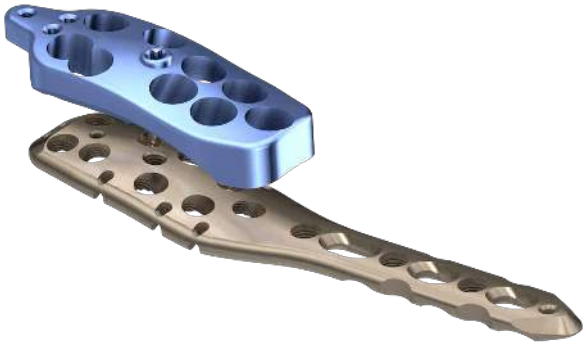
Insert the locking screw Ø3.5 using the Torque handle 2.0Nm **[40.6652]** and proper screwdriver tip.



IV.3. THE USE OF AIMING BLOCK

Most locking plates ChLP are available with aiming blocks, as additional complementary instruments. Using aiming blocks ensures proper fastening of guide sleeves into the locking holes, in the epiphyseal part of the plate. It facilitates also the smooth conduct of the procedure, reduces its duration, and ensures that drilling is performed in the axis of the locking hole *(note from point IV.2)*.

When aiming blocks are not used, the implantation can be incorrect. Improperly locked screws can cause complications when removing the plates.

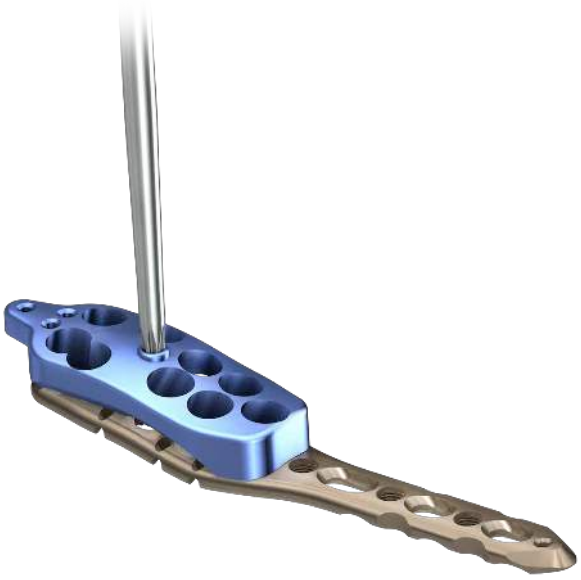


40.5671.000

40.0670.000

Position the aiming block on the plate.

Tighten up with the Star screwdriver **[40.0670.000]**.



40.5672.000

40.5673.728

Insert Protective sleeve 7.0 / 5.0 **[40.5672.000]** in the desired hole of the Aiming block **[40.5671.000]**.

Then screw in the plate the Guide sleeve 5.0/2.8 **[40.5673.728]** through the Protective sleeve 7.0/5.0.

Further proceedings in accordance with the steps described in the point IV.2 on page 60.

IV.4. CORTICAL SCREW Ø3.5 INSERTION

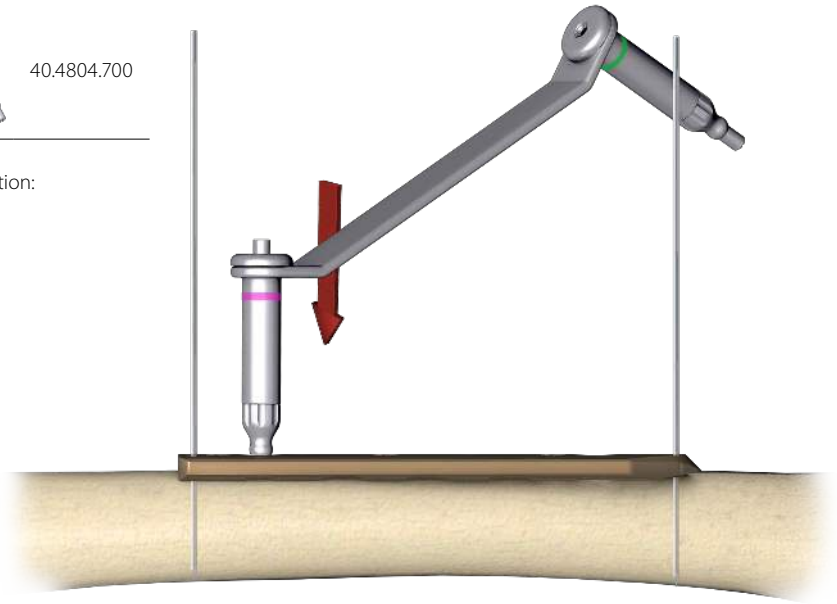
Compression guide setting

40.4804.700

Set the Compression guide 2.5/2.8 [40.4804.700] in desire position:

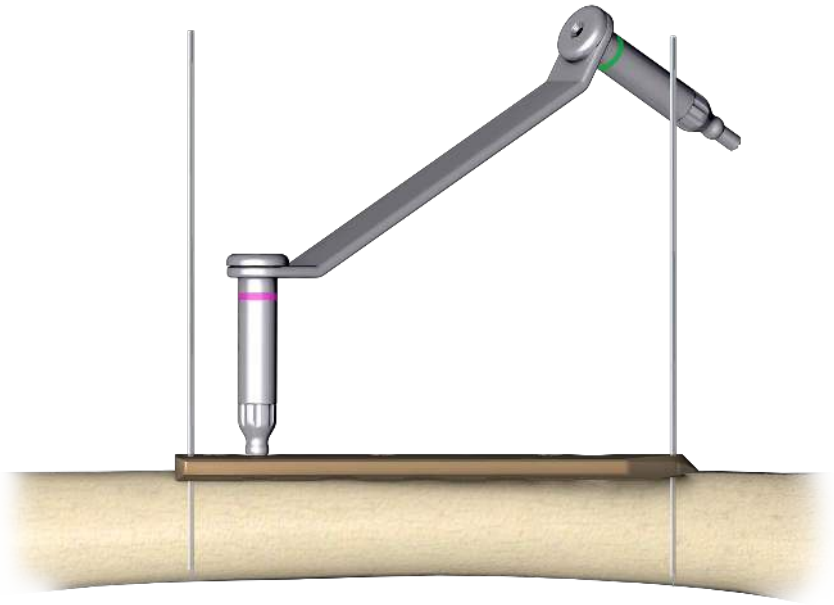
a. Neutral position

Press the guide to the plate to achieve the neutral position for screw insertion.



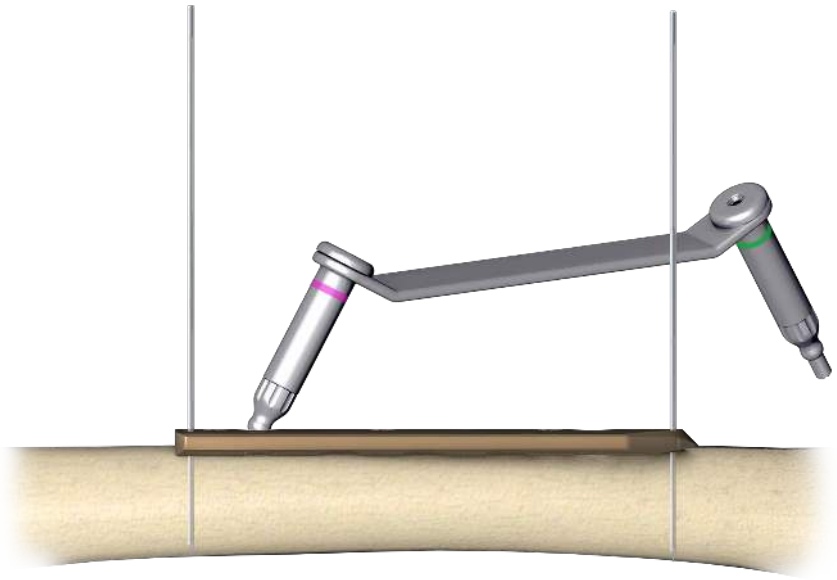
b. Compressive position

Move the guide without pressure to the edge of compression hole to achieve the compression position for screw insertion.



c. Angular position

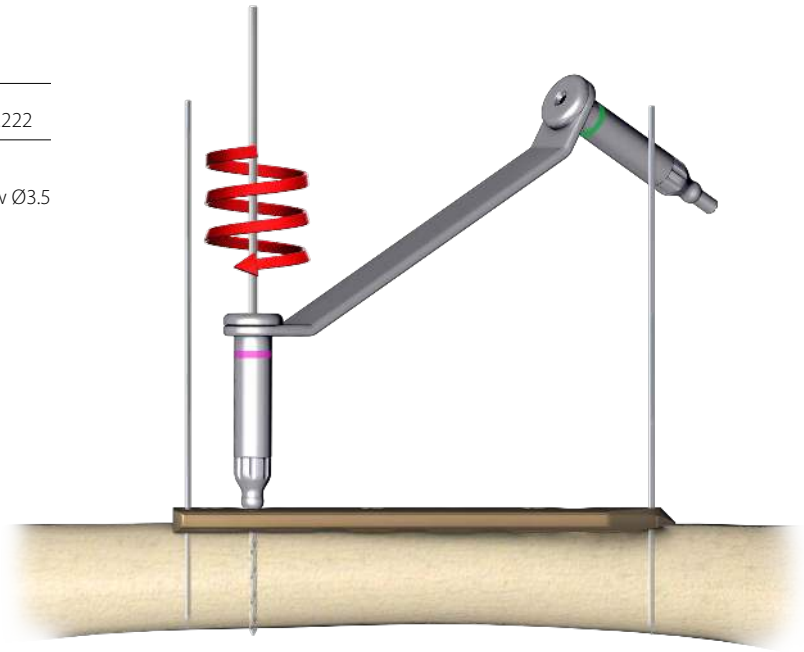
Angular positioning of the guide is also available.



Drilling


40.5912.222

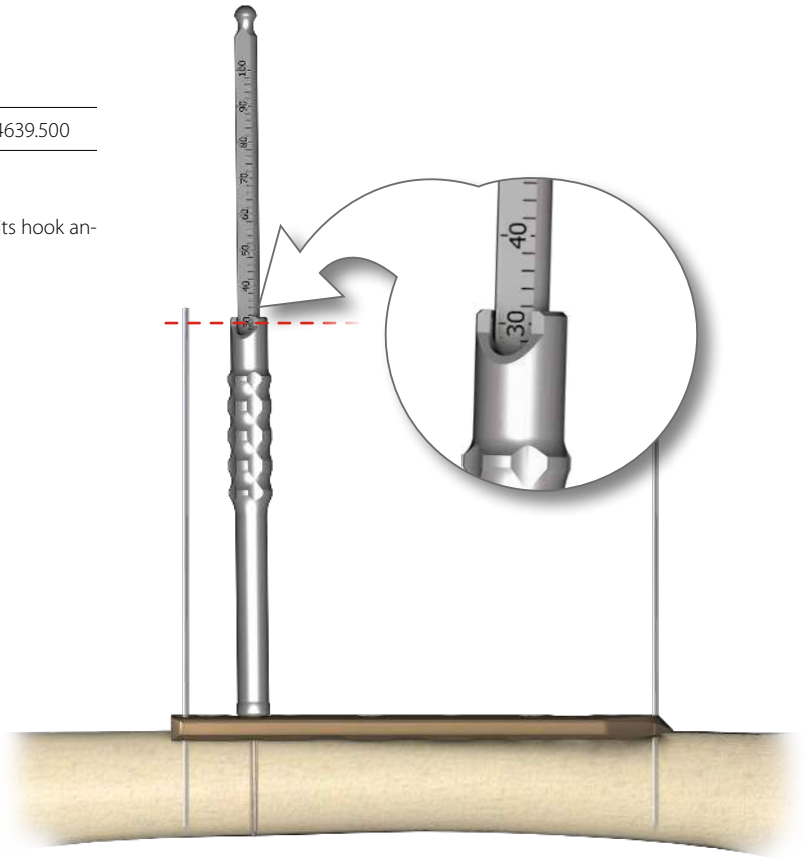
Drill the hole through both cortices in desire position for the Cortical screw Ø3.5 insertion using the Drill Ø2.5/220 **[40.5912.222]**.



Hole depth measurement


40.4639.500

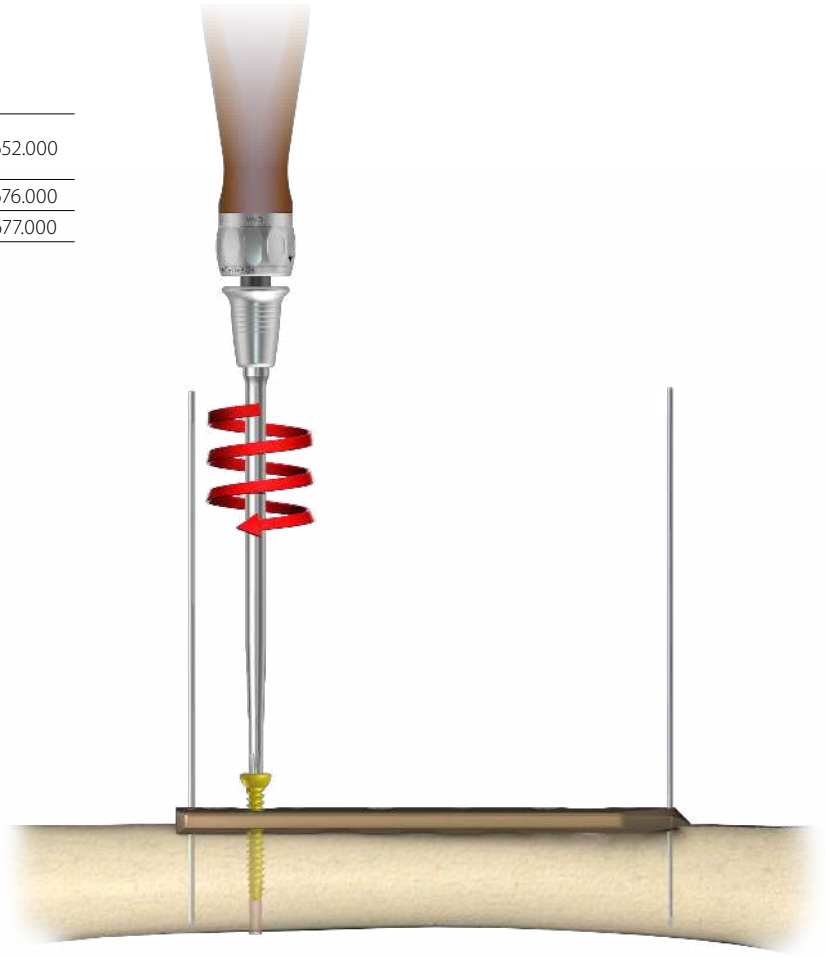
Insert the Depth measure **[40.4639.500]** into the drilled hole until its hook anchors the outer surface of the opposite cortex



Screw insertion

	40.6652.000
	40.5676.000
	40.5677.000

Insert cortical screw Ø3.5.



V. POSTOPERATIVE TREATMENT

Postoperative treatment after locking plates does not differ from treatment after conventional stabilization.

VI. IMPLANT REMOVAL

In order to remove the screws, first unlock all locking screws from the plate. Then remove bone screws. This prevents the rotation of the plate while removing the last locking screw.

After removing the tissues from the outer surface of plate and screws recesses, it is recommended to apply aiming block to the plate *(see point. IV.3)*. The use of a protective guide will ensure that: the screwdriver is positioned in the screw axis, the device is correctly placed in the screw recess and that the risk of twisting the recess while removing the screw is reduced.

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