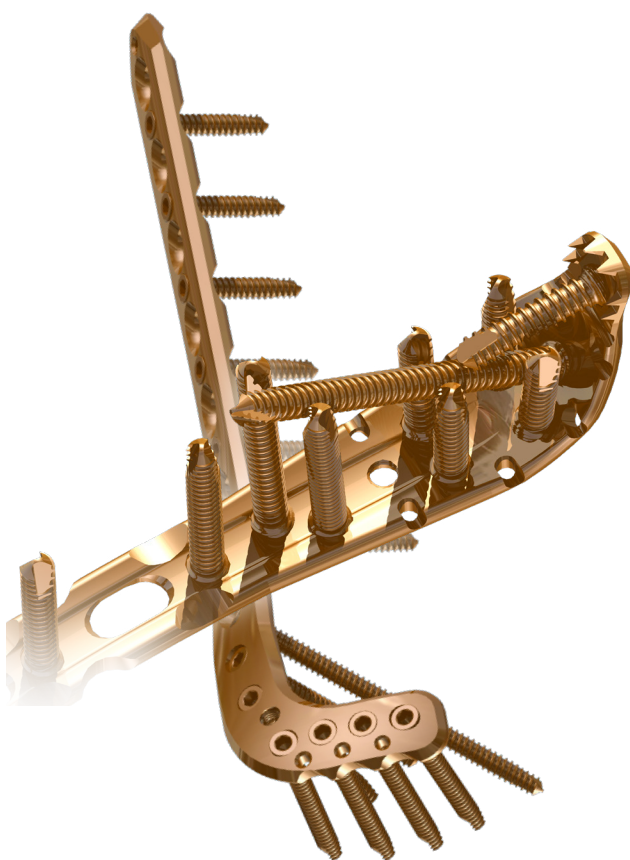




LOCKING PLATES 5.0ChLP

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



SYMBOLS DESCRIPTION

	Titanium or titanium alloy		H length [mm]
	Cobalt		Angle
	Left		available lengths
	Right		Available number of holes
	Available versions: left/right		Thickness [mm]
	Length		Scale 1:1
	Torx drive		Number of threaded holes in the shaft part of the plate
	Torx drive cannulated		Number of locking holes in the plate
	Hexagonal drive		Variable angle
	Hexagonal drive cannulated		Cortical
	Cannulated		Cancellous
	Locking		Available in sterile/ non- sterile condition
	Diameter [mm]		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.		

www.chm.eu

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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

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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.

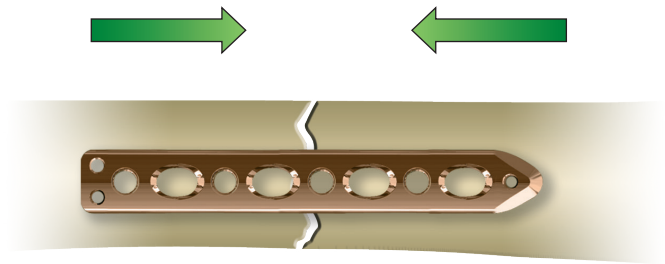
System **ChLP** consists of titanium plates and screws combining locking screws technique with conventional treatment techniques using plates. This system is the improvement of existing stabilization methods. Locking screws system enables angular fixation using conventional surgical techniques. It is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

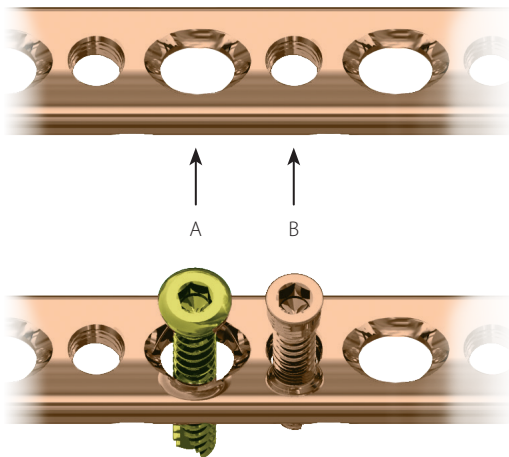
ChLP System was divided as follows:

- 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 possibility 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

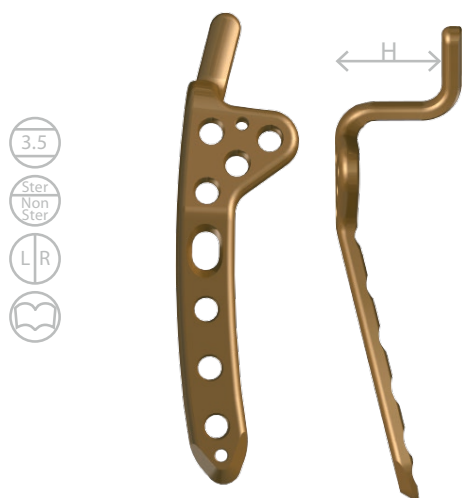
5.0 locking plate system is designed to stabilize the fracture, osteotomy, and is indicated in the case of non-union of fractured bone, such as:

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

5.0ChLP CLAVICULAR PLATE WITH HOOK

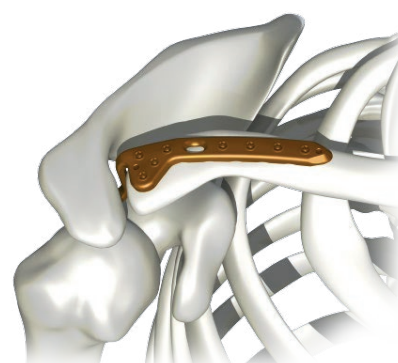
III. CATALOGUE PAGES

III.1. PLATES

5.0 ChM Locked Plating
ChLP system

			Ti	
	H		L	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

Indications

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

Contraindications

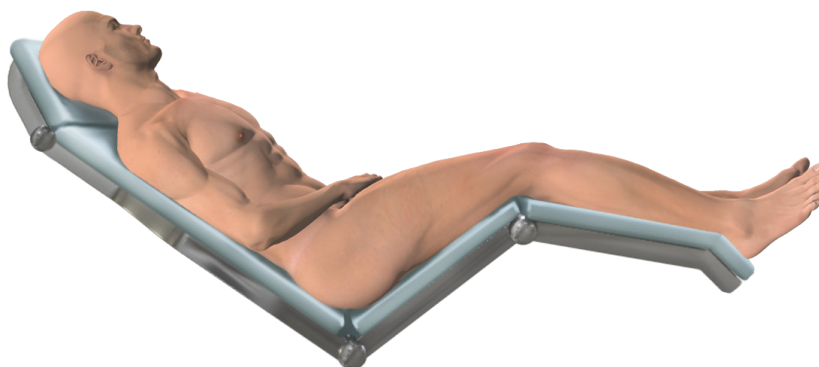
Absolute:

- 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.

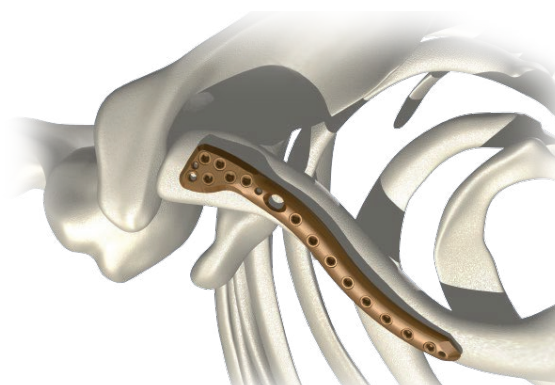
Dislocation of the acromioclavicular joint

- 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-cap-sularis reconstruction indicated.
- The installation of locking and/or compression screws.



			Ti	
	Len	L		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

Indications

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

Contraindications

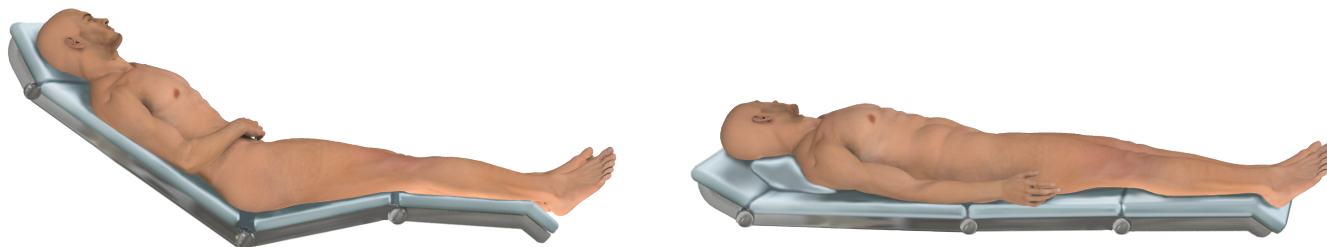
Absolute:

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

Relative:

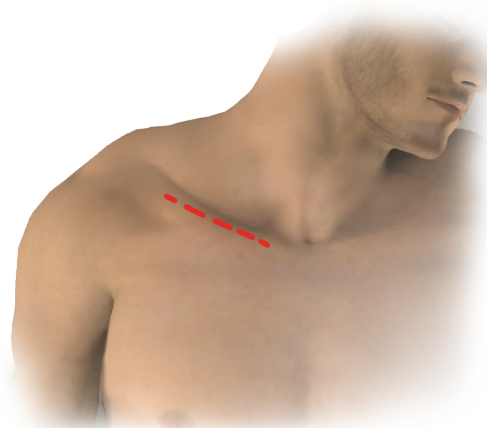
- Significant weakening of the bone making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area or surgical site.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create 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.

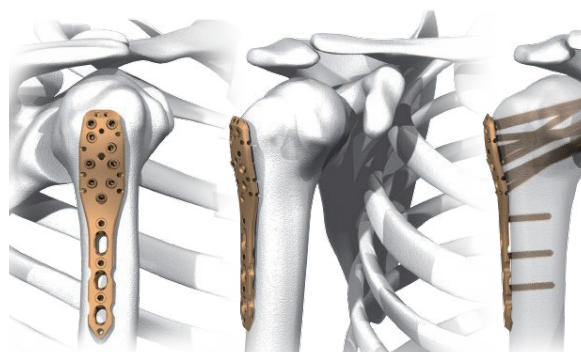
Procedure stages

- 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.



	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

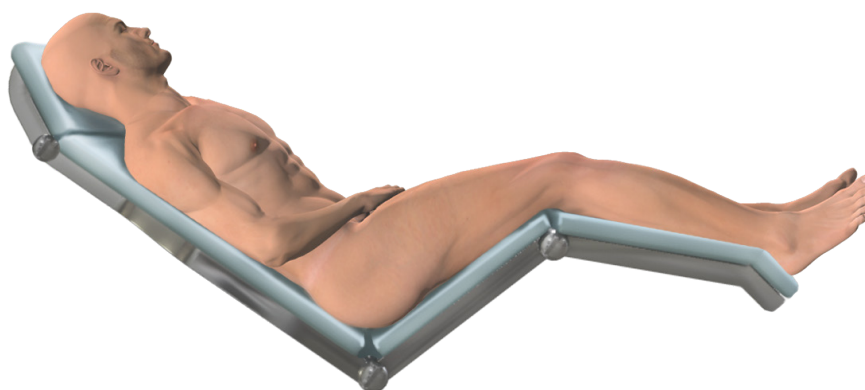
Indications

- 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

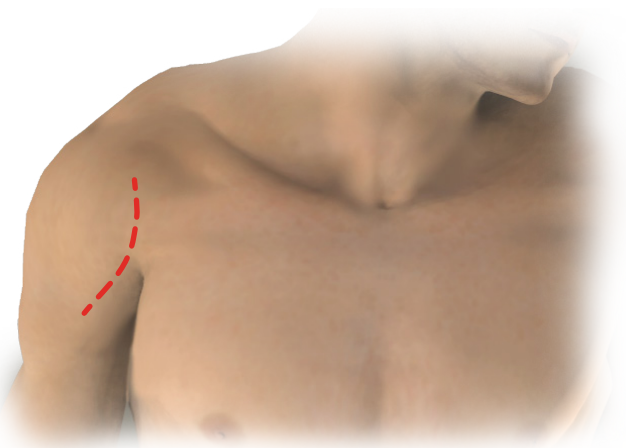
- Abnormal perfusion of fracture area or surgical site.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create a risk of fusion failure or complications in the postoperative period.
- Other medical conditions that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

The patient's position



Beach-chair or lying on the back position.

Surgical approach



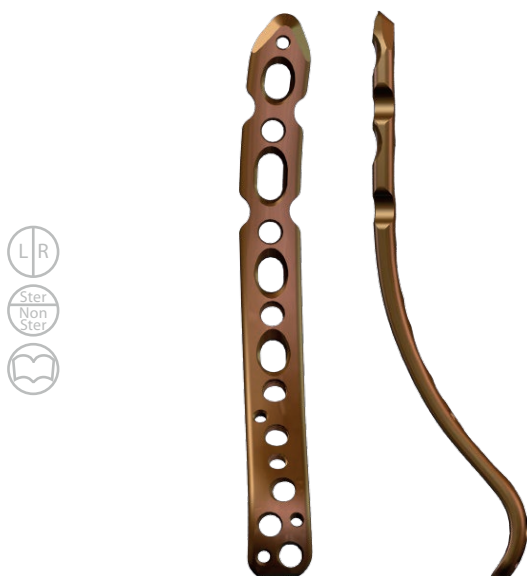
The deltopectoral approach is intended.

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.

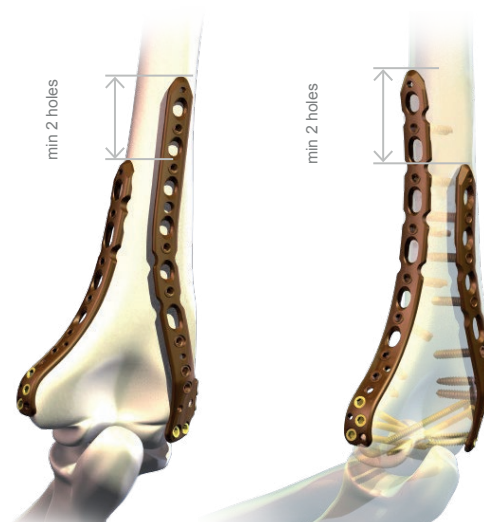


5.0ChLP DISTAL MEDIAL HUMERUS PLATE



	 	 	
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

Aiming block R [3.7000]

40.5728.200



Plate 3.7000.504 trial

43.7000,504

Plate 3.7001.504 trial

43.7001.504

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

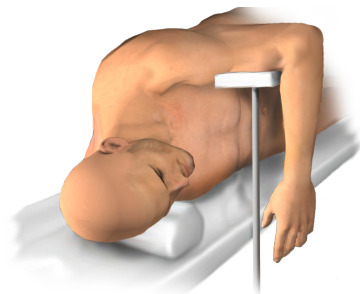
Absolute:

- 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.

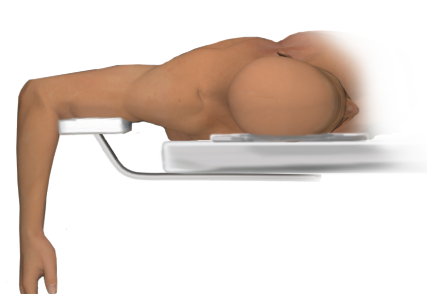
The patient's position



Lateral lying position



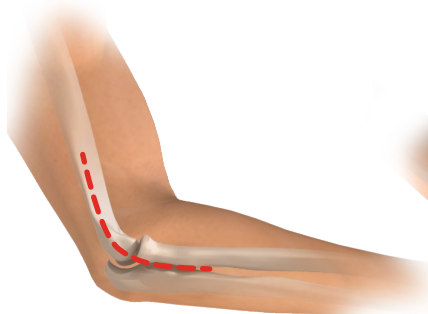
Lying on the back position



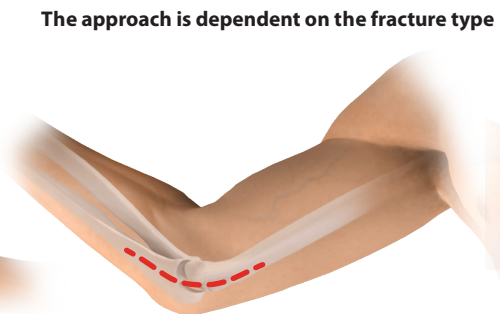
Lying on the stomach position

Surgical approach

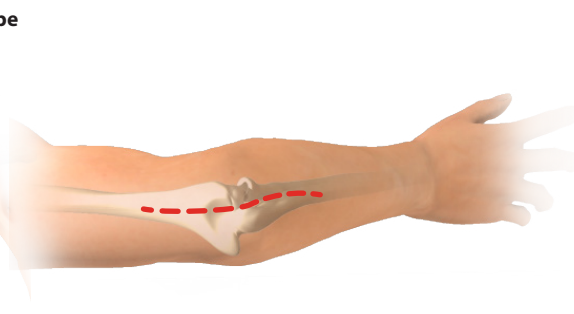
The approach is dependent on the fracture type



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.

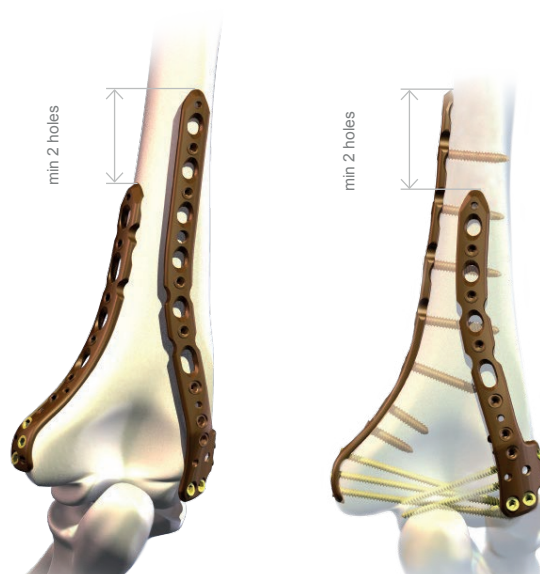
Procedure stages

- 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.



	 	 	
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

Aiming block R [3.7002]

40.5729.200



Plate 3.7003.504 trial

43.7003.504

Plate 3.7002.504 trial

43.7002.504

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

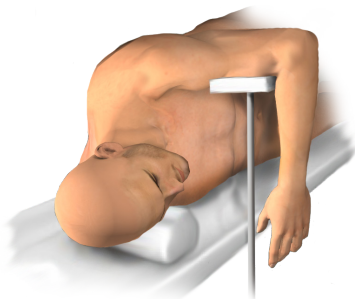
Absolute:

- 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.

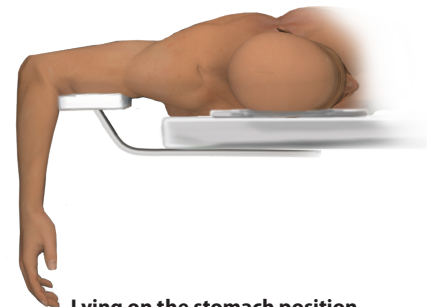
The patient's position



Lateral lying position



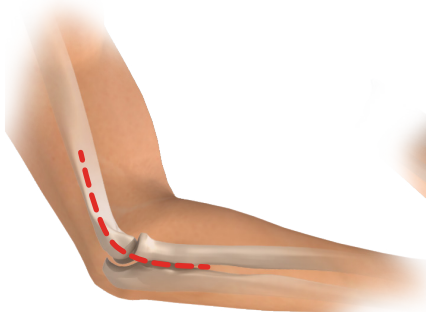
Lying on the back position



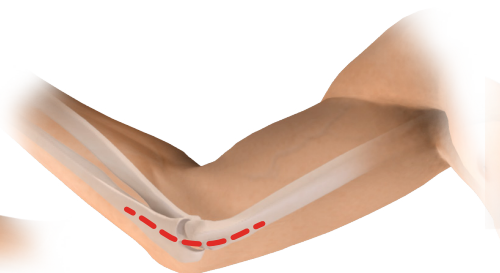
Lying on the stomach position

Surgical approach

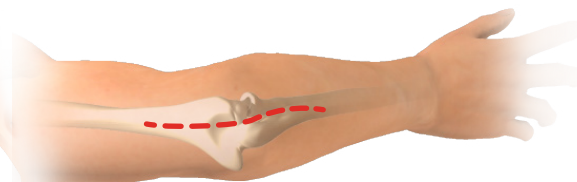
The approach is dependent on the fracture type



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

5.0 ChM Locked Plating
ChLPsystem

			Ti
	Len	L	R
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	✓	✓			



Palette for 5.0ChLP plates

40.6291.000

Aiming block R [3.7036]

40.8210.000

Aiming block L [3.7037]

40.8211.000

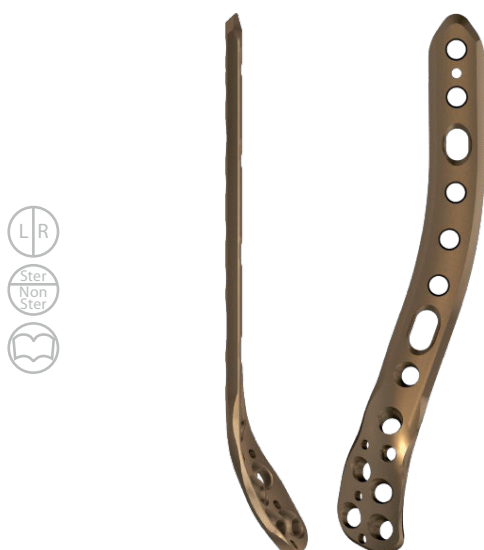
Plate 3.7036.606 trial

43.7036.606

Plate 3.7037.606 trial

43.7037.606



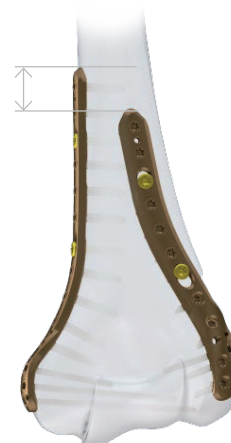


			Ti	
		Len	L	R
	4	75	3.7039.604	3.7038.604
	6	94	3.7039.606	3.7038.606
	8	113	3.7039.608	3.7038.608
	10	131	3.7039.610	3.7038.610
	12	150	3.7039.612	3.7038.612

* 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	✓	✓			

min 2 holes



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

Aiming block L [3.7039]

40.8213.000



Plate 3.7038.606 trial

43.7038.606

Plate 3.7039.606 trial

43.7039.606



			Ti
	Len	L	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	✓	✓			



Palette for 5.0ChLP plates

40.6291.000

Aiming block R [3.7040]

40.8214.000

Aiming block L [3.7041]

40.8215.000

Plate 3.7040.606 trial

43.7040.606

Plate 3.7041.606 trial

43.7041.606

5.0ChLP DISTAL MEDIAL HUMERUS PLATE

5.0 ChM Locked Plating
ChLPsystem

		Ti	
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						min 2 holes
	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

40.6291.000



Aiming block L [3.7071]

40.8217.000

Aiming block R [3.7072]

40.8216.000



Plate 3.7071.606 trial

43.7071.606

Plate 3.7072.606 trial

43.7072.606

5.0ChLP DISTAL DORSOLATERAL HUMERUS PLATE

5.0 ChM Locked Plating
ChLPsystem

			Ti
	*	Len	
		L	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	✓	✓			



Palette for 5.0ChLP plates

40.6291.000



Aiming block L [3.7073]

40.8219.000



Aiming block R [3.7074]

40.8218.000

Plate 3.7073.606 trial

43.7073.606

Plate 3.7074.606 trial

43.7074.606

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

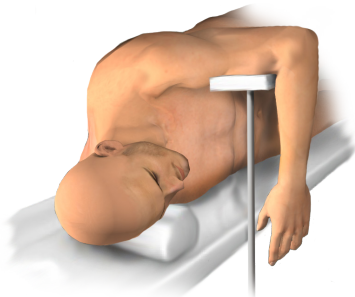
Absolute:

- 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



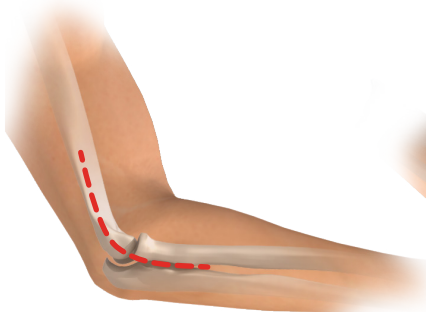
Lying on the back position



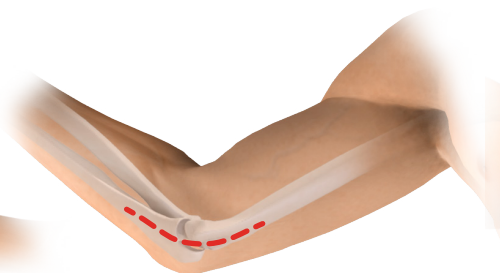
Lying on the stomach position

Surgical approach

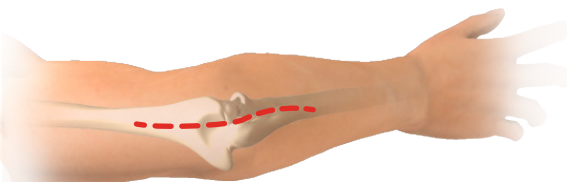
The approach is dependent on the fracture type



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.

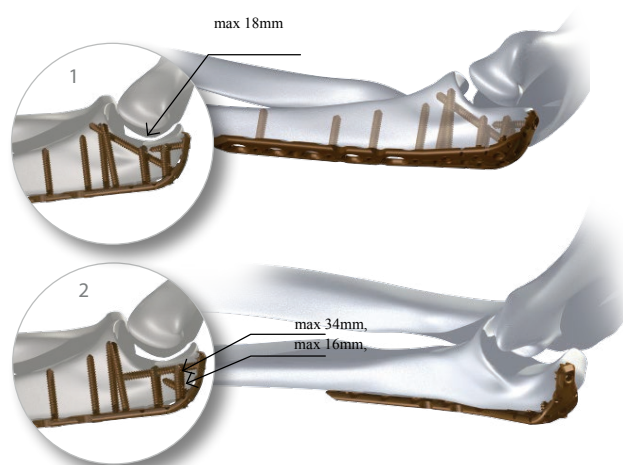
5.0ChLP OLECRANON PLATE

5.0 ChM Locked Plating
ChLPsystem



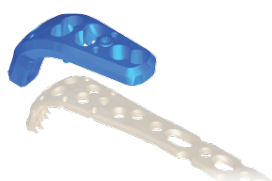
			Ti	
	Len	L		R
2	88	3.4097.502		3.4098.502
4	121	3.4097.504		3.4098.504
6	151	3.4097.506		3.4098.506
8	181	3.4097.508		3.4098.508
2-12	88 240			

	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

Aiming block R [3.4098]

40.5731.200



Plate 3.4097.504 trial

43.4097.504

Plate 3.4098.504 trial

43.4098.504

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.

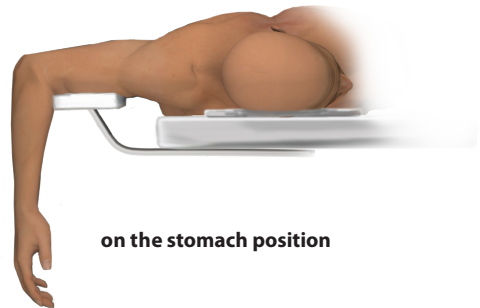
Relative:

- 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

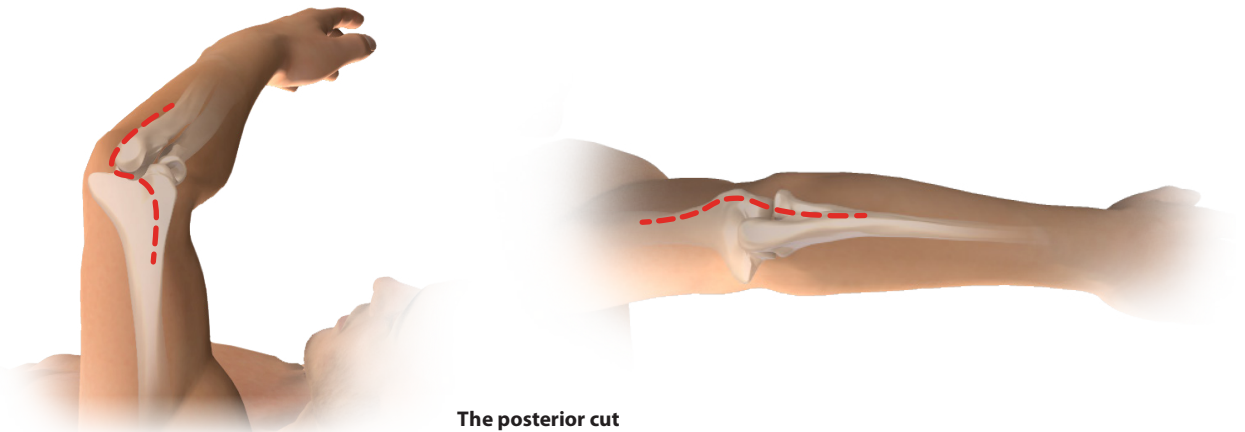


on the back position



on the stomach position

Surgical approach



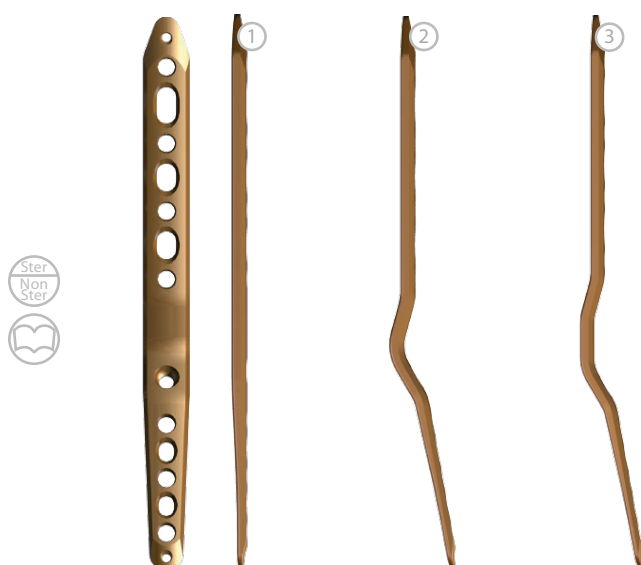
The posterior cut

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

5.0 ChM Locked Plating
ChLPsystem

	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

Indications

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

Contraindications

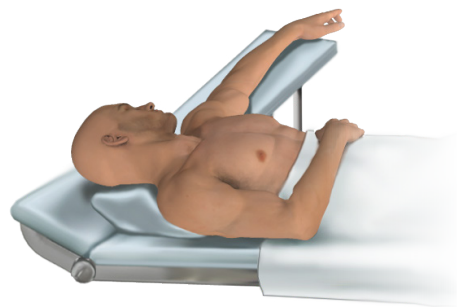
Absolute:

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

Relative:

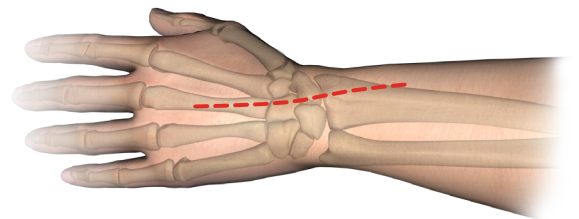
- Significant weakening of the bone making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area or surgical site.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which may create 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

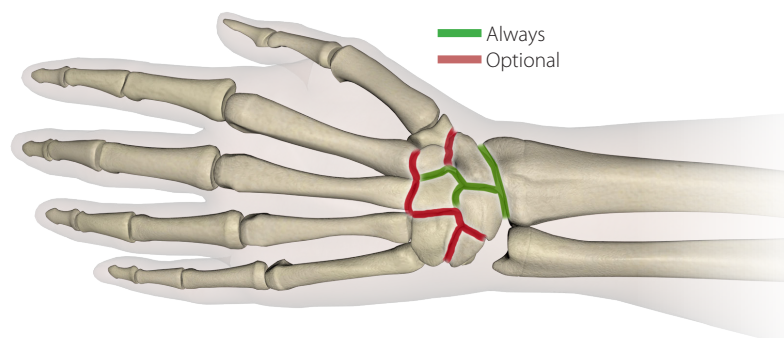
Surgical approach



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

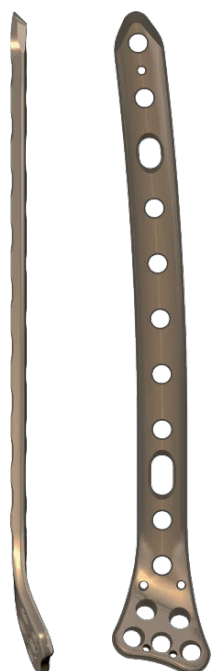
Procedure stages

- 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.



— Always
— Optional

5.0ChLP RADIUS VOLAR PLATE

5.0 ChM Locked Plating
ChLPsystem

			Ti	
	Len	L		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

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:

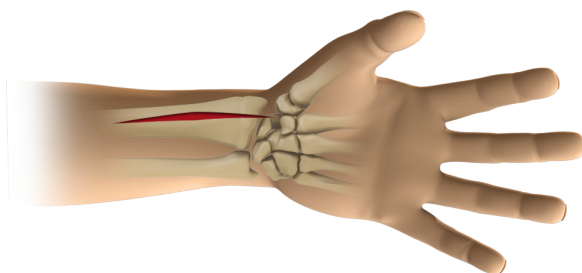
- Weakened bone (*by disease, infection or prior implantation*) making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which 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

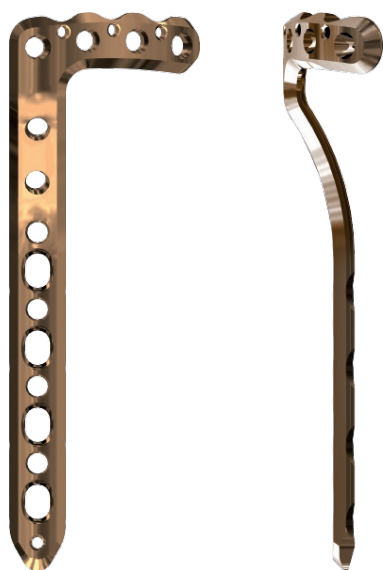


In volar approach, make a longitudinal incision between the radial wrist flexor tendon and the radial artery.

Procedure stages

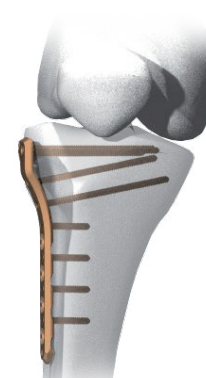
- Reduction of fracture and stabilization of the fracture fragments using Kirschner wires.
- The choice of implants - determining the length and position of the implant.
- Insertion of the plate and its positioning.
- Temporary stabilization of the implant using Kirschner wires.
- Introduction of the 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

Indications

- Articular and extra-articular, metaphyseal and epiphyseal 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.

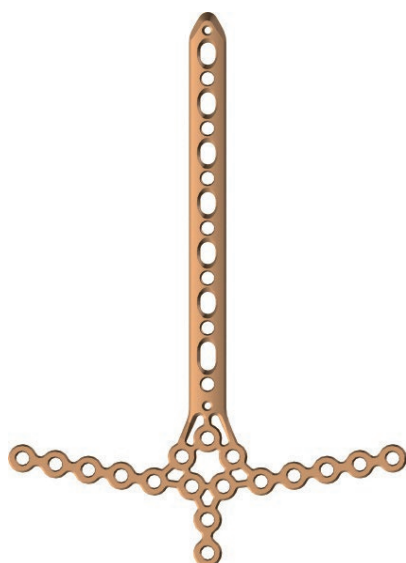
Anterior-lateral approach. The cut performed between the tibia and fibula bone and should begin approximately 1 cm proximally from the lateral condyle of the tibia to the desired length of the plate. In the minimally invasive technique, a short cut and additional cuts for the access to the holes of the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

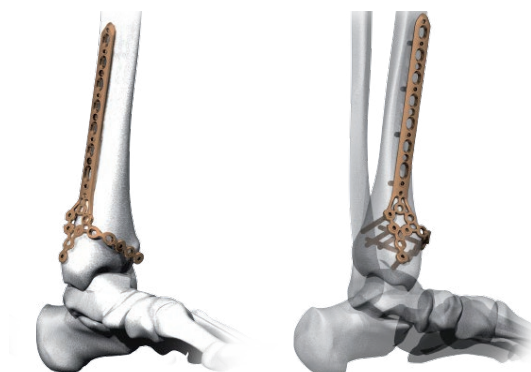
ChM®

5.0ChLP DISTAL MEDIAL TIBIAL PLATE

5.0 ChM Locked Plating
ChLPsystem

	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

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



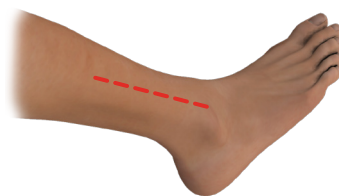
Lying on the back position

Surgical approach

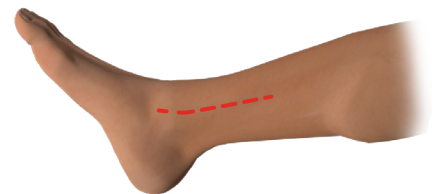
Surgical approach depends on the positioning of the implant on the distal base of the tibia. Different surgical approaches may be applied: anterior, anterior-lateral or medial one.



Anterior approach.



Medial approach.



Anterio-lateral approach.

Procedure stages

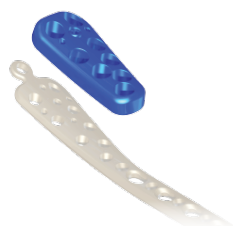
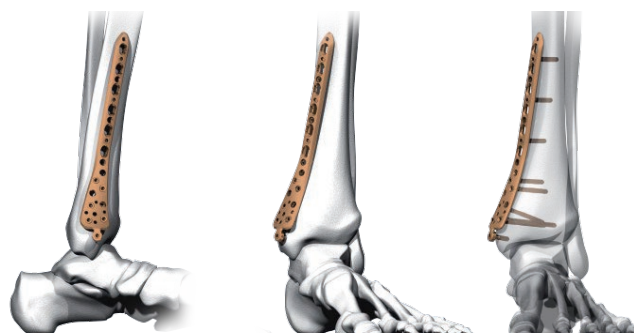
- Reduction of fracture and stabilization of the fracture fragments using Kirschner wires.
- The choice of implants - determining the length and position of the implant.
- Shaping the implant - bending arms of the plate, cutting away unnecessary holes.
- Insertion of the plate and its positioning.
- 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

5.0 ChM Locked Plating
ChLPsystem

			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

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

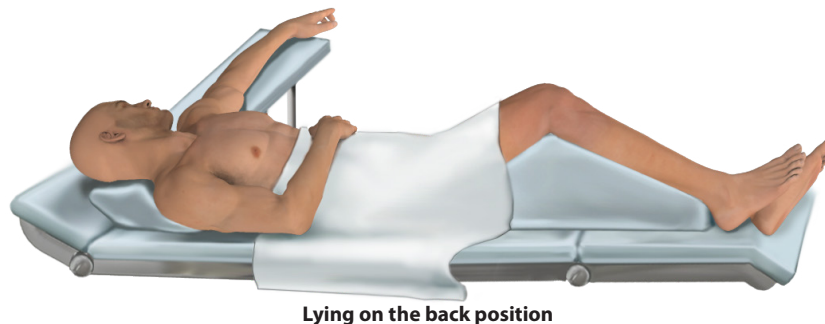
Absolute:

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

Relative:

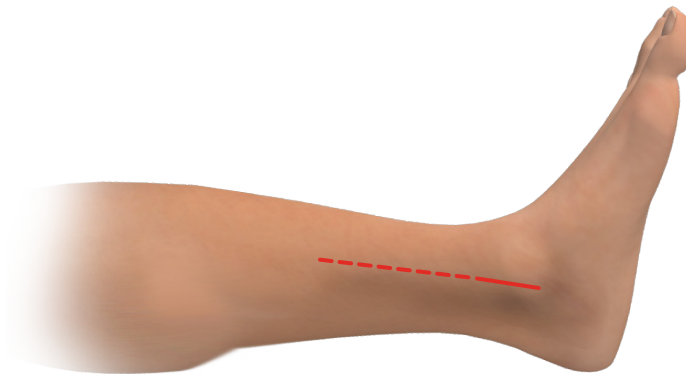
- Weakened bone (*by disease, infection or prior implantation*) making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which 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

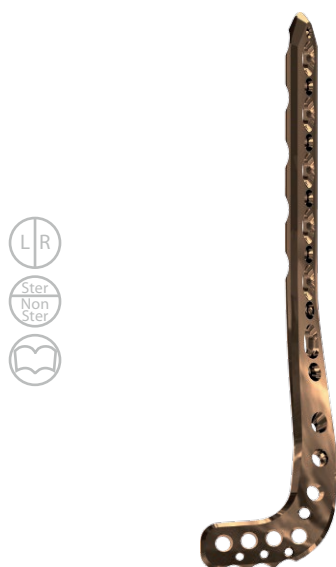
Surgical approach



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.

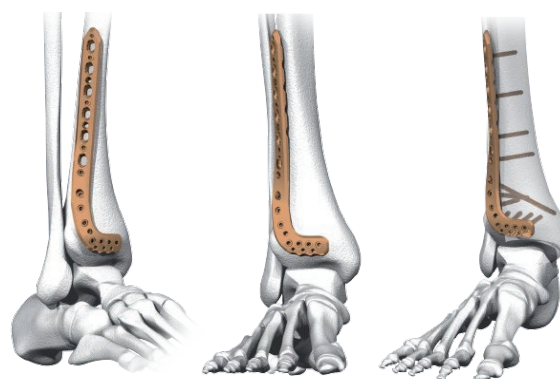
Procedure stages

- 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.



			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

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:

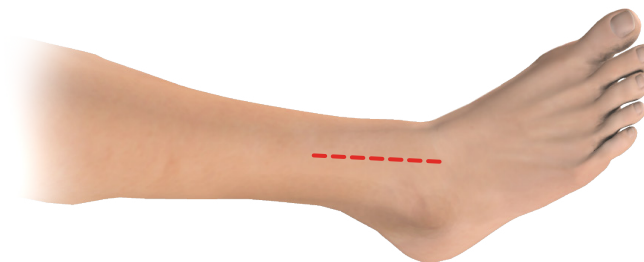
- Weakened bone (*by disease, infection or prior implantation*) making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which 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.

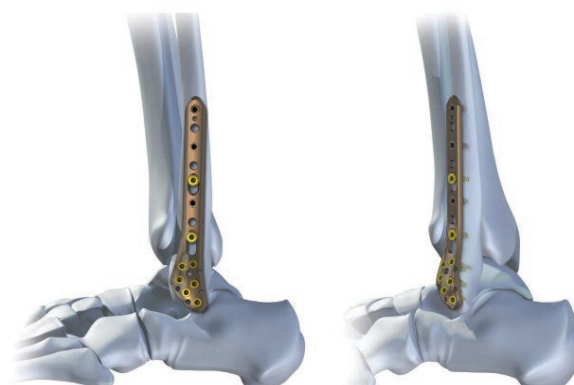
5.0ChLP DISTAL LATERAL FIBULA PLATE

5.0 ChM Locked Plating
ChLPsystem

			Ti
	Len	L	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
4-12	85 165		

* 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

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:

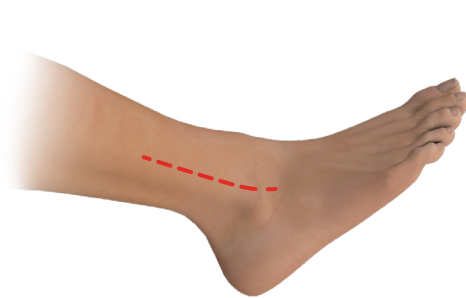
- Weakened bone (*by disease, infection or prior implantation*) making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which 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

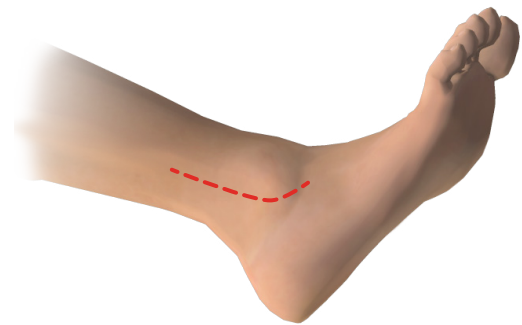


Lying on the back position.

Surgical approach



Lateral approach.



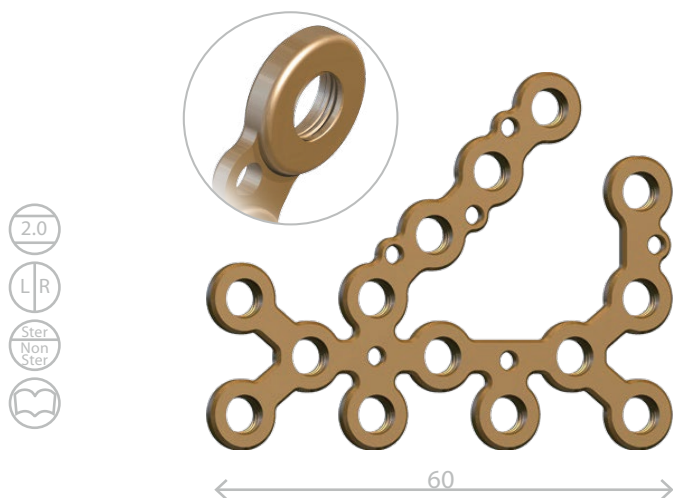
Postero-lateral approach.

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.

ChM®

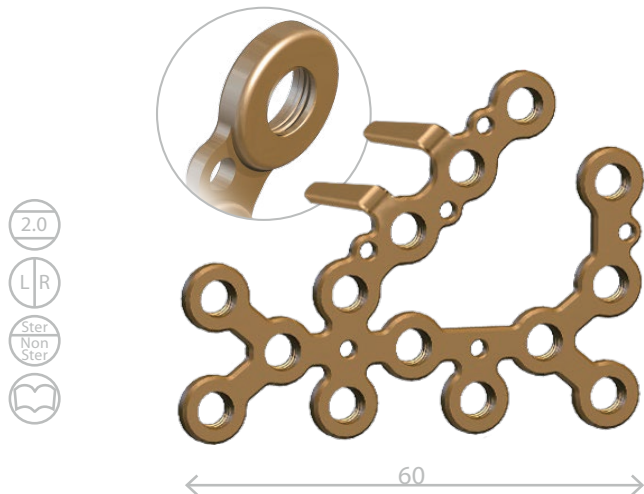
5.0ChLP CALCANEAL PLATE

5.0 ChM Locked Plating
ChLPsystem

	Ti	
		
3.4057.000		3.4058.000

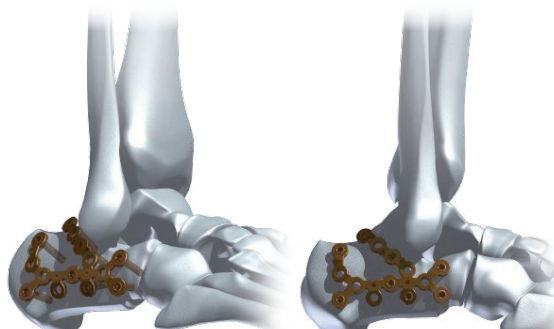
ChM®

4.5ChLP CALCANEAL PLATE WITH HOOK

5.0 ChM Locked Plating
ChLPsystem

	Ti	
		
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	✓	✓				



Indications

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

Contraindications

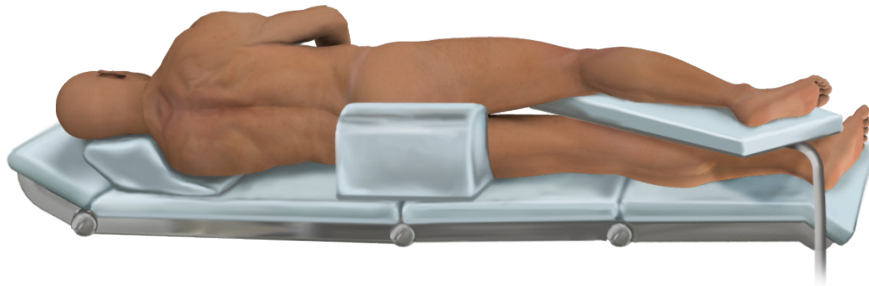
Absolute:

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

Relative:

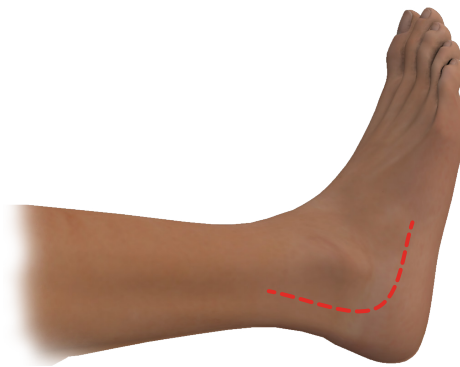
- Weakened bone (*by disease, infection or prior implantation*) making it impossible to install/stabilize the implant properly.
- Abnormal perfusion of fracture area.
- Excessive obesity.
- Lack of adequate tissue coverage.
- Psychiatric disorders or the disorders of the musculoskeletal system which 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.

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

ChM®

5.0ChLP NARROW COMPRESSION LIMITED CONTACT PLATE

5.0 ChM Locked Plating
ChLPsystem

2.8

Ster
Non
Ster

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	✓	✓			

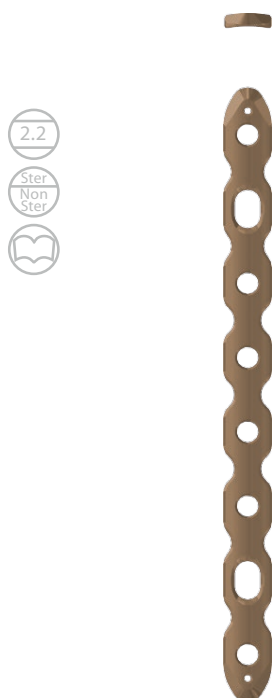


Palette for 5.0ChLP straight plates

40.5758.550

ChM®

4.5ChLP NARROW STRAIGHT RECONSTRUCTION PLATE

4.5 ChM Locked Plating
ChLP system

			
	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
			

						
	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	✓	✓			

ChM®

5.0ChLP TUBULAR STRAIGHT PLATE 1/3

5.0 ChM Locked Plating
ChLPsystem

		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



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



4	66	3.7095.604
6	86	3.7095.606

* holes number in shaft part of the plate



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



LOCKING ELEMENTS



5.0ChLP SELF-TAPPING SCREW 3.5



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



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



LOCKING ELEMENTS



CORTICAL SELF-TAPPING SCREW 3.5



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

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

CORTICAL SELF-TAPPING SCREW 2.7



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



5.0ChLP CONICAL SELF-TAPPING SCREW 3.5



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



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

ChM®

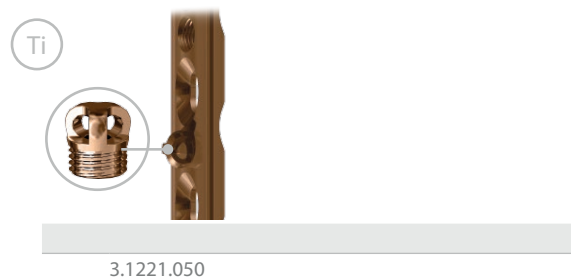
LOCKING ELEMENTS

5.0 ChM Locked Plating
ChLPsystem

5.0ChLP RESISTANCE SCREW



5.0ChLP CERCLAGE SCREW



* Wire diameter max. 1.5 mm



40.5748.600

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;				

Palette for 5.0ChLP plates - 3.4011/3.4012;


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

40.5758.520

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
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

40.6294.000

implants not included, with additional instruments;

Palette for 5.0ChLP plates - 3.7029/3.7030;


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

40.5758.690

implants not included;

Palette for 5.0ChLP plates - 3.4033;


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

40.5758.560

implants not included;

Palette for 5.0ChLP plates - 3.4039/3.4040;



Aiming block [3.4039]	40.5726.100	1	40.5758.070	40.5758.570
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		
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	40.5758.580
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		
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	40.5758.510
Protective guide 7/5	40.5672.000	2		
Palette	40.5758.210	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 - 3.4097/3.4098;



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;



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	40.5758.660
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;

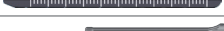
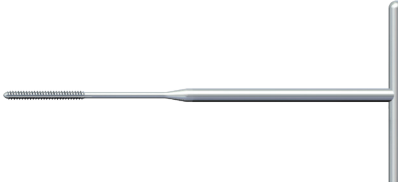
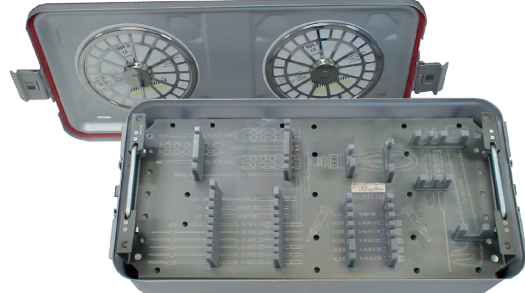


Stand for screws 5.0ChLP	40.5748.600	1	40.5748.700
Container with solid bottom 1/2 306x272x135mm	12.0751.102	1	
Perforated aluminum cover 1/2 306x272x15mm Gray	12.0751.200	1	

implants not included;

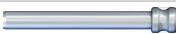
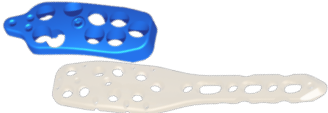
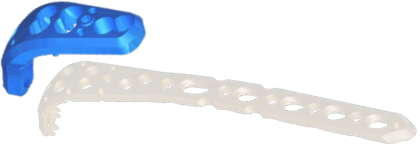
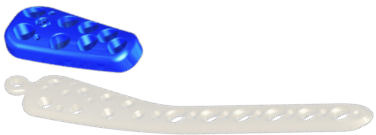
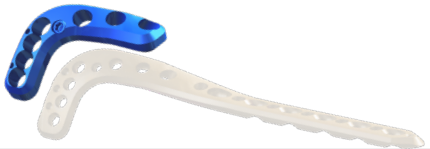
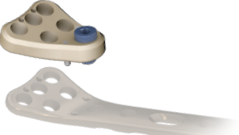
III.3. INSTRUMENTS FOR 5.0CHLP PLATE

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	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 wire 2.0/220	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

IV. SURGICAL TECHNIQUE

IV.1. TEMPORARY PLATE ATTACHMENT



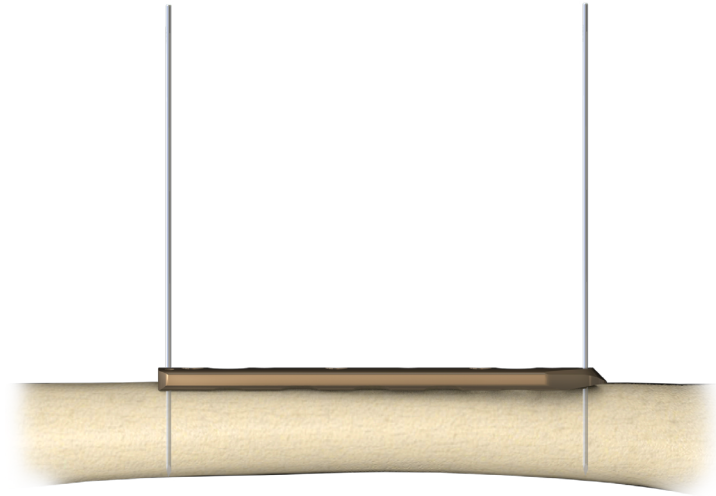
40.4815.220

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.



IV.2. LOCKING SCREW Ø3.5 INSERTION



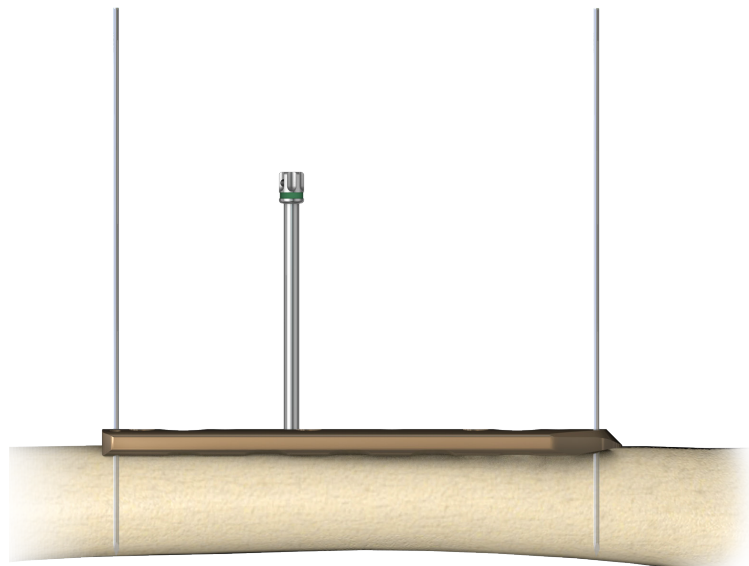
It is important to drill exactly in the axis of a locking hole. Use always the appropriate guide sleeve when drilling. The guide sleeve will ensure the locking screw take an axial position towards the hole of the plate and be correctly locked in the plate. Unprepared drilling of a hole can lead to: thread 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.

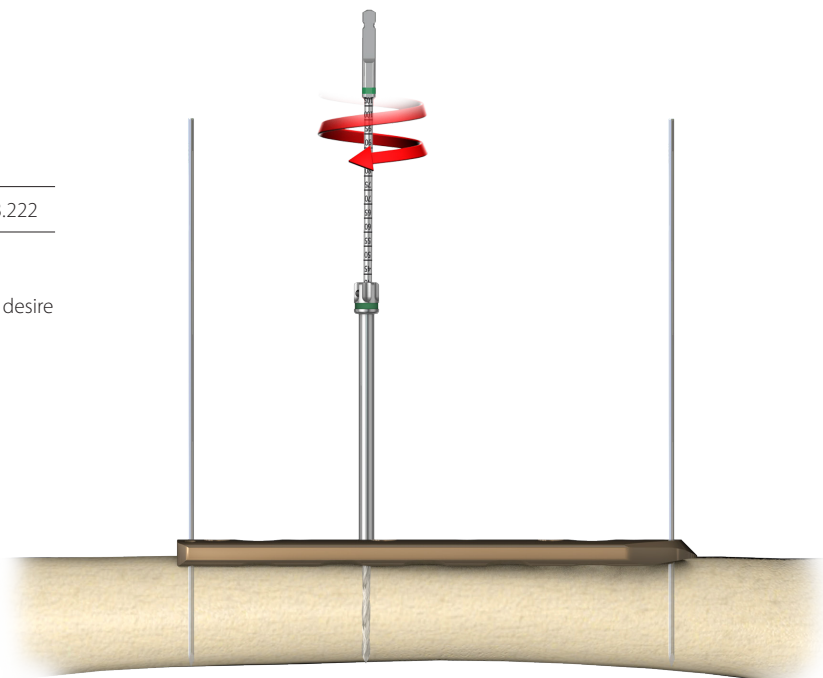


Drilling the hole



40.5653.222

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



Hole depth measurement

OPTION I

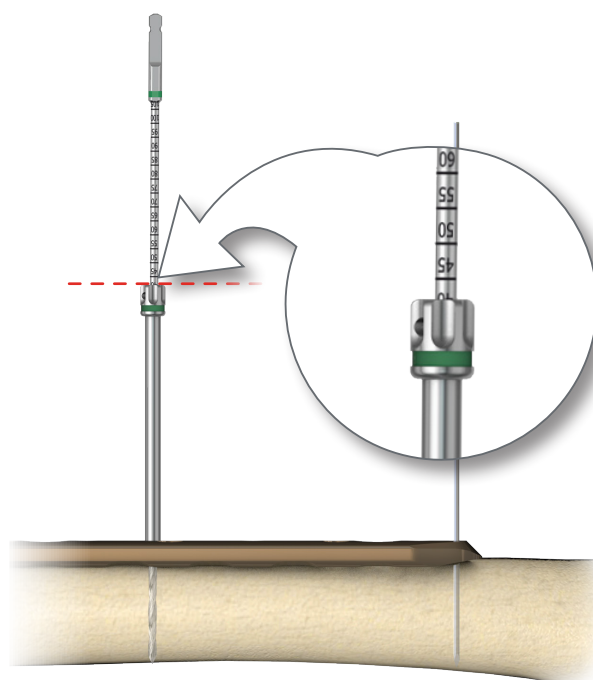


40.5673.728



40.5653.222

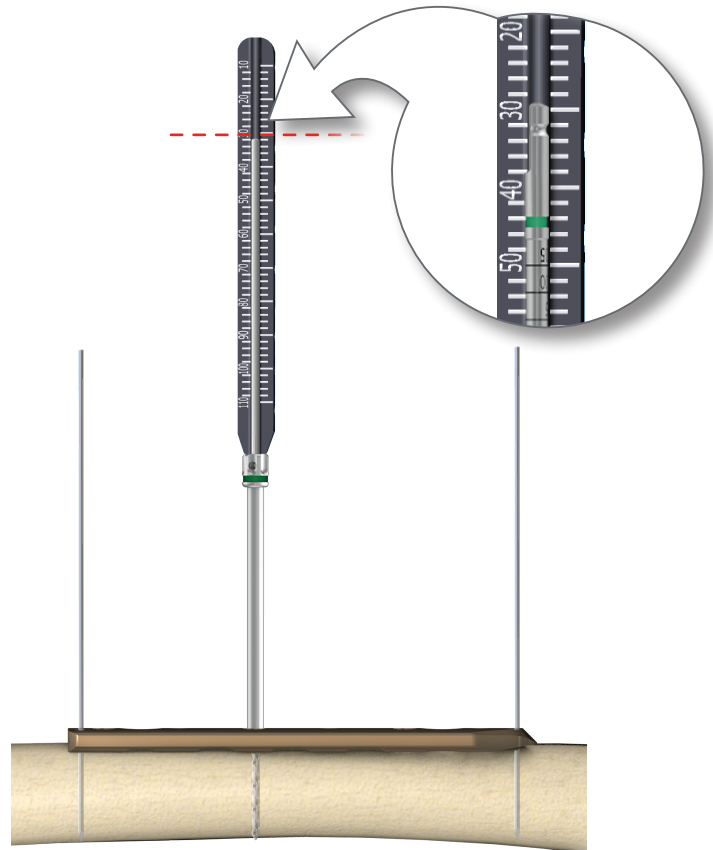
Read the value on the Drill with scale [40.5653.222] or



OPTION II

	40.5673.728
	40.5653.222
	40.5675.100

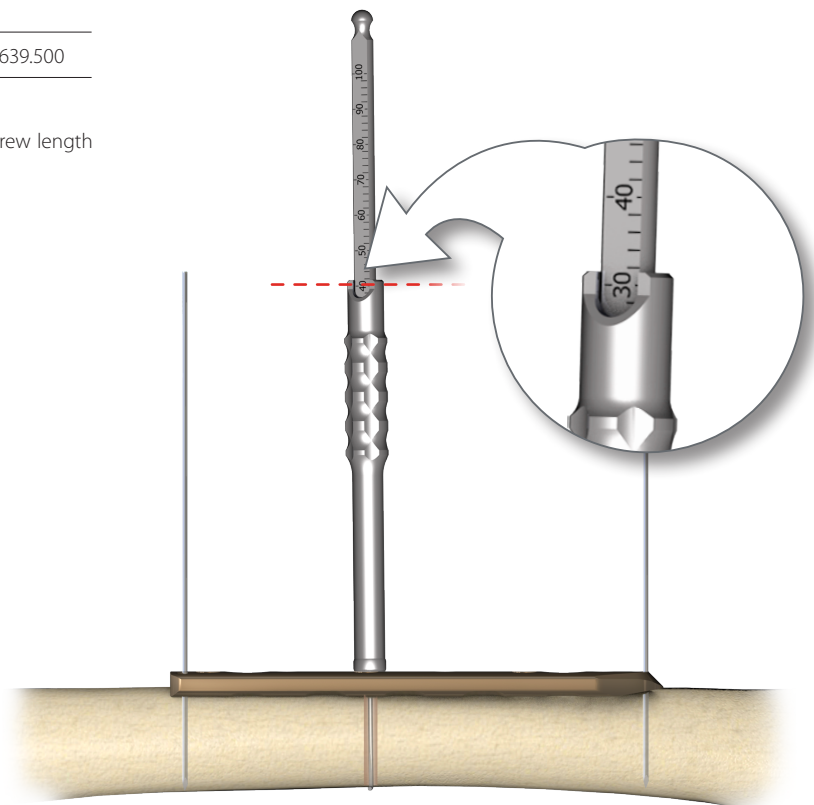
use the Screw length measure **[40.5675.100]**.



OPTION III

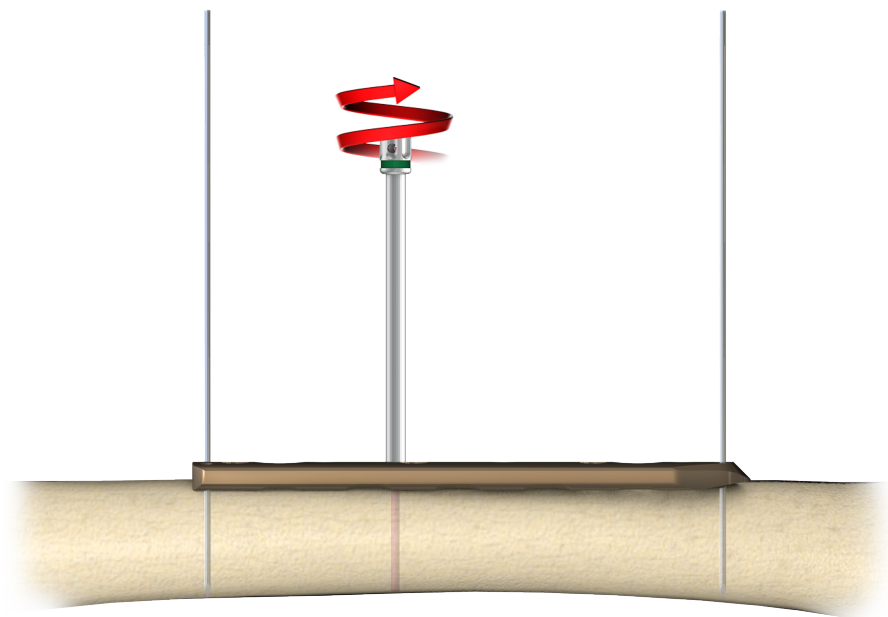
	40.4639.500
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Unscrew the Guide sleeve 5.0/2.8 **[40.5673.728]** and define the screw length using the Depth measure **[40.4639.500]**.



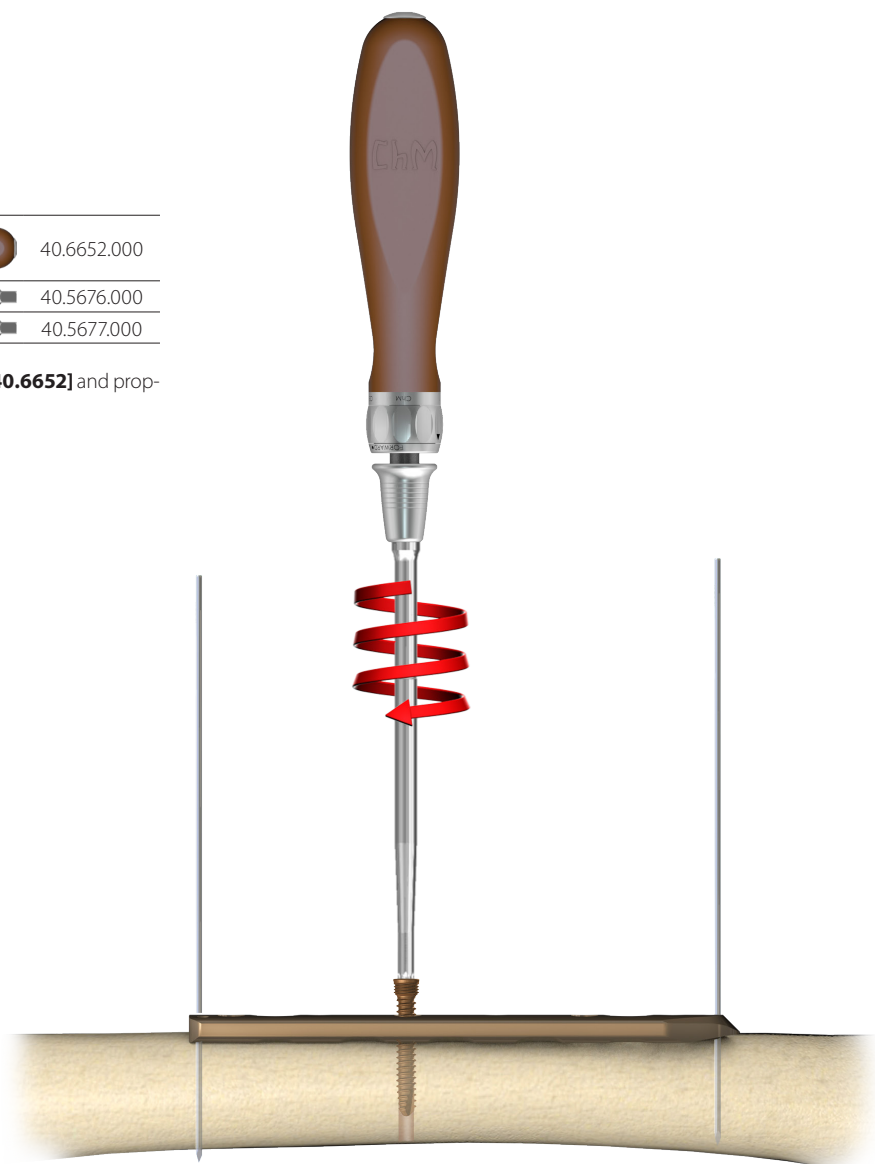
Screw insertion

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.



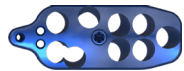
IV.3. THE USE OF AIMING BLOCK



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.



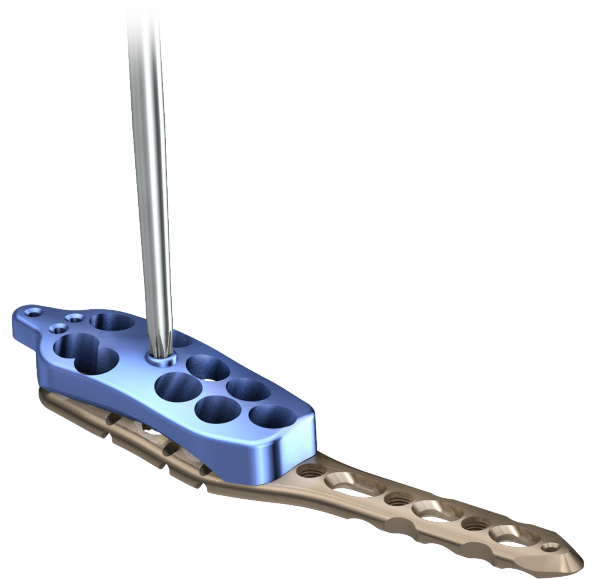
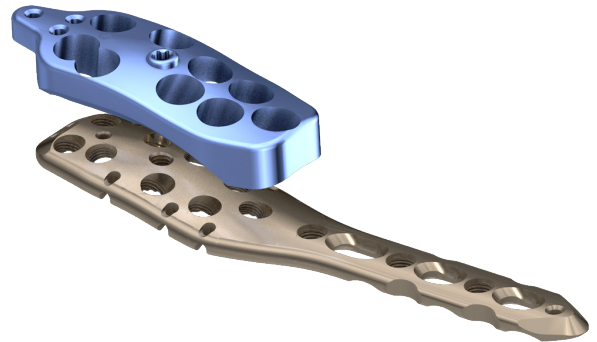
40.5671.000



40.0670.000

Position the aiming block on the plate.

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



40.5672.000



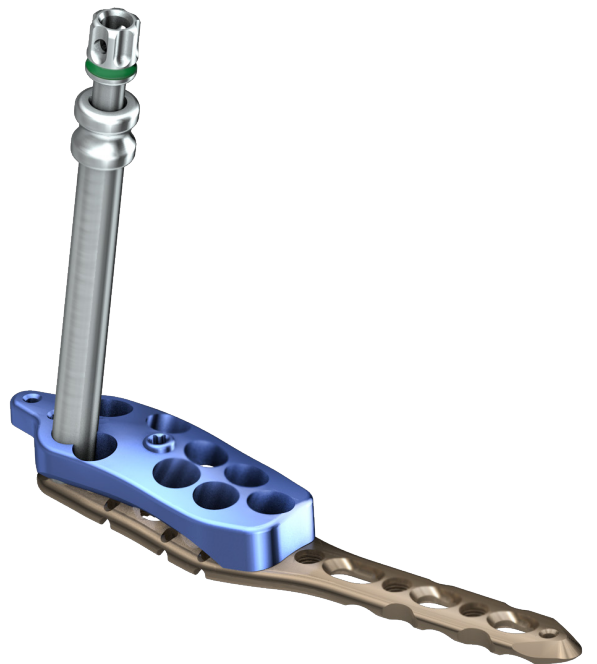
40.5673.728

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 58.



IV.4. CORTICAL SCREW Ø3.5 INSERTION

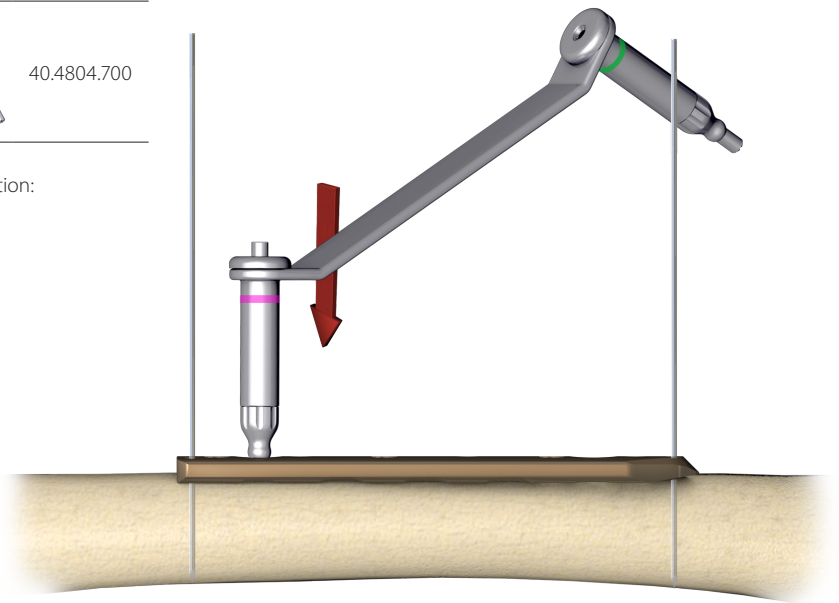
Compression guide setting



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

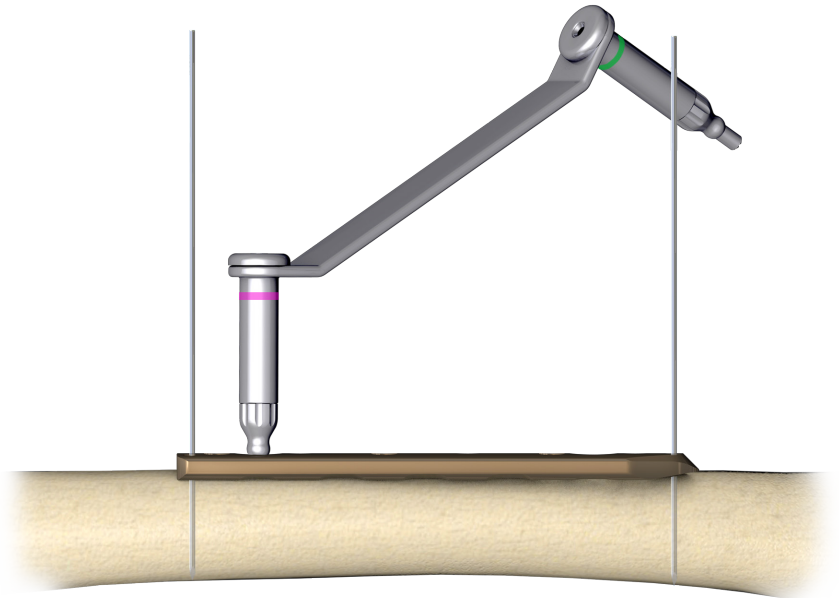
a. Neutral position

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



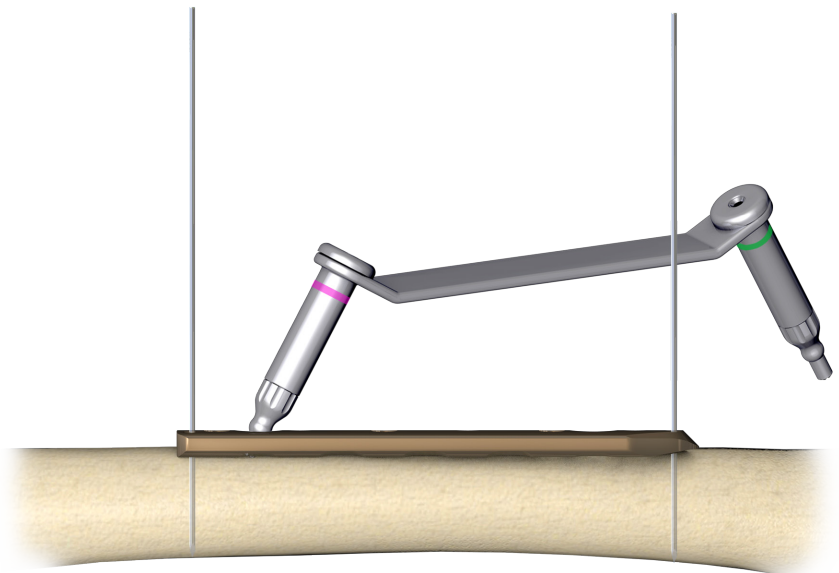
b. Compressive position

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



c. Angular position

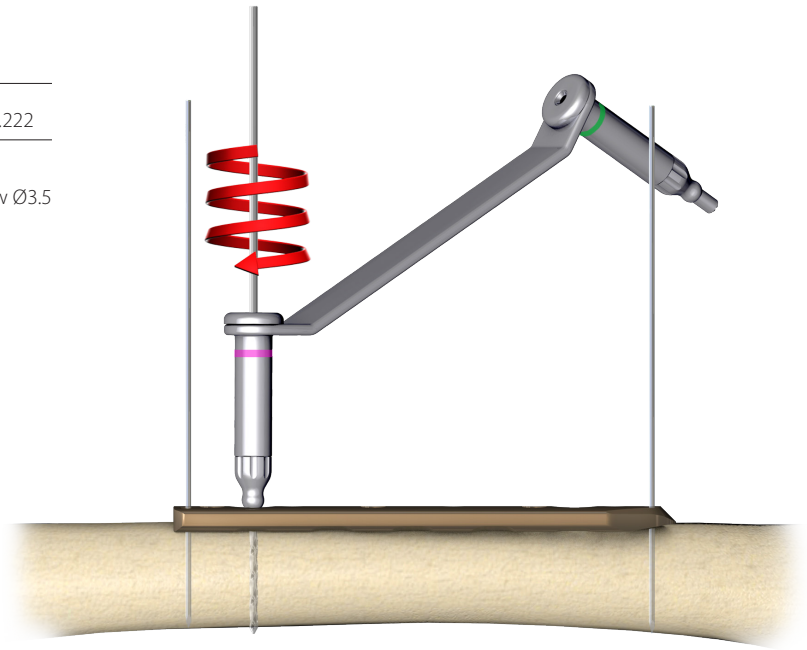
Angular positioning of the guide is also available.



Drilling



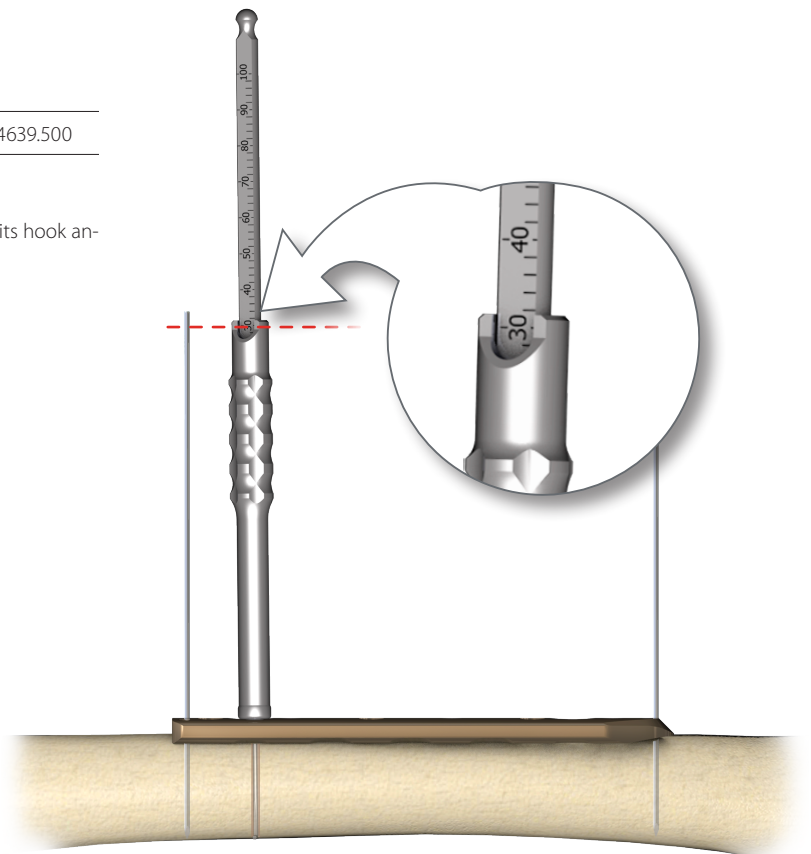
Drill the hole through both cortices in desire position for the Cortical screw Ø3.5 insertion using the Drill Ø2.5/220 **[40.5912.222]**.



Hole depth measurement



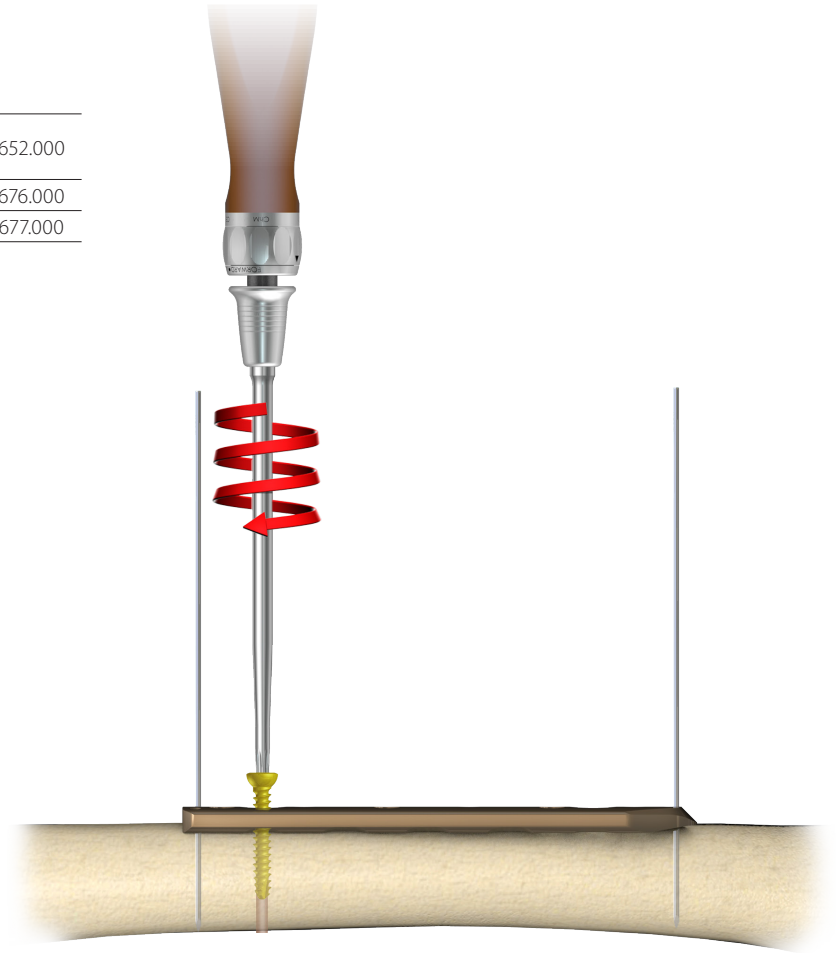
Insert the Depth measure **[40.4639.500]** into the drilled hole until its hook anchors the outer surface of the opposite cortex



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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