

SLP/LLP
System
Surgical technique



OPERATIVE TECHNIQUE

Plate selection

The plates are available in various lengths and configurations similar to the Orthmed® Conventional Plate Set. If necessary, use a bending template to determine plate length and configuration.

Contouring

Use the current bending instruments to contour the Locking Compression Plate to the anatomy. The plate holes have been designed to accept some degree of deformation. When bending the plate, place the bending irons on two consecutive holes. This ensures that the threaded holes will not be distorted. Significant distortion of the locking holes will reduce locking effectiveness.

Reduction and temporary plate placement

The plate may be temporarily held in place with standard plate holding forceps. The middle of the plate should be positioned over the fracture site if compression of the fracture fragments is desired. Alternatively, the Drill Guide can be used as an aid to position the plate on the bone.

Screw insertion

Determine whether conventional cortex screws, cancellous bone screws or locking screws will be used for fixation. A combination of all may be used. If a combination of cortex, cancellous and locking screws is used, a conventional screw should be used first to pull the plate to the bone. If a locking screw is used first, care should be taken to ensure that the plate is held securely to the bone to avoid spinning of the plate about the bone as the locking screw is tightened to the plate.

Insertion of a cortex or cancellous bone screw

Use the 4.5 mm (Double Drill Guide, $\phi 3.2/\phi 4.5$) or 3.5mm (Double Drill Guide, $\phi 2.5/\phi 3.5$) Universal Drill Guide for an eccentric (compression) or neutral (buttress) insertion of cortex screws. The 4.5 mm or 3.5mm LC-DCP Drill Guide and DCP Drill Guide are not suitable for use with LCP plates.

Neutral insertion of a conventional screw in Combi hole



Dynamic compression, eccentric insertion of a cortex screw in Combi hole

To drill a hole for dynamic compression, place the universal drill guide eccentrically at the edge of the DCU portion of the Combi hole, without applying pressure. Tightening of the cortex screws will result in dynamic compression corresponding to that of LC-DCP plates.



Neutral insertion of a conventional screw in locking hole

When pressing the universal drill guide into the unique design locking hole, it will center itself and allow neutral predrilling.



Insertion of the Locking Screws

The locking screw is not a lag screw. Use nonlocking screws when requiring a precise anatomical reduction (e.g., joint surfaces) or interfragmentary compression. Before inserting the first locking screw, perform anatomical reduction and fix the fracture with lag screws, if necessary. After the insertion of locking screws, an anatomical reduction will no longer be possible without loosening the locking screw.

A

Screw the appropriate Threaded Drill Guide for 3.5 mm, 5.0mm or 6.5mm screws into an LCP plate hole until fully seated. Do not try to bend the plate using the Threaded Drill Guide because damage may occur to the threads.



A

B

Use the appropriate Drill Bit (2.8 mm for 3.5 mm screws, 4.3 mm for 5.0 mm screws and 5.8mm for 6.5mm cannulated screws) to drill to the desired depth.

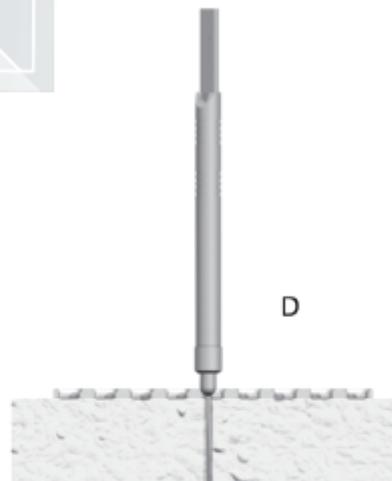


B

Insertion of the Locking Screws (CONTINUED)

C Remove the drill guide.

D Use the Depth Gauge to determine screw length.



E Insert the locking screw and finally tighten using the Torque Limiting Screwdriver. The screw is securely locked to the plate when a “click” is heard. Never use power equipment to seat the locking screws into the plate without a Torque Limiting Screwdriver.



E

Pull the Bone to the Plate Using Screw Holding Sleeve

A Insert the Screwdriver into the Screw Holding Sleeve.



B Push the sleeve downwards to the screw head and hold the locking screw.



C Tighten the locking screw until the bone is pulled to the Locking Plate at desired place.



C

Pull the Bone to the Plate Using Screw Holding Sleeve (CONTINUED)

D Pull the Screw Holding Sleeve backward and release the locking screw



D

E Finally tighten the screw using the Torque Limiting Screwdriver



E

Postoperative treatment

Postoperative treatment with locking compression plates does not differ from conventional internal fixation procedures.

Implant removal

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

PRODUCT ORDERING INFORMATION

IMPLANTS

3.5mm Reconstruction Locking Plate, straight

Holes	P/N	Length	
4	122224004	48mm	纯钛
5	122224005	60mm	纯钛
6	122224006	72mm	纯钛
7	122224007	84mm	纯钛
8	122224008	96mm	纯钛
9	122224009	108mm	纯钛
10	122224010	120mm	纯钛
11	122224011	132mm	纯钛
12	122224012	144mm	纯钛
13	122224013	156mm	纯钛
14	122224014	168mm	纯钛
16	122224016	192mm	纯钛
18	122224018	216mm	纯钛
20	122224020	240mm	纯钛
22	122224022	264mm	纯钛

3.5mm Compression Locking Plate (Narrow)

Holes	P/N	Length	
4	122226004	57mm	纯钛
5	122226005	70mm	纯钛
6	122226006	83mm	纯钛
7	122226007	96mm	纯钛
8	122226008	100mm	纯钛
9	122226009	122mm	纯钛
10	122226010	135mm	纯钛
11	122226011	148mm	纯钛
12	122226012	161mm	纯钛

3.5mm LCP T-Plate, Right-angled(head 4holes)

Holes	P/N	Length	
3(+4)	122220003	47mm	纯钛
4(+4)	122220004	58mm	纯钛
5(+4)	122220005	69mm	纯钛
6(+4)	122220006	80mm	纯钛

3.5mm LCP T-Plate, Oblique-angled(head 3holes)

Holes	P/N	Length	
3	122221104	52mm	纯钛
4	122221105	63mm	纯钛
5	122221106	74mm	纯钛
3	122221107	52mm	纯钛
4	122221108	63mm	纯钛
5	122221109	74mm	纯钛

Distal Lateral Tibial Locking Plate

Holes	P/N	Length	
5	122235105	左 80mm	纯钛
7	122235107	左 106mm	纯钛
9	122235109	左 132mm	纯钛
11	122235111	左 158mm	纯钛
13	122235113	左 184mm	纯钛
15	122235115	左 210mm	纯钛
17	122235117	左 236mm	纯钛
19	122235119	左 262mm	纯钛
21	122235121	左 288mm	纯钛
5	122235205	右 80mm	纯钛
7	122235207	右 106mm	纯钛
9	122235209	右 132mm	纯钛
11	122235211	右 158mm	纯钛
13	122235213	右 184mm	纯钛
15	122235215	右 210mm	纯钛
17	122235217	右 236mm	纯钛
19	122235219	右 262mm	纯钛
21	122235221	右 288mm	纯钛

3.5mm LCP T-Plate, Right-angled(head 3holes)

Holes	P/N	Length	
3(+3)	122220003	46.5mm	纯钛
4(+3)	122220004	57.5mm	纯钛
5(+3)	122220005	68.5mm	纯钛
6(+3)	122220006	79.5mm	纯钛

LCP Clavicle Hook Plate

Holes	P/N		Length	
4	122236104	左	41mm	纯钛
5	122236105	左	53mm	纯钛
6	122236106	左	64mm	纯钛
7	122236107	左	74mm	纯钛
4	122236204	左	41mm	纯钛
5	122236205	左	53mm	纯钛
6	122236206	左	64mm	纯钛
7	122236207	左	74mm	纯钛
4	122236304	左	41mm	纯钛
5	122236305	右	53mm	纯钛
6	122236306	右	64mm	纯钛
7	122236307	右	74mm	纯钛
4	122236404	右	41mm	纯钛
5	122236405	右	53mm	纯钛
6	122236406	右	64mm	纯钛
7	122236407	右	74mm	纯钛

Distal Lateral Tibial Locking Plate

Holes	P/N	Length	
3	122238003	110mm	纯钛
4	122238004	128mm	纯钛
5	122238005	146mm	纯钛
6	122238006	169mm	纯钛
7	122238007	182mm	纯钛
8	122238008	200mm	纯钛
9	122238009	218mm	纯钛
10	122238010	236mm	纯钛
11	122238011	254mm	纯钛
12	122238012	272mm	纯钛
13	122238013	290mm	纯钛

3.5mm LCP Distal Medial Tibial Plate

Holes	P/N		Length	
4 (+9)	122237104	左	117mm	纯钛
6 (+9)	122237106	左	144mm	纯钛
8 (+9)	122237108	左	171mm	纯钛
10 (+9)	122235110	左	198mm	纯钛
12 (+9)	122235112	左	225mm	纯钛
14 (+9)	122235114	左	252mm	纯钛
4 (+9)	122237204	右	117mm	纯钛
6 (+9)	122237206	右	144mm	纯钛
8 (+9)	122237208	右	171mm	纯钛
10 (+9)	122237210	右	198mm	纯钛
12 (+9)	122237212	右	225mm	纯钛
14 (+9)	122237214	右	252mm	纯钛

3.5mm LCP Distal Medial Tibial Plate

Holes	P/N	Length	
3	122239003	62mm	纯钛
4	122239004	80mm	纯钛
5	122239005	98mm	纯钛

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Holes	P/N		Length	
15	122131104	左	69mm	纯钛
15	122131105	左	76mm	纯钛
15	122131106	左	69mm	纯钛
15	122131107	左	76mm	纯钛

PRODUCT ORDERING INFORMATION

IMPLANTS

4.5mm Lcp Plate,ocking Plate, with LC-undercuts,broad) 3.5/4.5mm Metaphysis Locking Plate

Holes	P/N	Length	
5	123221005	98mm	纯钛
6	123221006	116mm	纯钛
7	123221007	134mm	纯钛
8	123221008	152mm	纯钛
9	123221009	170mm	纯钛
10	123221010	188mm	纯钛
11	123221011	206mm	纯钛
12	123221012	224mm	纯钛
13	123221013	242mm	纯钛
14	123221014	260mm	纯钛
15	123221015	278mm	纯钛
16	123221016	296mm	纯钛
17	123221017	314mm	纯钛
18	123221018	332mm	纯钛

Holes	P/N	Length	
3	123220003	118mm	纯钛
4	123220004	136mm	纯钛
5	123220005	154mm	纯钛
6	123220006	172mm	纯钛
7	123220007	190mm	纯钛
8	123220008	208mm	纯钛
9	123220009	226mm	纯钛
11	123220011	262mm	纯钛
13	123220013	298mm	纯钛
15	123220015	334mm	纯钛

4.5mm Compression Locking Plate (Broad)

Holes	P/N	Length	
5	123222005	98mm	纯钛
6	123222006	116mm	纯钛
7	123222007	134mm	纯钛
8	123222008	152mm	纯钛
9	123222009	170mm	纯钛
10	123222010	188mm	纯钛
11	123222011	206mm	纯钛
12	123222012	224mm	纯钛
13	123222013	242mm	纯钛
14	123222014	260mm	纯钛
15	123222015	278mm	纯钛
16	123222016	296mm	纯钛

Proximal Tibial Locking Plate

Holes	P/N		Length	
5	123233105	左	145mm	纯钛
7	123233107	左	185mm	纯钛
9	123233109	左	225mm	纯钛
11	123233111	左	265mm	纯钛
13	123233113	左	305mm	纯钛
5	123233205	右	145mm	纯钛
7	123233207	右	185mm	纯钛
9	123233209	右	225mm	纯钛
11	123233211	右	265mm	纯钛
13	123233213	右	305mm	纯钛

LCP Clavicle Hook Plate

Holes	P/N		Length	
2	123228102	左	139mm	纯钛
4	123228104	左	175mm	纯钛
6	123228106	左	211mm	纯钛
8	123228108	左	247mm	纯钛
10	123228110	左	283mm	纯钛
12	123228112	左	319mm	纯钛
14	123228114	左	355mm	纯钛
2	123228202	右	139mm	纯钛
4	123228204	右	175mm	纯钛
6	123228206	右	211mm	纯钛
8	123228208	右	247mm	纯钛
10	123228210	右	283mm	纯钛
12	123228212	右	319mm	纯钛
14	123228214	右	355mm	纯钛

Proximal Lateral Tibial Locking Plate-II

Holes	P/N		Length	
4	123232104	左	82mm	纯钛
5	123232105	左	100mm	纯钛
6	123232106	左	118mm	纯钛
7	123232107	左	136mm	纯钛
8	123232108	左	154mm	纯钛
9	123232109	左	172mm	纯钛
10	123232110	左	190mm	纯钛
12	123232112	左	226mm	纯钛
14	123232114	左	262mm	纯钛
4	123232204	右	82mm	纯钛
5	123232205	右	100mm	纯钛
6	123232206	右	118mm	纯钛
7	123232207	右	136mm	纯钛
8	123232208	右	154mm	纯钛
9	123232209	右	172mm	纯钛
10	123232210	右	190mm	纯钛
12	123232212	右	226mm	纯钛
14	123232214	右	262mm	纯钛

Distal Lateral Tibial Locking Plate

Holes	P/N		Length	
5 (+7)	123230105	左	155mm	纯钛
7 (+7)	123230107	左	195mm	纯钛
9 (+7)	123230109	左	235mm	纯钛
11 (+7)	123230111	左	275mm	纯钛
13 (+7)	123230113	左	315mm	纯钛
5 (+7)	123230205	右	155mm	纯钛
7 (+7)	123230207	右	195mm	纯钛
9 (+7)	123230209	右	235mm	纯钛
11 (+7)	123230211	右	275mm	纯钛
13 (+7)	123230213	右	315mm	纯钛

Locking Screw

Φ5.0 Locking Screw,self-tapping

Length	P/N	
14	133202014	TC4
16	133202016	TC4
18	133202018	TC4
20	133202020	TC4
22	133202022	TC4
24	133202024	TC4
26	133202026	TC4
28	133202028	TC4
30	133202030	TC4
32	133202032	TC4
34	133202034	TC4
36	133202036	TC4
38	133202038	TC4
40	133202040	TC4
42	133202042	TC4
44	133202044	TC4
45	133202045	TC4
46	133202046	TC4
48	133202048	TC4
50	133202050	TC4
55	133202055	TC4
60	133202060	TC4
65	133202065	TC4
70	133202070	TC4
75	133202075	TC4
80	133202080	TC4
85	133202085	TC4
90	133202090	TC4
100	133202100	TC4

Φ3.5 Locking Screw,self-tapping

Length	P/N	
14	132214014	TC4
16	132214016	TC4
18	132214018	TC4
20	132214020	TC4
22	132214022	TC4
24	132214024	TC4
26	132214026	TC4
28	132214028	TC4
30	132214030	TC4
32	132214032	TC4
34	132214034	TC4
35	132214035	TC4
36	132214036	TC4
38	132214038	TC4
40	132214040	TC4
42	132214042	TC4
44	132214044	TC4
45	132214045	TC4
46	132214046	TC4
50	132214050	TC4
55	132214055	TC4
60	132214060	TC4
65	132214065	TC4

Φ6.5 Locking Screw,self-tapping

Length	P/N	
50	133218050	TC4
55	133218055	TC4
60	133218060	TC4
65	133218065	TC4
70	133218070	TC4
75	133218075	TC4
80	133218080	TC4
85	133218085	TC4
90	133218090	TC4
100	133218095	TC4
105	133218100	TC4
110	133218105	TC4
115	133218115	TC4
120	133218120	TC4

INSTRUMENTS

Small Fragments Locking Compression Plates Instruments Set

P/N	Description	Quantity	P/N	Description	Quantity
112100001	Depth Gauge	1	112100019	Tap for Cancellous Bone Screw Ø4.0mm	1
112100002	Plate Bender, left	1	112100020	Universal Drill Guide II, Ø3.5 / 2.5mm	1
112100003	Plate Bender, right	1	112100024	T-Handle with Quick Coupling	1
112100005	Double Drill Sleeve I, 2.5-3.5	1	112200001	Torque Limiter, 1.5Nm, quick coupling	1
112100006	Hohmann Retractor, large	2	112200002	Threaded Drill Sleeve, for Drill Bits Ø 2.8mm	2
112100007	Hohmann Retractor, small	2	112200003	Hexagonal Screwdriver Shaft	1
112100008	Bending Template, large	1	112200004	Drill Bit, Ø2.8mm	2
112100009	Bending Template, small	1	112200005	Screw Extractor, 2.5mm	1
112100010	Self-Centering Bone Holding Forceps, speed lock	2	112200006	Depth Gauge	1
112100011	Reduction Forceps, with serrated jaws	1			
112100012	Periosteal Elevator	1			
112100013	Reduction Forceps, with points	1			
112100014	Countersink	1			
112100015	Drill Bit, Ø3.5mm	1			
112100016	Drill Bit, Ø2.5mm	2			
112100018	Tap for Cortex Screw Ø3.5mm	1			

INSTRUMENTS

Large Fragments Locking Compression Plates Instruments Set

P/N	Description	Quantity
113100001	Hexagonal Screwdriver	1
113100002	Drill Bit, Ø3.2mm	2
113100003	Drill Bit, Ø4.5mm	1
113100005	Tap for Cancellous Bone Screw Ø6.5mm	1
113100006	Tap for Cortex Screw, Ø4.5mm	1
113100007	Depth Gauge, for screws Ø6.5 / 4.5mm	1
113100008	Plate Bender	2
113100010	Bending Template, large	1
113100011	Bending Template, small	1
113100014	Universal Drill Guide, Ø4.5 / 3.2mm	1
113100015	Double Drill Guide, Ø6.5 / 3.2mm	1
113100016	Periosteal Elevator, large	1
113100017	Hohmann Retractor, large	2
113100018	Hohmann Retractor, small	2
113100019	Self-Centering Bone Forceps, speed lock	2
113100020	Countersink	1

P/N	Description	Quantity
113100021	Reduction Forceps, with serrated jaws	1
113100022	Reduction Forceps, with points	1
112100012	Periosteal Elevator, small	1
112100024	T-Handle with Quick Coupling	1
114400007	Hexagonal Screwdriver, with Holding Sleeve ø8	1
113200001	Torque Limiter, 4Nm	1
113200002	Threaded Drill Sleeve, for Drill Bits Ø 4.3mm	2
113200003	Drill Bit, Ø4.3mm	2
113200004	Screw Extractor	1
113200005	Direct Measuring Device	1
113200006	K-Wire, Ø2.0mm	4
113200008	Guide for K-Wire	2
113200009	Screw Driver	1
113200010	Hexagonal Screwdriver Shaft	1
113200011	Hexagonal Screwdriver, with Holding Sleeve ø6.3	1