

Olecranon Locking Plate



PERI-LOC[◇] Locked Plating System

Olecranon Locking Plate Surgical Technique

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Nota Bene

The technique description herein is made available to the healthcare professional to illustrate the author's suggested treatment for the uncomplicated procedure. In the final analysis, the preferred treatment is that which addresses the needs of the specific patient.

Introduction

The PERI-LOC® Locked Plating System combines the advantages of locked plating with the versatility and benefits of traditional plates and screws. Utilizing both locking and non-locking screws, the PERI-LOC system allows for the creation of a fixed-angle construct capable of resisting angular collapse. Its enhanced stability also allows it to function as an effective fracture reduction aid.

A simple, intuitive instrument set featuring standardized drill bits and screwdrivers along with color-coded drill guides, helps make the PERI-LOC system efficient and easy to use.

The PERI-LOC Olecranon Locking Plates are available in a variety of sizes and options and are compatible with both the PERI-LOC Small Fragment and the Elbow/2.7mm Instrument and Implant Sets. Their precise screw trajectories, anatomic contour and locking/non-locking capabilities provide a stable construct for predictable reconstruction of complex fractures of the olecranon.



Indications

The PERI-LOC[®] Olecranon Locking Plates are indicated for fixation of fractures, non-unions and osteotomies of the olecranon.



Plate Features

- Coronal bend of longer plates accommodates ulnar anatomy
- Recon plate segments facilitate additional contouring if necessary
- Two articular tines provide additional stability in the triceps tendon
- Left/right-specific
- 316L stainless steel for strength
- Locking/non-locking option in all screw holes
- Proximal articular screw holes accept 2.7mm Locking and 2.7mm Cortex Screws
- Shaft screw holes accept 3.5mm Locking and 3.5mm Cortex Screws



Surgical Technique

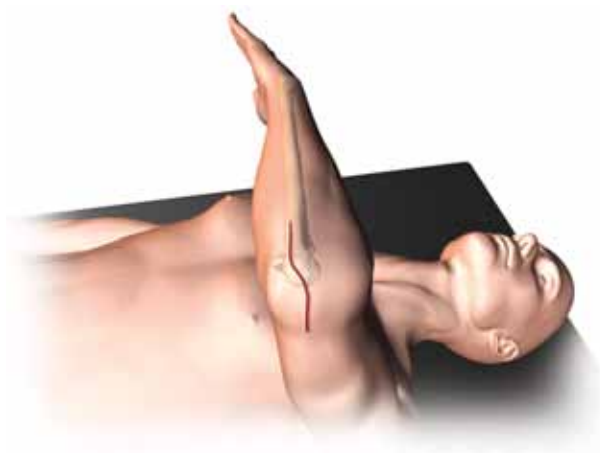
Patient Positioning

Place the patient in the supine position with the affected limb draped over the chest or supported by a bolster. Alternatively, place the patient in the lateral decubitus position with the arm draped over an elevated arm board parallel to the table.



Incision

A curvilinear posterior incision is made along the medial border of the olecranon. Isolate and protect the ulnar nerve as necessary. Care should be taken to preserve any soft tissue attachments to fracture fragments.



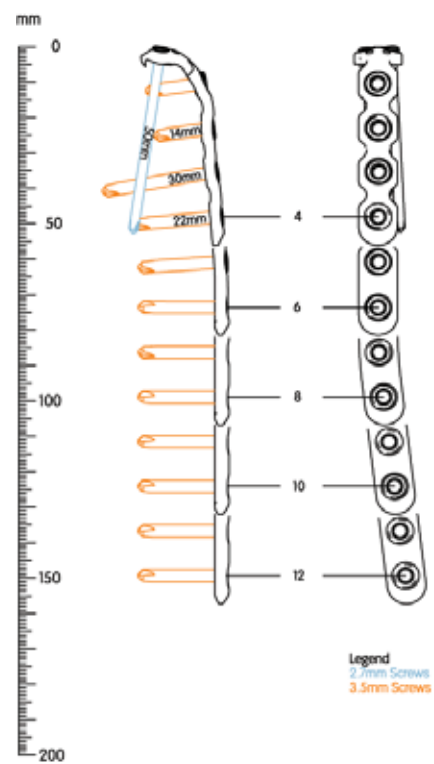
Fracture Reduction and Provisional Fixation

Reduce and provisionally fix the articular surface under fluoroscopy with K-Wires and/or Reduction Forceps. Reduction aids should be placed so as not to interfere with final plate placement.

Plate Selection

Following fracture reduction, select the Olecranon Locking Plate that best accommodates patient anatomy and fracture pattern.

Note The PERI-LOC[®] Olecranon Locking Plate Preoperative Template (7118-0980) is available to assist with preoperative radiographic planning.



PERI-LOC Olecranon Locking Plate
Preoperative Template
Cat. No. 7118-0980

Plate Positioning

Apply the selected plate to the dorsal aspect of the proximal ulna with the curved tip contouring around the olecranon. The articular tines should penetrate the triceps tendon providing proximal provisional fixation.



Provisionally fix the plate to the shaft of the olecranon using one 2.7mm x 18mm Provisional Fixation Pin (7117-3322).



Plate Contouring

Occasionally, minor plate contouring is required prior to implantation. If necessary, this may be accomplished with Bending Irons (7117-3482).

Note Avoid excessive plate contouring as this can alter screw trajectory to the point that certain screw holes cannot be used due to the risk of screw interdigitation.

Screw Insertion

3.5mm Locking Screw

Thread the 3.5mm Locking Drill Guide (7117-3538) with 2.7mm Locking Drill Guide Insert (7117-3529)* into the desired screw hole and drill accordingly with the 2.7mm Drill Bit.

Measure for screw length by reading the exposed calibrations off the drill bit or by using the 3.5mm Short Screw Depth Gauge (7117-3523).



Attach the 3.5mm Hexdriver w/AO Quick Connect (7117-3537) to the Large Screwdriver Handle (7117-3547) and insert the appropriate length 3.5mm Self-Tapping Locking Screw**. Care should be taken to not over penetrate the far cortex.



Note Locking screws may be inserted on power, but should always be tightened by hand in order to avoid loss of reduction, stripping of the screw head or damage to the screwdriver.

* The 2.7mm Locking Drill Guide-One Piece (7117-3450) may be substituted for the 3.5mm Locking Drill Guide with 2.7mm Locking Drill Guide Insert
** Screws may be inserted through the 3.5mm Locking Drill Guide, but it must be removed prior to insertion of a screw less than 24mm in length



3.5mm Cortex Screw

Insert the Universal Drill Guide Handle (7117-3349) with 2.7mm Neutral Locking Hole Insert (7117-3514) into the desired screw hole and drill accordingly with the 2.7mm Drill Bit.

Measure for screw length by reading the exposed calibrations off the drill bit or by using the 3.5mm Short Screw Depth Gauge.



Insert the appropriate length 3.5mm Self-Tapping Cortex Screw using the 3.5mm Hexdriver/Screwdriver Handle assembly. Fill remaining screw holes as desired.

Note If non-locking screws are to be used in the plate to gain compression, it is advised that they be inserted prior to any locking screws.

2.7mm Locking Screw

Thread the 2.7mm Locking Screw Guide (7117-3452) with 2.0mm Locking Drill Guide Insert (7117-3449)* into the desired screw hole and drill accordingly with the 2.0mm Short Drill Bit (7117-3555).

Measure for screw length by reading the exposed calibrations off the drill bit or by using the 2.7mm Screw Depth Gauge (7117-3525).



Attach the 2.5mm Hexdriver Shaft w/AO Quick Connect (7117-3535) to the Large Screwdriver Handle (7117-3547) and insert the appropriate length 2.7mm Self-Tapping Locking Screw. Care should be taken to not over penetrate the far cortex.



Note Locking screws may be inserted on power, but should always be tightened by hand in order to avoid loss of reduction, stripping of the screw head or damage to the screwdriver.

* The 2.0mm Locking Drill Guide (7117-3448) may be substituted for the 2.7mm Locking Screw Guide with 2.0mm Locking Drill Guide Insert

** Screws may be inserted through the 2.7mm Locking Drill Guide assembly, but it must be removed prior to insertion of a screw less than 24mm in length

2.7mm Cortex Screw

Thread the 2.7mm Locking Screw Guide with 2.0mm Locking Drill Guide Insert* into the desired screw hole and drill accordingly with the 2.0mm Short Drill Bit.



Note To avoid interdigitation with screws in the shaft, the 2.7mm Locking Screw Guide with 2.0mm Locking Drill Guide Insert must be used for both 2.7mm Locking and Cortex Screws.

Note The Universal Drill Guide Handle (7117-3349) with 2.0mm Neutral Locking Hole Insert (7117-3453) may be used in place of the 2.7mm Locking Drill Guide for angled 2.7mm Cortex Screw placement. However, this does increase the risk of screw interdigitation.

Measure for screw length by reading the exposed calibrations off the drill bit or by removing the Drill Guide assembly and using the 2.7mm Screw Depth Gauge.

Insert the appropriate length 2.7mm Self-Tapping Cortex Screw using the 2.5mm Hexdriver/Screwdriver Handle assembly. Fill remaining screw holes as desired.

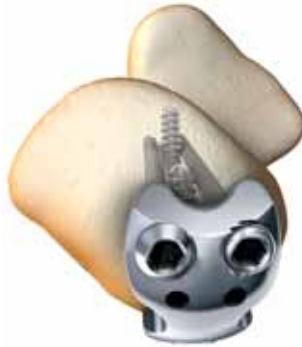


Note If non-locking screws are to be used in the plate to gain compression, it is preferred that they be inserted prior to any locking screws.

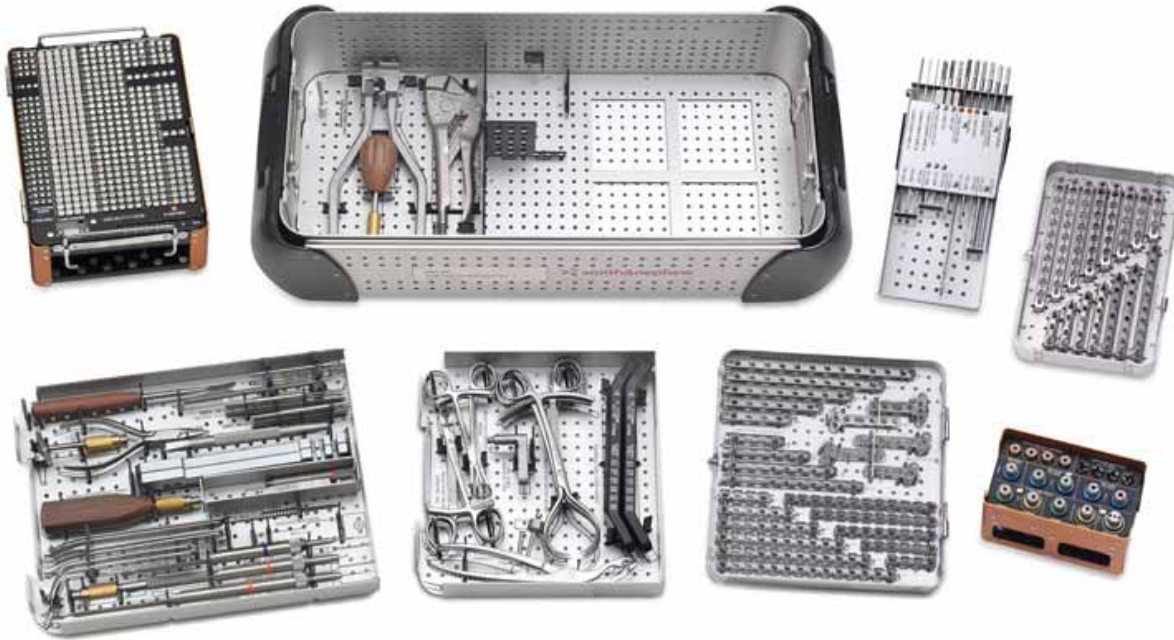
* The 2.0mm Locking Drill Guide (7117-3448) may be substituted for the 2.7mm Locking Screw Guide with 2.0mm Locking Drill Guide Insert

Closure

Obtain final radiographic images to confirm screw placement and fracture reduction. Wound closure follows standard technique.



Catalog Information



PERI-LOC[®] Small Fragment Instrument, Implant and Disposables Set

Set No. 7181-0220

Instrument Cases

Cat. No.	Description	Cat. No.	Description
7112-9400	Large Outer Case	7117-0353	Small Fragment Straight Plate Caddy
7112-9402	Lid for Outer Case	7117-0354	Small Fragment Screw Caddy
7117-0350	Small Fragment Drill Guide Caddy	7117-0359	Small Fragment Drill Caddy
7117-0352	Small Fragment Straight Locking Plate Caddy	7117-0361	Small Fragment Instrument Tray

Instruments

Cat. No.	Description	Tray Qty	Cat. No.	Description	Tray Qty
7117-0043	Sharp Hook	1 ea	7117-3487	3.5mm Self-Retaining Hexdriver Shaft w/AO Quick Connect, 178mm	2 ea
7117-0045	Screw Forceps	1 ea	7117-3510	2.7mm Drill Guide Insert	2 ea
7117-0057	Hohmann Retractor, 8mm	2 ea	7117-3511	2.7mm Compression Slot Insert	1 ea
7117-0063	Wire Bending Pliers, 140mm	1 ea	7117-3512	2.7mm Neutral Slot Insert	1 ea
7117-0076	Bending Pliers for 2.7mm & 3.5mm Plates	1 ea	7117-3513	3.5mm Drill Guide Insert	2 ea
7117-0095	Hohmann Retractor, 15mm	2 ea	7117-3514	2.7mm Neutral Locking Hole Insert	1 ea
7117-0097	Periosteal Elevator	1 ea	7117-3515	2.7mm Compression Locking Hole Insert	1 ea
7117-0175	Bending Pliers for 3.5mm Reconstruction Plates	1 ea	7117-3516	2.0mm Parallel Wire Drill Guide	1 ea
7117-3344	Countersink	1 ea	7117-3517	2.0mm Wire/Drill Insert	1 ea
7117-3349	Universal Drill Guide Handle	2 ea	7117-3523	Short 3.5mm Screw Depth Gauge	1 ea
7117-3369	Hohmann Retractor, Bent, 8mm	2 ea	7117-3525	2.7mm Screw Depth Gauge	1 ea
7117-3370	Reduction Forceps w/Ratchet, 205mm	2 ea	7117-3527	Cannulated K-Wire Bending Iron	1 ea
7117-3377	Reduction Forceps w/Points, Broad	2 ea	7117-3528	Cannulated AO-to-Trinkle Adaptor	1 ea
7117-3378	Reduction Forceps w/Serrated Jaw	2 ea	7117-3529	2.7mm Locking Drill Guide Insert	4 ea
7117-3482	Small Fragment Bending Irons	2 ea	7117-3534	3.5mm Screw Depth Gauge	1 ea

Instruments (continued)

Cat. No.	Description	Tray Qty	Cat. No.	Description	Tray Qty
7117-3535	2.5mm Hexdriver Shaft w/AO Quick Connect, 177mm	2 ea	7117-3544	Self-centering Reverse Verbrugge Forceps, 190mm	1 ea
7117-3538	3.5mm Locking Screw Guide	4 ea	7117-3547	Large Screwdriver Handle w/AO Quick Connect	1 ea
7117-3542	Small T-Handle w/AO Quick Connect	1 ea	7117-3549	Small Fragment Guide Removal Assembly	1 ea
7117-3543	Teardrop Handle Screwdriver w/AO Quick Connect	1 ea			

Optional Instruments

Cat. No.	Description	Tray Qty
7117-3488	3.5mm Self-Retaining Hexdriver Shaft w/AO Quick Connect, 119mm	1 ea
7117-3450	2.7mm Locking Drill Guide-One Piece	1 ea

Disposables

Cat. No.	Description	Tray Qty	Cat. No.	Description	Tray Qty
7116-1012	1.25mm x 150mm K-Wire w/Trocar Point	6 ea	7117-3555	2.0mm Short Calibrated Drill Bit w/AO Quick Connect, 93mm	2 ea
7116-1016	1.6mm x 150mm K-Wire w/Trocar Point	6 ea	7117-3502	2.7mm Short Calibrated Drill Bit w/AO Quick Connect, 155mm	2 ea
7116-1020	2.0mm x 150mm K-Wire w/Trocar Point	6 ea	7117-3503	2.7mm Calibrated Drill Bit w/AO Quick Connect, 228mm	2 ea
7117-3318	3.5mm Tap w/AO Quick Connect	2 ea	7117-3504	3.5mm Short Calibrated Drill Bit w/AO Quick Connect, 155mm	2 ea
7117-3366	2.7mm Tap w/AO Quick Connect	2 ea			
7117-3386	4.0mm Tap w/AO Quick Connect	2 ea			
7117-3322	2.7mm x 18mm Provisional Fixation Pin	4 ea			
7117-3323	2.7mm x 40mm Provisional Fixation Pin	4 ea			
7117-3501	2.0mm Calibrated Drill Bit w/AO Quick Connect, 190mm	2 ea			

Implants**2.7mm Self-Tapping
Cortex Screws**

Cat. No.	Length	Cat. No.	Length	Cat. No.	Length
7182-3010	10mm	7182-3026	26mm	7182-3045	45mm
7182-3012	12mm	7182-3028	28mm	7182-3050	50mm
7182-3014	14mm	7182-3030	30mm	7182-3055	55mm
7182-3016	16mm	7182-3032	32mm	7182-3060	60mm
7182-3018	18mm	7182-3034	34mm	7182-3065	65mm
7182-3020	20mm	7182-3036	36mm	7182-3070	70mm
7182-3022	22mm	7182-3038	38mm		
7182-3024	24mm	7182-3040	40mm		

Catalog Information

3.5mm Self-Tapping Cortex Screws

Cat. No.	Length	Cat. No.	Length	Cat. No.	Length
7182-4010	10mm	7182-4030	30mm	7182-4065	65mm
7182-4012	12mm	7182-4032	32mm	7182-4070	70mm
7182-4014	14mm	7182-4034	34mm	7182-4075	75mm
7182-4016	16mm	7182-4036	36mm	7182-4080	80mm
7182-4018	18mm	7182-4038	38mm	7180-4085*	85mm
7182-4020	20mm	7182-4040	40mm	7180-4090*	90mm
7182-4022	22mm	7182-4045	45mm	7180-4095*	95mm
7182-4024	24mm	7182-4050	50mm	7180-4100*	100mm
7182-4026	26mm	7182-4055	55mm	7180-4105*	105mm
7182-4028	28mm	7182-4060	60mm	7180-4110*	110mm

3.5mm Self-Tapping Locking Screws

Cat. No.	Length	Cat. No.	Length	Cat. No.	Length
7182-5010	10mm	7182-5030	30mm	7182-5065	65mm
7182-5012	12mm	7182-5032	32mm	7182-5070	70mm
7182-5014	14mm	7182-5034	34mm	7182-5075	75mm
7182-5016	16mm	7182-5036	36mm	7182-5080	80mm
7182-5018	18mm	7182-5038	38mm	7180-5085*	85mm
7182-5020	20mm	7182-5040	40mm	7180-5090*	90mm
7182-5022	22mm	7182-5045	45mm	7180-5095*	95mm
7182-5024	24mm	7182-5050	50mm	7180-5100*	100mm
7182-5026	26mm	7182-5055	55mm	7180-5105*	105mm
7182-5028	28mm	7182-5060	60mm	7180-5110*	110mm

* Available sterile only

4.0mm Cancellous Screws,
Fully Threaded

Cat. No.	Length	Cat. No.	Length	Cat. No.	Length
7182-5210	10mm	7182-5230	30mm	7182-5265	65mm
7182-5212	12mm	7182-5232	32mm	7182-5270	70mm
7182-5214	14mm	7182-5234	34mm	7182-5275	75mm
7182-5216	16mm	7182-5236	36mm	7182-5280	80mm
7182-5218	18mm	7182-5238	38mm	7180-5285*	85mm
7182-5220	20mm	7182-5240	40mm	7180-5290*	90mm
7182-5222	22mm	7182-5245	45mm	7180-5295*	95mm
7182-5224	24mm	7182-5250	50mm	7180-5300*	100mm
7182-5226	26mm	7182-5255	55mm		
7182-5228	28mm	7182-5260	60mm		

4.0mm Cancellous Screws,
Partially Threaded

Cat. No.	Length	Cat. No.	Length	Cat. No.	Length
7182-5310	10mm	7182-5330	30mm	7182-5365	65mm
7182-5312	12mm	7182-5332	32mm	7182-5370	70mm
7182-5314	14mm	7182-5334	34mm	7182-5375	75mm
7182-5316	16mm	7182-5336	36mm	7182-5380	80mm
7182-5318	18mm	7182-5338	38mm	7180-5385*	85mm
7182-5320	20mm	7182-5340	40mm	7180-5390*	90mm
7182-5322	22mm	7182-5345	45mm	7180-5395*	95mm
7182-5324	24mm	7182-5350	50mm	7180-5400*	100mm
7182-5326	26mm	7182-5355	55mm		
7182-5328	28mm	7182-5360	60mm		

Washer, 7.0mm Outer Diameter

Cat. No. 7114-3107

* Available sterile only

Catalog Information



PERI-LOC[®] Elbow/2.7mm Locking Plate Tray

Set No. 7181-1005

Instrument Cases

Cat. No.	Description
7112-9400	Large Outer Case
7112-9402	Lid for Outer Case
7117-0397	Elbow Locking Plate Tray
7117-0399	2.7mm Instrument & Screw Tray
7117-0373	2.7mm Drill Guide Caddy
7117-0374	2.7mm Self-Tapping Cortex Locking Screw Caddy

Instruments

Cat. No.	Description	Tray Qty
7117-3455	2.7mm Screw Guide Remover	1 ea
7117-3448	2.0mm Locking Drill Guide	2 ea
7117-3452	2.7mm Locking Screw Guide	2 ea
7117-3449	2.0mm Locking Drill Guide Insert	2 ea
7117-3453	2.0mm Neutral Locking Hole Insert	1 ea
7117-0045	Screw Forceps	1 ea

2.7mm Self-Tapping Locking Screws

Cat. No.	Length	Cat. No.	Length	Cat. No.	Length
7182-2310	10mm	7182-2324	24mm	7182-2338	38mm
7182-2312	12mm	7182-2326	26mm	7182-2340	40mm
7182-2314	14mm	7182-2328	28mm	7182-2345	45mm
7182-2316	16mm	7182-2330	30mm	7182-2350	50mm
7182-2318	18mm	7182-2332	32mm	7182-2355	55mm
7182-2320	20mm	7182-2334	34mm	7182-2360	60mm
7182-2322	22mm	7182-2336	36mm		

Olecranon Locking Plates

Cat. No.	Description	Length	Cat. No.	Description	Length
7182-2904	4H, Left	56mm	7182-3904	4H, Right	56mm
7182-2906	6H, Left	81mm	7182-3906	6H, Right	81mm
7182-2908	8H, Left	107mm	7182-3908	8H, Right	107mm
7182-2910	10H, Left	132mm	7182-3910	10H, Right	132mm
7182-2912	12H, Left	157mm	7182-3912	12H, Right	157mm



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