

Olecranon Locking Plate



PERI-LOC[◇] Upper Extremity Locked Plating System

3.5/2.7mm Olecranon Locking Plates

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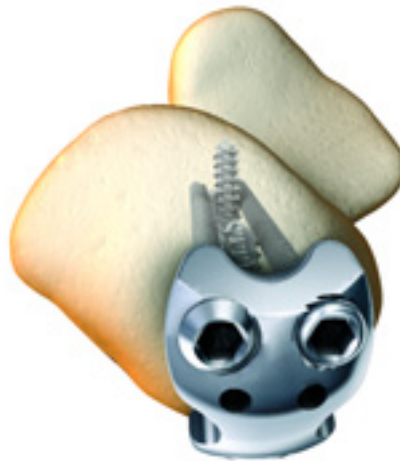
The technique description herein is made available to the healthcare professional to illustrate the author's suggested treatment for the uncomplicated procedure. In the final analysis, the preferred treatment is that which addresses the needs of the specific patient.

Introduction

PERI-LOC[®] Locked Plating System Overview

The PERI-LOC Locked Plating System combines the advantages of locked plating with the flexibility and benefits of traditional plates and screws. Utilising both locking and non-locking screws, the PERI-LOC system allows for the creation of a construct that resists angular collapse and also functions as an effective fracture reduction aid. A simple, intuitive instrument set featuring standardised drill bits, screwdrivers, and colour coded drill guides helps make the PERI-LOC system efficient and easy to use.

The precise screw trajectories, anatomic contour, and locking capabilities of the PERI-LOC Olecranon Plates provide a stable construct for predictable reconstruction of complex fractures of the olecranon.



- Low profile plate and screws reduce the potential for soft tissue and tendon irritation
- Compression-to-recon plate profile transition facilitates additional intraoperative contouring
- Coronal bend of longer plates accommodates ulnar anatomy
- Locking and non-locking option in every hole for custom screw configurations
- Two (2) articular tines provide additional stability in the triceps tendon
- 316L stainless steel for strength
- Bevelled plate tip for percutaneous insertion
- Two (2) 2.7mm locking screws provide dual points of articular fixation



Implant Features



Every threaded hole can accept a locking or non-locking screw:



2.7mm Self-tapping Cortex Screw (Non-locking)
Cat. No. 7180-30XX



2.7mm Locking Self-tapping Cortex Screw
Cat. No. 7180-23XX



3.5mm Self-tapping Cortex Screw (Non-locking)
Cat. No. 7180-40XXA



3.5mm Locking Self-tapping Cortex Screw
Cat. No. 7180-50XX

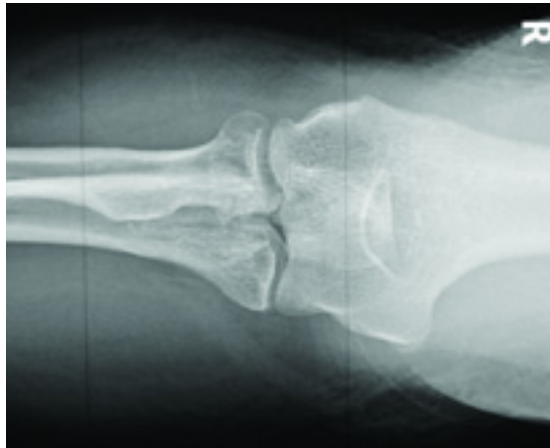
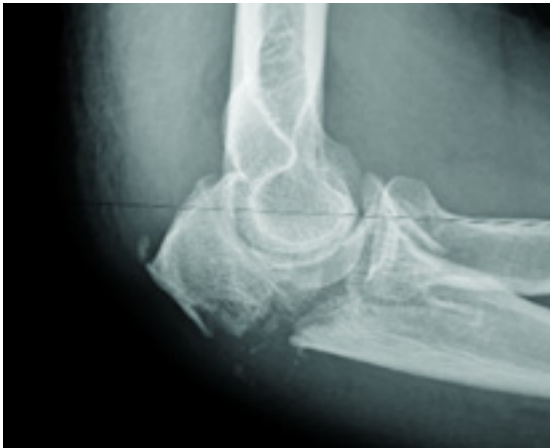
Indications

The PERI-LOC® Olecranon Locking Plates are indicated for fractures and fracture dislocations, osteotomies and nonunions of the proximal ulna.



Olecranon Case Example

Case 1



Surgical Technique

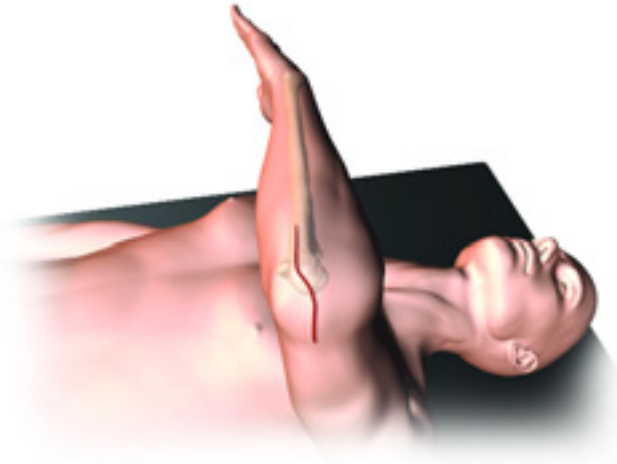
Patient Positioning

The patient should be placed in the supine position with the affected limb draped over the chest supported by an arm board. Alternatively, the patient may be placed in the lateral decubitus position with the arm over a post. The elbow should rest in flexion and may be extended to assist with reduction.



Incision

The incision is made distally along the subcutaneous border of end of the ulna. It is continued proximally where it is curved ulnarly over the tip of the olecranon and extended proximally to the midline 30–50mm. The ulnar nerve is identified and protected, as necessary. The incision is developed down to the fascia and a subcutaneous flap is elevated over the tip of the olecranon. Medial and/or lateral arthrotomies are utilised as necessary to visualise the articular margin. Expose with care to preserve soft tissue attachments to fracture fragments.



Fracture Reduction and Provisional Fixation

After exposure and debridement of the fracture site, the fracture is reduced and provisionally fixed under fluoroscopy with K-wires, reduction forceps or suture fixation. Reduction aids should be placed so as not to interfere with placement of the plate. The PERI-LOC® Olecranon Plate may also be used as a reduction tool due to its anatomical contour and locking/non-locking screw options.

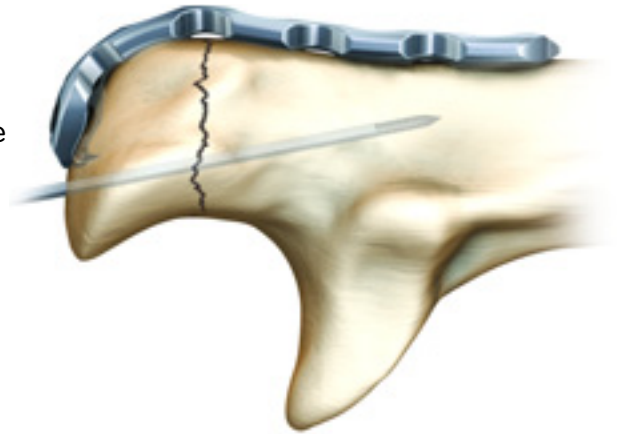


Plate Selection

The appropriate plate is selected following fracture reduction. The Olecranon Plate is available in varying lengths to cover a wide variety of fracture patterns. The appropriate length plate typically provides at least three screw holes in the distal metaphyseal fragment and at least 4 holes for diaphyseal fractures. Olecranon Plates longer than 7 holes have a coronal bend to accommodate normal ulnar anatomy, but may be contoured as needed. Note that the trajectories of the proximal 2.7mm locking screws are such that all screws may be placed without the risk of screw impingement.



Plate Positioning

Apply the selected plate to the proximal ulna posteriorly such that the tines on the plate tip engage the triceps tendon providing a limited degree of provisional fixation. The plate may then be additionally stabilised to the bone using 2.7mm Provisional Fixation Pins and fracture reduction forceps.

Note: It is imperative that the articular surface of the olecranon be reduced prior to definitive fixation with any plates and screws.



Screw Insertion

Proceed with definitive fixation using appropriate screw selections as detailed by the screw insertion techniques listed to follow.

Tips:

- If non-locking screws are to be inserted into a plate to gain compression, it is preferred that they be inserted prior to any locking screws.
- If either the 3.5mm Locking Screw Guide with 2.7mm Locking Drill Guide Insert or 2.7mm Locking Screw Guide with 2.0mm Locking Drill Guide Insert are used, remove the Drill Guide Insert before inserting the appropriate length screw through the slotted Outer Sleeve. *Note that the entire Drill Guide assembly must be removed before inserting a screw less than 24mm in length.* Advance the screw with the appropriate Hexdriver until the black laser etched marks are at the top of the Outer Sleeve then remove the Outer Sleeve and tighten by hand.
- For a pre-determined screw trajectory when inserting Cortex Screws, either the 3.5mm Locking Drill Guide with 2.7mm Insert or 2.7mm Locking Drill Guide with 2.0mm Insert may be used in place of the standard Drill Guide.
- The 3.5mm Locking Drill Guide-One Piece and 2.7mm Locking Drill Guide-One Piece may be substituted for the Locking Drill Guides with Inserts.
- Locking screws may be inserted on power, but should always be tightened by hand. Tightening screws on power may cause loss of reduction, exposure of the screw head to excessive torque or damage to the drill.

2.7mm Cortex Screw Insertion

- Drill with the 2.0mm Drill Bit through the Drill Guide with 2.0mm Neutral Locking Hole Insert. Screw length may be determined by reading the calibrations on the Drill Bit or by using the 2.7mm Depth Gauge. If using the 2.7mm Depth Gauge, remove the Drill Guide for accurate measurement. Insert the appropriate length 2.7mm Cortex Screw using the 2.5mm Hexdriver.



2.0mm Neutral
Locking Hole Insert
Cat. No. 7117-3453



Universal Drill
Guide Handle
Cat. No. 7117-3349



2.0mm Drill Bit with
Quick Connect
Cat. No. 7117-3501



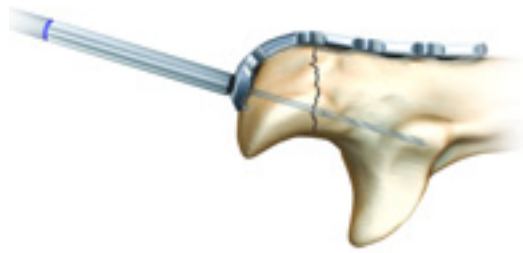
2.7mm Screw
Depth Gauge
Cat. No. 7117-3525



2.5mm Hexdriver
Shaft with AO
Quick Connect
Cat. No. 7117-3535

2.7mm Locking Screw Technique

- Thread the 2.7mm Locking Screw Guide with 2.0mm Insert into the screw hole. Drill with the 2.0mm Drill Bit and measure for screw length by reading the calibrations on the Drill Bit or by using the 2.7mm Depth Gauge. If using the Depth Gauge, remove the Locking Drill Guide for accurate measurement. Insert the appropriate length 2.7mm Locking Screw using the 2.5mm Hexdriver.



2.0mm Drill Bit with
Quick Connect
Cat. No. 7117-3501



2.0mm Locking Drill
Guide
Cat. No. 7117-3448



2.0mm Locking Drill
Guide Insert
Cat. No. 7117-3449



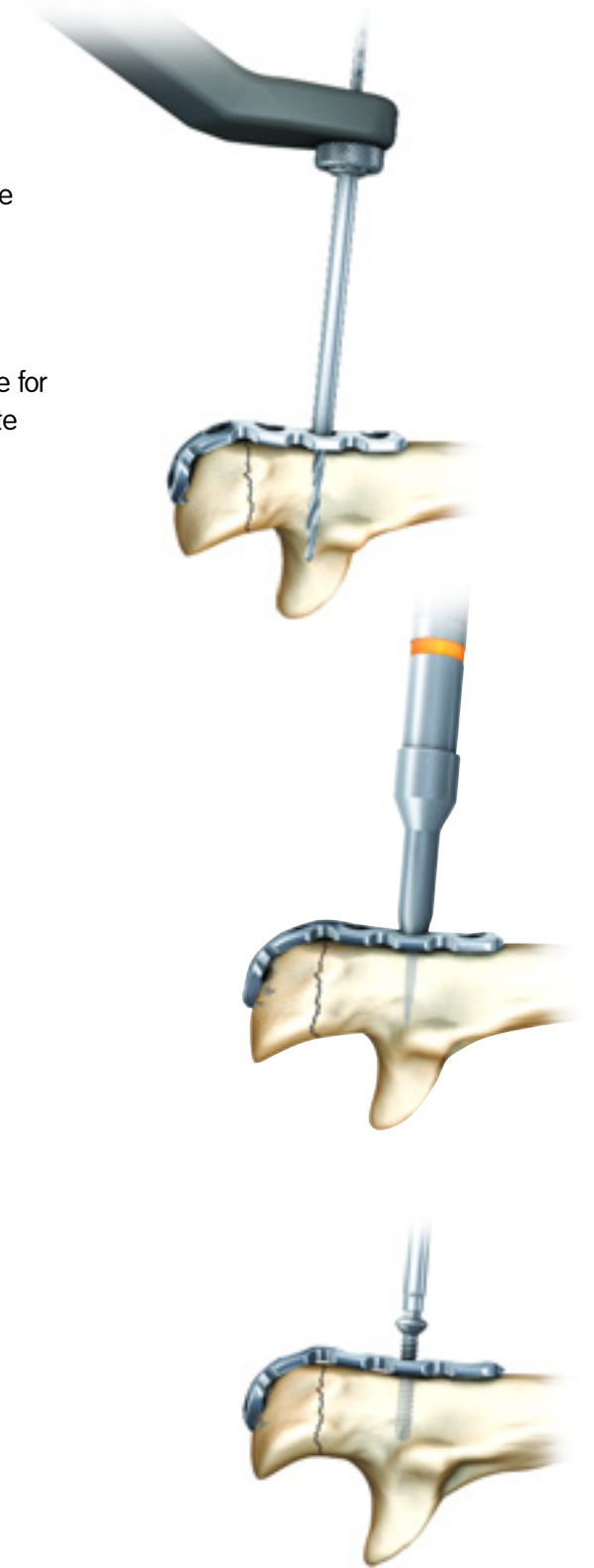
2.7mm Screw
Depth Gauge
Cat. No. 7117-3525



2.5mm Hexdriver
Shaft with AO
Quick Connect
Cat. No. 7117-3535

3.5mm Cortex Screw Technique

- Drill with the Long 2.7mm Drill Bit through the Drill Guide with 2.7mm Neutral Locking Hole Insert. Screw length may be determined by reading the calibrations on the Drill Bit or by using the 3.5mm Depth Gauge. If using the Depth Gauge, remove the Locking Drill Guide for accurate measurement. Insert the appropriate length screw with the 3.5mm Hexdriver.



2.7mm Neutral
Locking Hole Insert
Cat. No. 7117-3514



Universal Drill
Guide Handle
Cat. No. 7117-3349



2.7mm Drill Bit with
AO Quick Connect
Cat. No. 7117-3503



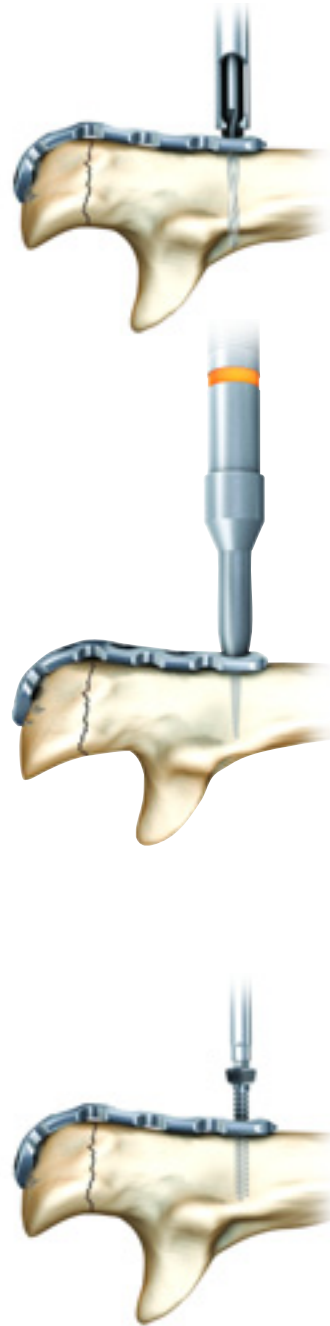
3.5mm Screw
Depth Gauge
Cat. No. 7117-3534



3.5mm Hexdriver
Shaft with AO
Quick Connect
Cat. No. 7117-3537

3.5mm Locking Screw Technique

- Thread the 3.5mm Locking Screw Guide with Insert into the screw hole. Drill with the Long 2.7mm Drill Bit and measure for screw length by reading the calibrations on the Drill Bit or by using the 3.5mm Depth Gauge. If using Depth Gauge, the Locking Drill Guide must be removed for accurate measurement. Insert the appropriate length screw using the 3.5mm Hexdriver.



2.7mm Drill Bit with
AO Quick Connect
Cat. No. 7117-3503

3.5mm Locking
Screw Guide
Cat. No. 7117-3538

2.7mm Locking Drill
Guide Insert
Cat. No. 7117-3529

3.5mm Hexdriver
Shaft with AO
Quick Connect
Cat. No. 7117-3537

3.5mm Screw
Depth Gauge
Cat. No. 7117-3534

Incision Closure

Verify fracture reduction under fluoroscopy and use the appropriate method for surgical closure of the incision.



Catalogue Information – Small Fragment Plates

Olecranon Locking Plates

Cat. No.	Length	Minimum Suggested Qty
7180-2904	4H Left 56mm	0
7180-2906	6H Left 81mm	1
7180-2908	8H Left 107mm	1
7180-2910	10H Left 132mm	0
7180-2912	12H Left 157mm	0
7180-3904	4H Right 56mm	0
7180-3906	6H Right 81mm	1
7180-3908	8H Right 107mm	1
7180-3910	10H Right 132mm	0
7180-3912	12H Right 157mm	0



Small Fragment System
2.7mm Self-Tapping Cortex Screws
(Non-Locking)



Cat. No.	Length	Minimum Suggested Qty
7180-3010	10mm	3
7180-3012	12mm	3
7180-3014	14mm	3
7180-3016	16mm	3
7180-3018	18mm	3
7180-3020	20mm	3
7180-3022	22mm	3
7180-3024	24mm	3
7180-3026	26mm	3
7180-3028	28mm	3
7180-3030	30mm	3
7180-3032	32mm	3
7180-3034	34mm	3
7180-3036	36mm	3
7180-3038	38mm	3
7180-3040	40mm	3
7180-3045	45mm	3
7180-3050	50mm	3
7180-3055	55mm	3
7180-3060	60mm	3
7180-3065	65mm	3
7180-3070	70mm	3

Small Fragment System
2.7mm Locking Self-Tapping Cortex Screws



Cat. No.	Length	Minimum Suggested Qty
7180-2310	10mm	4
7180-2312	12mm	4
7180-2314	14mm	4
7180-2316	16mm	4
7180-2318	18mm	4
7180-2320	20mm	4
7180-2322	22mm	4
7180-2324	24mm	4
7180-2326	26mm	4
7180-2328	28mm	4
7180-2330	30mm	4
7180-2332	32mm	2
7180-2334	34mm	2
7180-2336	36mm	2
7180-2338	38mm	2
7180-2340	40mm	4
7180-2345	45mm	4
7180-2350	50mm	8
7180-2355	55mm	2
7180-2360	60mm	2

Catalogue Information – Small Fragment System Screws

Small Fragment System
3.5mm Self-Tapping Cortex Screws
(Non-Locking)



Cat. No.	Length	Minimum Suggested Qty
7180-4010A	10mm	5
7180-4012A	12mm	5
7180-4014A	14mm	5
7180-4016A	16mm	10
7180-4018A	18mm	10
7180-4020A	20mm	5
7180-4022A	22mm	5
7180-4024A	24mm	5
7180-4026A	26mm	5
7180-4028A	28mm	5
7180-4030A	30mm	5
7180-4032A	32mm	5
7180-4034A	34mm	5
7180-4036A	36mm	5
7180-4038A	38mm	5
7180-4040A	40mm	5
7180-4045	45mm	5
7180-4050	50mm	5
7180-4055	55mm	5
7180-4060	60mm	5
7180-4065	65mm	5
7180-4070	70mm	5
7180-4075	75mm	5
7180-4080	80mm	5
7180-4085	85mm	0
7180-4090	90mm	0
7180-4095	95mm	0
7180-4100	100mm	0
7180-4105	105mm	0
7180-4110	110mm	0

Small Fragment System
3.5mm Locking Self-Tapping Cortex Screws



Cat. No.	Length	Minimu Suggested Qty
7180-5010	10mm	5
7180-5012	12mm	5
7180-5014	14mm	5
7180-5016	16mm	10
7180-5018	18mm	10
7180-5020	20mm	5
7180-5022	22mm	5
7180-5024	24mm	5
7180-5026	26mm	5
7180-5028	28mm	5
7180-5030	30mm	5
7180-5032	32mm	5
7180-5034	34mm	5
7180-5036	36mm	5
7180-5038	38mm	5
7180-5040	40mm	5
7180-5045	45mm	5
7180-5050	50mm	5
7180-5055	55mm	5
7180-5060	60mm	5
7180-5065	65mm	5
7180-5070	70mm	5
7180-5075	75mm	5
7180-5080	80mm	5
7180-5085	85mm	0
7180-5090	90mm	0
7180-5095	95mm	0
7180-5100	100mm	0
7180-5105	105mm	0
7180-5110	110mm	0

Catalogue Information – Small Fragment System Instruments

Sharp Hook

Cat. No. 7117-0043



Hohmann Retractor, 8mm Width

Cat. No. 7117-0057



Hohmann Retractor, 15mm Width

Cat. No. 7117-0095



Hohmann Retractor Bent, 8mm

Cat. No. 7117-3369



Wire Bending Pliers, 140mm Length

Cat. No. 7117-0063



Bending Pliers for 2.7mm & 3.5mm Plates

Cat. No. 7117-0076



Bending Pliers for 3.5mm Reconstruction Plates

Cat. No. 7117-0175



Periosteal Elevator 6mm, Rounded

Cat. No. 7117-0097



Universal Plate Bending Irons

Cat. No. 7117-3367



Small Fragment Countersink

Cat. No. 7117-3344



Reduction Forceps w/ Ratchet-Bowed, 205mm

Cat. No. 7117-3370



Reduction Forceps w/Points, Broad

Cat. No. 7117-3377



Reduction Forceps w/Serrated Jaw

Cat. No. 7117-3378



3.5mm Locking Screw Guide

Cat. No. 7117-3538



2.7mm Locking Drill Guide Insert

Cat. No. 7117-3529



2.7mm Locking Drill Guide – One Piece

(Optional)

Cat. No. 7117-3450



Universal Drill Guide Handle

Cat. No. 7117-3349



2.0mm Wire/Drill Insert

Cat. No. 7117-3517



2.7mm Drill Guide Insert

Cat. No. 7117-3510



3.5mm Drill Guide Insert

Cat. No. 7117-3513



2.7mm Neutral Locking Hole Insert

Cat. No. 7117-3514



2.7mm Compression Locking Hole Insert

Cat. No. 7117-3515



2.7mm Neutral Slot Insert

Cat. No. 7117-3512



2.7mm Compression Slot Insert

Cat. No. 7117-3511



2.0mm Parallel Wire/Drill Guide

Cat. No. 7117-3516



Short 3.5mm Screw Depth Gauge

Cat. No. 7117-3523



2.7mm Screw Depth Gauge

Cat. No. 7117-3525



3.5mm Screw Depth Gauge

Cat. No. 7117-3534



Cannulated Bending Irons for K-wires

Cat. No. 7117-3527



Cannulated AO to Trinkle Adaptor

Cat. No. 7117-3528



Small T-Handle, Quick Coupling

Cat. No. 7117-3542



Tear Drop Handle Screwdriver w/Quick Connect

Cat. No. 7117-3543



Large Screwdriver Handle

Cat. No. 7117-3547



Self Centering Reverse Verbrugge, 190mm

Cat. No. 7117-3544



2.5mm Hexdriver Shaft w/AO Quick Connect

Cat. No. 7117-3535



3.5mm Hexdriver Shaft w/ AO Quick Connect

Cat. No. 7117-3537



Small Fragment Guide Removal Assembly

Cat. No. 7117-3549



Catalogue Information – Small Fragment System Trays

Large Outer Case – 4.8”

Cat. No. 7112-9400



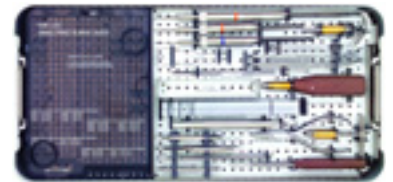
Lid for Outer Cases

Cat. No. 7112-9402



PERI-LOC® Small Fragment Instrument Tray

Cat. No. 7652-2300



Catalogue Information – Small Fragment System

Disposables

K-Wires with Trocar Point and Threaded Pins

Cat. No.	Description	Qty
7116-1012	1.25mm x 150mm	6
7116-1016	1.6mm x 150mm	6
7116-1020	2.0mm x 150mm	6



Taps with Quick Connect

Cat. No.	Description	Qty
7117-3318	3.5mm	2
7117-3366	2.7mm	2
7117-3386	4.0mm Cancellous	2



Provisional Fixation Pins

Cat. No.	Description	Qty
7117-3322	2.7mm x 18mm	4
7117-3323	2.7mm x 40mm	4



Drill Bits with Quick Connect

Cat. No.	Description	Qty
7117-3501	2.0mm	2
7117-3502	2.7mm Short	2
7117-3503	2.7mm	2
7117-3504	3.5mm Short	2



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