

VLP[◇] FOOT Percutaneous Calcaneus Plating System

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.

Product overview

Introduction

The VLP® FOOT Variable-Angle Locked Plating System from Smith & Nephew provides different solutions to help you return your patients to their lifestyles. The VLP FOOT system includes screws for different levels of bone quality, variable-angle locking to give you more freedom in plate placement, and now, calcaneal fracture plates that can be inserted through a smaller incision than the traditional extensile lateral approach.

Indications

The Smith & Nephew VLP FOOT Plating System can be used in adolescent (12-18 years) and transitional adolescent (18-21 years) subpopulations and adults, as well as patients with osteopenic bone. The VLP FOOT Plating System is indicated for fracture fixation, reconstruction or arthrodesis of small bones, including those in the forefoot, midfoot and hindfoot.

Design features and benefits

Plate profile designed to facilitate percutaneous use

The plate profile is curved to facilitate plate insertion subcutaneously through a small incision.



Screw holes positioned to add fixation points in crucial areas

The percutaneous calcaneus plate fits 2.7mm and 4.0mm locking and non-locking screws, as opposed to the Smith & Nephew perimeter style plate, which fits 3.5mm and 5.0mm screws. The use of smaller screws in this area allows placement of clustered screws in key anatomical areas.

Plate insertion instrumentation

A handle is available to easily slide the plate into the small incision. Laser-etched markings on the metal templates assist in orienting the plate correctly with respect to the handle.



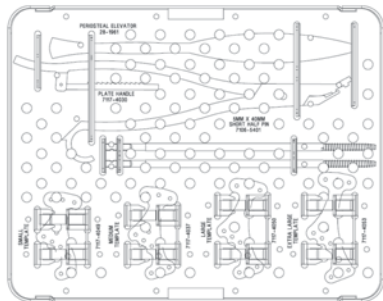
System overview

The Percutaneous Calcaneus plates are used in conjunction with the VLP[®] FOOT system. The VLP FOOT Implant tray and Instrument tray are needed along with the supplemental Percutaneous Calcaneus tray and sterile-packed implants.

The instrument and implant sets listed must be available for a percutaneous calcaneus case.

VLP FOOT Sets

Percutaneous Calcaneus Instrument Tray



Percutaneous Calcaneus Implant Box



VLP FOOT Instrument Tray



VLP FOOT Implant Tray



These additional sets are available from Smith & Nephew and may be used for adjunctive fixation.

- Small cannulated screws
- 4.0mm cannulated screws
- 5.5mm cannulated screws
- JET-X[®] External Fixation

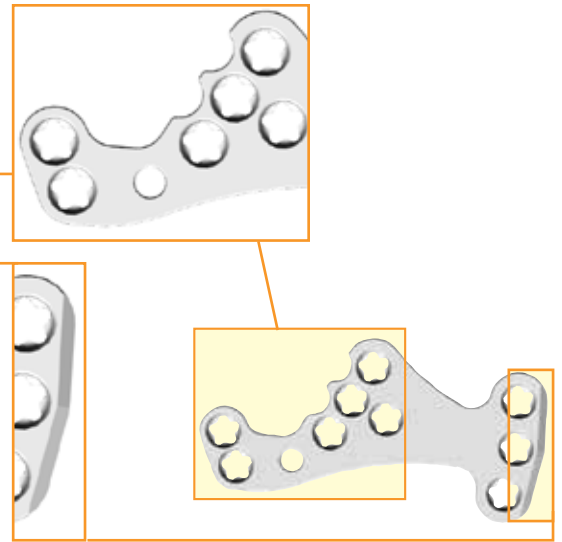
Loaner Services can be utilized for your next case. When ordering from Loaner Services, use the set numbers below.

Description	Set
Percutaneous Calcaneus Instruments	008562
Percutaneous Calcaneus Implants	009428

Implant overview

Percutaneous Calcaneus Plates

- Anterior clustered screws allow stable fracture fixation
- Tapered posterior end eases insertion
- Left and right specific
- Small, medium, large and extra-large sizes available



Small Percutaneous Calcaneus Plate

Plate dimensions	
Profile thickness	1.27mm
Width	27.9mm
Length	55.1mm



Medium Percutaneous Calcaneus Plate

Plate dimensions	
Profile thickness	1.27mm
Width	33.5mm
Length	57.7mm



Large Percutaneous Calcaneus Plate

Plate dimensions	
Profile thickness	1.27mm
Width	33.5mm
Length	62.0mm



Extra-Large Percutaneous Calcaneus Plate

Plate dimensions	
Profile thickness	1.27mm
Width	33.5mm
Length	68.0mm

Screws

2.7mm/4.0mm screw overview

The following screws are available to be used with the Percutaneous Calcaneus plates:

- Self-tapping 2.7mm Cortex and 2.7mm Locking Screws
- 4.0mm Osteopenia and 4.0mm Locking Osteopenia Screws provide superior purchase in poor quality bone stock^{1,2}
- Low-profile heads minimize soft tissue irritation
- Screw angulation in each plate hole:
 - 2.7mm Cortex: 20°
 - 2.7mm Locking: 15°
 - 4.0mm Osteopenia: 15°
 - 4.0mm Locking Osteopenia: 15°



2.7mm Cortex



2.7mm Locking



4.0mm Fully Threaded Osteopenia



4.0mm Locking Osteopenia



4.0mm Partially Threaded Osteopenia

2.7mm Self-Tapping Cortex Screw

Head height	2.6mm
Head outer diameter	5.0mm
Hex size	2.5mm
Thread outer diameter	2.7mm
Core diameter	2.0mm
Thread pitch	1.0mm
Number of self-tapping flutes	3



2.7mm Self-Tapping Locking Cortex Screw

Head height	3.4mm
Head outer diameter	4.9mm
Hex size	2.5mm
Thread outer diameter	2.7mm
Core diameter	2.0mm
Thread pitch	1.0mm
Number of self-tapping flutes	3



4.0mm Fully Threaded Osteopenia Screw

Head height	2.5mm
Head outer diameter	5.0mm
Hex size	2.5mm
Thread outer diameter	4.0mm
Core diameter	2.0mm
Thread pitch	1.75mm



4.0mm Locking Osteopenia Screw

Head height	3.4mm
Head outer diameter	4.9mm
Hex size	2.5mm
Thread outer diameter	4.0mm
Core diameter	2.0mm
Thread pitch	1.75mm



4.0mm Partially Threaded Osteopenia Screw

Head height	2.5mm
Head outer diameter	5.0mm
Hex size	2.5mm
Thread outer diameter	4.0mm
Core diameter	2.0mm
Thread pitch	1.75mm



Surgical technique

Surgical approach

The percutaneous calcaneus plate can be inserted either through an extensile lateral approach or a sinus tarsi approach.

Extensile lateral approach

The lateral aspect of the calcaneus is exposed through an extensile, full-thickness “L” shaped incision. Begin the incision 2-3cm superior to the distal tip of the fibula just anterior to the Achilles tendon. Continue the incision parallel with the tendon down towards the posterior/inferior aspect of the calcaneus. Extend the incision horizontally along the inferior aspect of the calcaneus approximately 1-2cm past the calcaneocuboid joint.

This approach permits the raising of a single, full-thickness flap consisting of skin, soft tissue, peroneal tendons, the sural nerve and ankle ligaments. K-Wires are placed in the talar neck, the distal fibula and/or the cuboid in order to retract the flap.



Note Avoid prolonged flap retraction.

Sinus tarsi approach

The sinus tarsi approach can be an effective approach, but its use is advisable with only certain types of calcaneal fractures. This approach is best utilized with Sanders Type II fractures, where the anatomic reduction through a small incision is easier to achieve. In addition, when a primary subtalar fusion is desired due to a highly comminuted Sanders Type IV fracture, this method can be effective at achieving gross reduction of the articular surface and appropriate alignment of the body. Sanders Type III fractures with anterior central fracture fragments can also be treated with this approach, but fracture reduction is more difficult with this method than with an extensile lateral approach.

Do not use this approach with any fracture that you feel may be difficult to reduce with a small incision. Remember that an anatomic articular reduction is the ultimate goal of calcaneal fracture management. This approach can be used if the soft tissues are “ready” for surgery and if the fracture is less than 10 days old.

An incision is made over the sinus tarsi from the anterior fibula across the anterior process of the calcaneus, superior to the peroneal tendons. The incision is made ensuring that the sural nerve is undisturbed, and the peroneal tendons remain in their sheath.

A malleable retractor can be used to protect the peroneal tendons. A scalpel followed by a Langenbeck Periosteal Elevator (28-1961) can be used to lift the flap and make a path for the plate. The lateral wall fragments are freed from the flap and impacted back into the body.

Through this incision, the anterior aspect of the posterior facet is easily visible. A dry scope can be used to see farther posteriorly. In order to access the posterior screw holes, a series of stab incisions should be made. The locations of these incisions should be determined after inserting the metal template or implant through the sinus tarsi incision. Take care to protect the sural nerve during posterior screw insertion.



Fracture reduction

Although numerous reduction methods can be used, the following sequence can work well in both open and minimal incision approaches. First place a Schanz pin or half pin (7106-5401) into the posterior tuberosity fragment from a posterior to anterior direction. Attach a T-handle chuck to the pin. Pull the posterior tuberosity fragment out to the appropriate height and into neutral alignment.



A Langenbeck Periosteal Elevator (28-1961) can be used to help dis-impact and reduce the medial wall. Next, secure the posterior tuberosity fragment to the constant fragment with a fully threaded screw or temporary pin placed along the medial wall of the calcaneus. This screw will gain good fixation in the dense bone of the sustentaculum. Once this is completed, the articular reduction can be performed.



Articular fracture fragments must be anatomically reduced prior to plate application and screw insertion. Reduction aids should be placed so as not to interfere with final plate placement. Reduce and provisionally secure bone fragments using drill tip wires and reduction clamps. Place at least two lag screws or a lag screw and a pin across the articular fracture fragments prior to plate placement.

Slide the appropriate sized plate into position with the plate handle to assist placement. Provisional fixation pins are available to provisionally affix the plate to the bone.

Reduce the anterior portion of the calcaneus to the reconstructed posterior facet and recreate the angle of Gissane. After screws are placed into the posterior facet and anterior calcaneus, ensure that the posterior tuberosity is reduced on multiplanar fluoroscopy. The final screws can now be placed into the posterior tuberosity.

Drill Tip Wires

Drill Tip Wires are made of cobalt chrome with a fluted tip to provide greater stiffness and easier insertion.

Cat No	Description
7110-1413	1.1mm x 150mm Drill Tip Wire
7110-1503	1.25mm x 150mm Drill Tip Wire
7110-1506	1.25mm x 150mm Threaded Drill Tip Wire
7110-1502	1.6mm x 150mm Drill Tip Wire
7110-1505	1.6mm x 150mm Threaded Drill Tip Wire
7110-1501	2.0mm x 150mm Drill Tip Wire
7110-1504	2.0mm x 150mm Threaded Drill Tip Wire



Reduction Clamps

Cat No	Description
7117-3377	Reduction Forceps, Broad
7117-0044	Reduction Forceps, 205mm
7117-3817	Redler Pin Clamp
7117-3818	Compression Forceps with Screw Holders
7117-3863	Compression Forceps with Sharp Point



Provisional Fixation Pins

Cat No	Description
7117-3807	2.0mm x 14mm
7117-3808	2.0mm x 25mm
7117-1228	2.7mm x 14mm
7117-1229	2.7mm x 25mm



Note When inserting provisional fixation pins, be sure to tighten by hand to avoid pin stripping and/or loss of reduction.

Implant positioning

Select the VLP[®] FOOT plate that best accommodates patient anatomy.

Note A VLP FOOT Percutaneous Calcaneus Preoperative Template is available to assist with pre-operative radiographic planning. Metal templates are available to assist with intraoperative plate selection. Each metal template can be used as a right or a left template. "RIGHT" and "LEFT" are laser-etched on each side to provide clarification. In addition, an outline of the plate handle tip is shown on the metal template to ensure proper use of the VLP Calcaneus Plate Handle.

After choosing the appropriate plate for the fracture, the VLP Calcaneus Plate Handle can be used to slide the selected percutaneous calcaneus plate into position. The tip of the handle will fit into the circular holes in the plate.

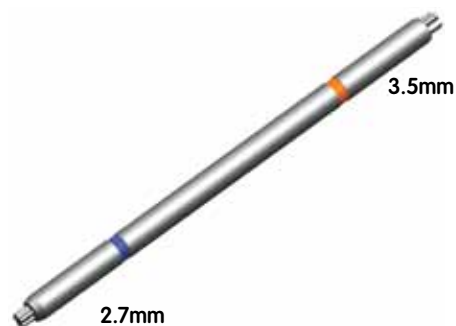
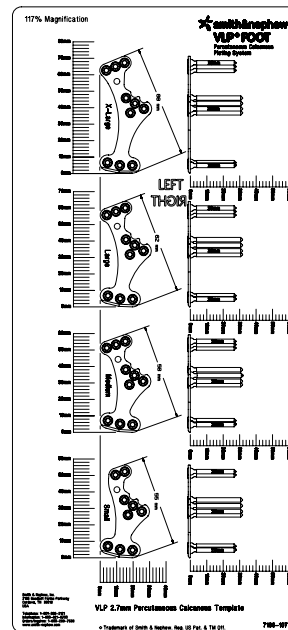
Once the plate is in position, it can be provisionally fixed to the bone using the PF Pins and Reduction Clamps mentioned previously.

If the plate does not properly fit the anatomy, Plate Bending Irons (7117-3815) and the Plate Bending Handle (7117-3816) can be used to additionally contour the implant before the plate is fixed to bone.

The 2.7/3.5mm Plate Bending Rod (7117-3864) can be used to bend the plate when it is partially fixed to bone. To use the Plate Bending Rod, insert the appropriate end into the plate hole to maintain the locking capabilities. For 2.7mm screw holes, use the blue end of the tool.

Note Avoid excessive plate contouring as this could compromise plate locking mechanism. When using the Plate Bending Rod, holes adjacent to the tool may lose the ability to lock. If this occurs, a non-locking screw can be used.

Screw holes on the VLP FOOT Percutaneous Calcaneus plate were designed to accept 2.7mm Cortex, 2.7mm Locking, 4.0mm Osteopenia and 4.0mm Locking Osteopenia Screws.



Screw insertion

2.7mm Cortex Screw

- 1 Position the 2.0mm x 2.7mm Drill Guide (7117-3809) into the desired screw hole and drill accordingly with the 2.0mm drill. Depending upon plate selection and location, either the 2.0mm Drill, 130mm (7117-3801) or 2.0mm Drill, 191mm (7117-3802) will be used.

Note The 2.0mm x 2.7mm Drill Guide may also be used for lag screw placement within the plate or independent of the plate.



- 2 Measure for screw length by using the 2.7mm/3.5mm Depth Gauge (7117-1231). Depth gauge must be flush with bone for correct measurement.



- 3 Insert the appropriate length 2.7mm Self-Tapping Cortex Screw using the 2.5mm Hex Screwdriver (7117-0029).



2.7mm Locking Screw, 4.0mm Osteopenia Screw and 4.0mm Locking Osteopenia Screw

- 1 Insert the 2.0mm Angled Drill Guide (7117-3811) into the desired screw hole. The drill guide is correctly aligned when the star-shaped tip engages with the tabs in the hole. Adjust screw trajectory by rotating the tip of the variable angle drill guide up to 360° within the plate hole and angling the drill up to 15° in any direction. Drill accordingly with either the 2.0mm Drill, 130mm (7117-3801) or 2.0mm Drill, 191mm (7117-3802), depending on plate type and location.



Note The 2.0mm/2.7mm Drill Guide (7117-3809) is available for placement of a 4.0mm Osteopenia screw outside the plate.

- 2 Measure for screw length by reading the exposed calibrations off the drill bit or by using the 2.7mm/3.5mm Depth Gauge (7117-1231). Depth gauge must be flush with bone for correct measurement.

3 Insert the appropriate length 2.7mm Locking Screw or 4.0mm Osteopenia Locking Screw using the 1.7Nm Torque Limiting Handle (7117-1238) and the 2.5mm Hexdriver Shaft (7117-0033). Usage of the torque limiting screwdriver will prevent over-insertion of the locking screw through the locking hole. For insertion of a nonlocking screw, the 2.5mm Hex Screwdriver (7117-0029) can be used.



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.

Stripped hex screw removal

In the event that a screw strips, attach the 2.5mm Screw Extractor (7117-1237) to either the Small Quick Coupling Handle (7117-0015) or the 1.7Nm Torque Limiting Handle (7117-1238) and insert the recess of the screw. Turn the extractor assembly counterclockwise to remove the screw. The Screw Extractor is compatible with all VLP® screws with a 2.5mm hex drive mechanism.

Closure

Using fluoroscopy, obtain final images to confirm proper placement of implants.

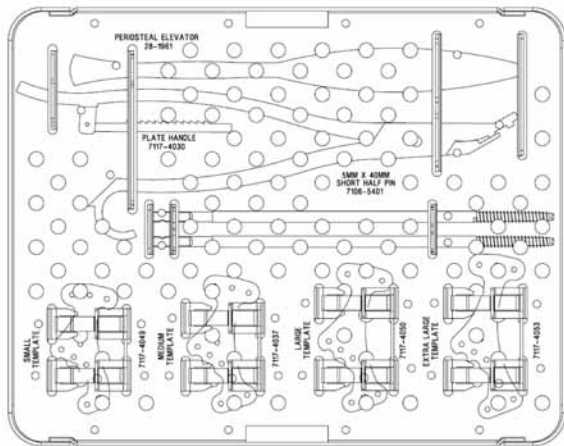
Catalog information

Percutaneous Calcaneus System

Percutaneous Calcaneus Instrument Set

Set No 7117-0140

Cat No	Description	Qty
281961	Langenbeck Periosteal Elevator, Sharp	1
7106-5401	5mm x 40mm Short Half Pin	2
7117-4030	VLP® Calcaneus Plate Handle	1
7117-4049	VLP 2.7mm Percutaneous Calcaneus Plate, Small, Template	1
7117-4037	VLP 2.7mm Percutaneous Calcaneus Plate, Medium, Template	1
7117-4050	VLP 2.7mm Percutaneous Calcaneus Plate, Large, Template	1
7117-4053	VLP Percutaneous Calcaneus Plate, Extra-Large, Template	1
7117-4033	VLP Percutaneous Calcaneus Targeter Tray	1
7117-4034	VLP Percutaneous Calcaneus Targeter Tray Lid	1



Percutaneous Calcaneus Implant Set

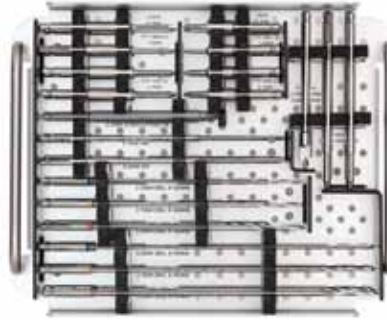
Set No 7282-6060

Cat No	Description	Qty
7117-4044	VLP Percutaneous Calcaneus Implant Box	1
7282-1018S	VLP 2.7mm Percutaneous Calcaneus Plate Small, Left, 55mm, Sterile	1
7282-1019S	VLP 2.7mm Percutaneous Calcaneus Plate Small, Right, 55mm, Sterile	1
7282-1036S	VLP 2.7mm Percutaneous Calcaneus Plate Medium, Left, 58mm, Sterile	1
7282-1037S	VLP 2.7mm Percutaneous Calcaneus Plate Medium, Right, 58mm, Sterile	1
7282-1020S	VLP 2.7mm Percutaneous Calcaneus Plate Large, Left, 62mm, Sterile	1
7282-1021S	VLP 2.7mm Percutaneous Calcaneus Plate Large, Right, 62mm, Sterile	1
7282-1048S	VLP 2.7mm Percutaneous Calcaneus Plate Extra-Large, Left, 68mm, Sterile	1
7282-1049S	VLP 2.7mm Percutaneous Calcaneus Plate Extra-Large, Right, 68mm, Sterile	1
7180-3042	2.7mm S-T Cortex Screw, 42mm	2
7180-3044	2.7mm S-T Cortex Screw, 44mm	2
7180-3046	2.7mm S-T Cortex Screw, 46mm	2
7180-3048	2.7mm S-T Cortex Screw, 48mm	2
7180-3050	2.7mm S-T Cortex Screw, 50mm	2
7282-3142S	VLP 2.7mm Self-Tapping Locking Cortex Screw, 42mm, Sterile	2
7282-3144S	VLP 2.7mm Self-Tapping Locking Cortex Screw, 44mm, Sterile	2
7282-3146S	VLP 2.7mm Self-Tapping Locking Cortex Screw, 46mm, Sterile	2
7282-3148S	VLP 2.7mm Self-Tapping Locking Cortex Screw, 48mm, Sterile	2
7282-3150S	VLP 2.7mm Self-Tapping Locking Cortex Screw, 50mm, Sterile	2
7282-3242S	VLP 4.0mm Fully Threaded Osteopenia Screw, 42mm, Sterile	2
7282-3244S	VLP 4.0mm Fully Threaded Osteopenia Screw, 44mm, Sterile	2
7282-3246S	VLP 4.0mm Fully Threaded Osteopenia Screw, 46mm, Sterile	2
7282-3248S	VLP 4.0mm Fully Threaded Osteopenia Screw, 48mm, Sterile	2
7282-3250S	VLP 4.0mm Fully Threaded Osteopenia Screw, 50mm, Sterile	2
7282-3442S	VLP 4.0mm Locking Osteopenia Screw, 42mm, Sterile	2
7282-3444S	VLP 4.0mm Locking Osteopenia Screw, 44mm, Sterile	2
7282-3446S	VLP 4.0mm Locking Osteopenia Screw, 46mm, Sterile	2
7282-3448S	VLP 4.0mm Locking Osteopenia Screw, 48mm, Sterile	2
7282-3450S	VLP 4.0mm Locking Osteopenia Screw, 50mm, Sterile	2
7282-3342S	VLP 4.0mm Partially Threaded Osteopenia Screw, 42mm, Sterile	0*
7282-3344S	VLP 4.0mm Partially Threaded Osteopenia Screw, 44mm, Sterile	0*
7282-3346S	VLP 4.0mm Partially Threaded Osteopenia Screw, 46mm, Sterile	0*
7282-3348S	VLP 4.0mm Partially Threaded Osteopenia Screw, 48mm, Sterile	0*
7282-3350S	VLP 4.0mm Partially Threaded Osteopenia Screw, 50mm, Sterile	0*

*Must be ordered separately

Catalog information

VLP[®] FOOT System



Base Instrument Set

Set No 7117-0018

Cat No	Description	Qty	Cat No	Description	Qty
7117-3845	Base Instrument Tray	1	7117-3810	2.7mm/3.5mm Drill Guide	1
7117-3856	Base Instrument Tray Lid	1	7117-3811	2.0mm Angled Drill Guide	1
7117-3801	2.0mm Drill, 130mm	2	7117-0033	2.5mm Hexdriver with AO	2
7117-3802	2.0mm Drill, 191mm	2	7117-3812	2.7mm Angled Drill Guide	1
7117-3803	2.7mm Drill, 130mm	2	7117-1238	1.7Nm Torque Limiting Handle	1
7117-3804	2.7mm Drill, 191mm	2	7117-0031	2.7mm/3.5mm Holding Sleeve/ Screw Capture	1
7117-3805	3.5mm Drill, 130mm	2	7117-3344	2.7mm/3.5mm Countersink	1
7117-3806	3.5mm Drill, 191mm	2	7117-3366	2.7mm Tap	1
7117-3807	2.0mm PF Pin, 14mm	2	7117-0029	2.5mm Hexdriver with Handle	1
7117-3808	2.0mm PF Pin, 25mm	2	7117-3528	AO-Trinkle	1
7117-1228	2.7mm PF Pin, 14mm	2	7117-1237	2.5mm Hex Screw Extractor	1
7117-1229	2.7mm PF Pin, 25mm	2	7117-3318	3.5mm Tap	1
7117-1231	2.7mm/3.5mm Depth Gauge	1			
7117-3809	2.0mm/2.7mm Drill Guide	1			



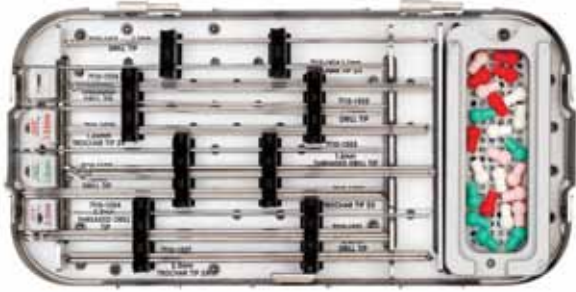
Ancillary Instrument Set

Set No 7117-0020

Cat No	Description	Qty	Cat No	Description	Qty
7117-3846	Ancillary Instrument Tray	1	7117-3377	Reduction Forceps, broad	2
7117-3857	Ancillary Instrument Tray Lid	1	7117-0044	Reduction Forceps, 205mm	2
7110-1530	Freer Elevator	1	7117-3817	Redler Pin Clamp	1
7117-0043	Sharp Hook	1	7117-0015	Small Quick-Coupling Handle	1
7117-3369	Bent Hohmann	2	7117-3818	Compression Forceps with Screw Holders	1
7117-0057	Straight 8mm Hohmann	2	7117-3863	Compression Forceps with Sharp Point	1
7117-3814	Wire Bending/Cutting Pliers	1	7117-3819	McGlamry Elevator	1
7117-3815	Plate Bending Irons	2	7117-3864	2.7mm/3.5mm Plate Bending Rod	2
7117-3816	Plate Bending Handle	1			

Catalog information

VLP[®] FOOT System



Drill Wire Set

Set No 7110-1600

Cat No	Description	Qty	Cat No	Description	Qty
7110-1531	Drill Wire Module	1	7110-1503	1.25mm Drill Tip Wire, 150mm	6
7110-1532	Drill Wire Module Lid	1	7110-1509	1.25mm Trocar Tip Wire 2X Ended, 150mm	6
7110-1533	Wire Cap Tray	1	7110-1505	1.6mm Drill Tip Threaded Wire, 150mm	6
7110-1534	Wire Cap Lid	1	7110-1502	1.6mm Drill Tip Wire, 150mm	6
7110-1401	1.1mm Wire Cap	6	7110-1508	1.6mm Trocar Tip Wire 2X Ended, 150mm	6
7110-1402	1.25mm Wire Cap	6	7110-1504	2.0mm Drill Tip Threaded Wire, 150mm	6
7110-1403	1.6mm Wire Cap	6	7110-1501	2.0mm Drill Tip Wire, 150mm	6
7110-1404	2.0mm Wire Cap	6	7110-1507	2.0mm Trocar Tip Wire 2X Ended, 150mm	6
7110-1413	1.1mm Drill Tip Wire, 150mm	6			
7110-1414	1.1mm Trocar Tip Wire 2X Ended, 150mm	6			
7110-1506	1.25mm Drill Tip Threaded Wire, 150mm	6			

Complete Outer Case Set

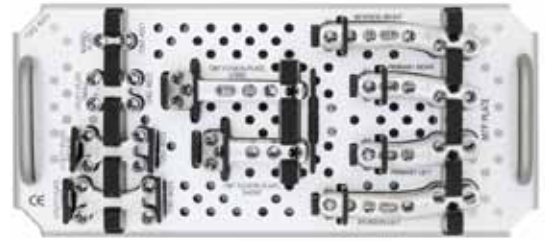
Set No 7117-0060

Cat No	Description	Qty	Cat No	Description	Qty
7117-3848	VLP [®] 2.7mm/3.5mm Instrument Tray	1	7117-3859	VLP 2.7mm/3.5mm Instrument Tray Lid	1
7117-3849	VLP FOOT Implant Tray	1	7117-3860	VLP FOOT Implant Tray Lid	1

Outer Instruments Case Set

Set No 7117-0070

Cat No	Description	Qty
7117-3848	VLP 2.7mm/3.5mm Instrument Tray	1
7117-3859	VLP 2.7mm/3.5mm Instrument Tray Lid	1



Implants

Forefoot/Midfoot Plate Set

Set No 7282-4000

*Forefoot/Midfoot Plate Set available without trays and lid as set 7282-6000

Cat No	Description	Qty	Cat No	Description	Qty
7117-3841	2.7mm/4.0mm Implant Tray	1	7282-4012S	2.7mm Quarter Tubular Compression Plate, 3 Hole	1
7117-3852	2.7mm/4.0mm Implant Tray Lid	1	7282-4013S	2.7mm Quarter Tubular Compression Plate, 5 Hole	1
7282-4052	VLP [®] FOOT 2.7mm Lower Plate Tray	1	7282-4014S	2.7mm Quarter Tubular Compression Plate, 7 Hole	1
7282-4053	VLP FOOT 2.7mm Upper Plate Tray	1	7282-4015S	2.7mm MTP Plate Primary, Left	1
7282-4001S	2.7mm T-Plate	1	7282-4016S	2.7mm MTP Plate Primary, Right	1
7282-4002S	2.7mm L-Plate, Left	1	7282-4017S	2.7mm MTP Plate Revision, Left	1
7282-4003S	2.7mm L-Plate, Right	1	7282-4018S	2.7mm MTP Plate Revision, Right	1
7282-4006S	2.7mm Quarter Tubular Plate, 3 Hole	1	7282-4019S	2.7mm TMT Fusion Plate, Short	1
7282-4007S	2.7mm Quarter Tubular Plate, 4 Hole	1	7282-4020S	2.7mm TMT Fusion Plate, Long	1
7282-4008S	2.7mm Quarter Tubular Plate, 5 Hole	1	7282-4021S	2.7mm Barbell Plate	1
7282-4009S	2.7mm Quarter Tubular Plate, 6 Hole	1	7282-4022S	2.7mm Utility Plate, Small	1
7282-4010S	2.7mm Quarter Tubular Plate, 7 Hole	1	7282-4023S	2.7mm Utility Plate, Medium	1
7282-4011S	2.7mm Quarter Tubular Plate, 8 Hole	1	7282-4024S	2.7mm Utility Plate, Large	1
			7282-4004S	2.7mm H-Plate, 5 Hole	0*
			7282-4005S	2.7mm H-Plate, 8 Hole	0*

*Must be ordered separately

Catalog information

VLP[®] FOOT System

Screws

Forefoot/Midfoot Screw Set

Set No 7282-5000

Cat No	Description	Qty
2.7mm Self-Tapping Cortex Screws		
7182-3010	10mm	4
7182-3012	12mm	4
7182-3014	14mm	4
7182-3016	16mm	4
7182-3018	18mm	4
7182-3020	20mm	4
7182-3022	22mm	4
7182-3024	24mm	4
7182-3026	26mm	4
7182-3028	28mm	4
7182-3030	30mm	4
7182-3032	32mm	4
7182-3034	34mm	4
7182-3036	36mm	4
7182-3038	38mm	4
7182-3040	40mm	4
2.7mm Self-Tapping Locking Cortex Screws		
7282-3110	10mm	4
7282-3112	12mm	4
7282-3114	14mm	4
7282-3116	16mm	4
7282-3118	18mm	4
7282-3120	20mm	4
7282-3122	22mm	4
7282-3124	24mm	4
7282-3126	26mm	4
7282-3128	28mm	4
7282-3130	30mm	4
7282-3132	32mm	4
7282-3134	34mm	4
7282-3136	36mm	4
7282-3138	38mm	4
7282-3140	40mm	4

Cat No	Description	Qty
4.0mm Fully Threaded Osteopenia Screws		
7282-3210	10mm	3
7282-3212	12mm	3
7282-3214	14mm	3
7282-3216	16mm	3
7282-3218	18mm	3
7282-3220	20mm	3
7282-3222	22mm	3
7282-3224	24mm	3
7282-3226	26mm	3
7282-3228	28mm	3
7282-3230	30mm	3
7282-3232	32mm	3
7282-3234	34mm	3
7282-3236	36mm	3
7282-3238	38mm	3
7282-3240	40mm	3
4.0mm Locking Osteopenia Screws		
7282-3410	10mm	3
7282-3412	12mm	3
7282-3414	14mm	3
7282-3416	16mm	3
7282-3418	18mm	3
7282-3420	20mm	3
7282-3422	22mm	3
7282-3424	24mm	3
7282-3426	26mm	3
7282-3428	28mm	3
7282-3430	30mm	3
7282-3432	32mm	3
7282-3434	34mm	3
7282-3436	36mm	3
7282-3438	38mm	3
7282-3440	40mm	3

Additional Items		
7114-3107	7.0mm O.D. Washer	6
7117-0002	Screw Forceps	6

4.0mm Partially Threaded Osteopenia Screw Set

Set No 7282-3300

Cat No	Description	Qty
4.0mm Partially Threaded Osteopenia Screws (Sterile)		
7282-3326S	26mm	3
7282-3328S	28mm	3
7282-3330S	30mm	3
7282-3332S	32mm	3
7282-3334S	34mm	3
7282-3336S	36mm	3
7282-3338S	38mm	3
7282-3340S	40mm	3

Forefoot/Midfoot Sterile Screw Set

Set No 7282-5005

Cat No	Description	Qty	Cat No	Description	Qty
2.7mm Self-Tapping Cortex Screws (Sterile)			4.0mm Fully Threaded Osteopenia Screws (Sterile)		
7180-3006	6mm	3	7282-3206S	6mm	3
7180-3008	8mm	3	7282-3208S	8mm	3
7180-3010	10mm	3	7282-3210S	10mm	3
7180-3012	12mm	3	7282-3212S	12mm	3
7180-3014	14mm	3	7282-3214S	14mm	3
7180-3016	16mm	3	7282-3216S	16mm	3
7180-3018	18mm	3	7282-3218S	18mm	3
7180-3020	20mm	3	7282-3220S	20mm	3
7180-3022	22mm	2	7282-3222S	22mm	2
7180-3024	24mm	2	7282-3224S	24mm	2
7180-3026	26mm	2	7282-3226S	26mm	2
7180-3028	28mm	2	7282-3228S	28mm	2
7180-3030	30mm	2	7282-3230S	30mm	2
7180-3032	32mm	2	7282-3232S	32mm	2
7180-3034	34mm	2	7282-3234S	34mm	2
7180-3036	36mm	2	7282-3236S	36mm	2
7180-3038	38mm	2	7282-3238S	38mm	2
7180-3040	40mm	2	7282-3240S	40mm	2
2.7mm Self-Tapping Locking Cortex Screws (Sterile)			4.0mm Locking Osteopenia Screws (Sterile)		
7282-3106S	6mm	3	7282-3406S	6mm	3
7282-3108S	8mm	3	7282-3408S	8mm	3
7282-3110S	10mm	3	7282-3410S	10mm	3
7282-3112S	12mm	3	7282-3412S	12mm	3
7282-3114S	14mm	3	7282-3414S	14mm	3
7282-3116S	16mm	3	7282-3416S	16mm	3
7282-3118S	18mm	3	7282-3418S	18mm	3
7282-3120S	20mm	3	7282-3420S	20mm	3
7282-3122S	22mm	2	7282-3422S	22mm	2
7282-3124S	24mm	2	7282-3424S	24mm	2
7282-3126S	26mm	2	7282-3426S	26mm	2
7282-3128S	28mm	2	7282-3428S	28mm	2
7282-3130S	30mm	2	7282-3430S	30mm	2
7282-3132S	32mm	2	7282-3432S	32mm	2
7282-3134S	34mm	2	7282-3434S	34mm	2
7282-3136S	36mm	2	7282-3436S	36mm	2
7282-3138S	38mm	2	7282-3438S	38mm	2
7282-3140S	40mm	2	7282-3440S	40mm	2
			Additional Items (Sterile)		
			7114-3007	7.0mm O.D. Washer	6

References

- 1 "Evaluation of Stripping Torque and Pull-Out Strength of an Osteopenia Bone Screw." South Lake Tahoe, CA: 11th Biennial International Society for Fracture Repair. Paper 8, 2008.
- 2 Hartsell Z, Cooper P. "The Need for a Bail-Out Plan: Screw Options for Osteoporotic Bone." Smith & Nephew, Inc. Georgetown University Hospital, 2009.

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