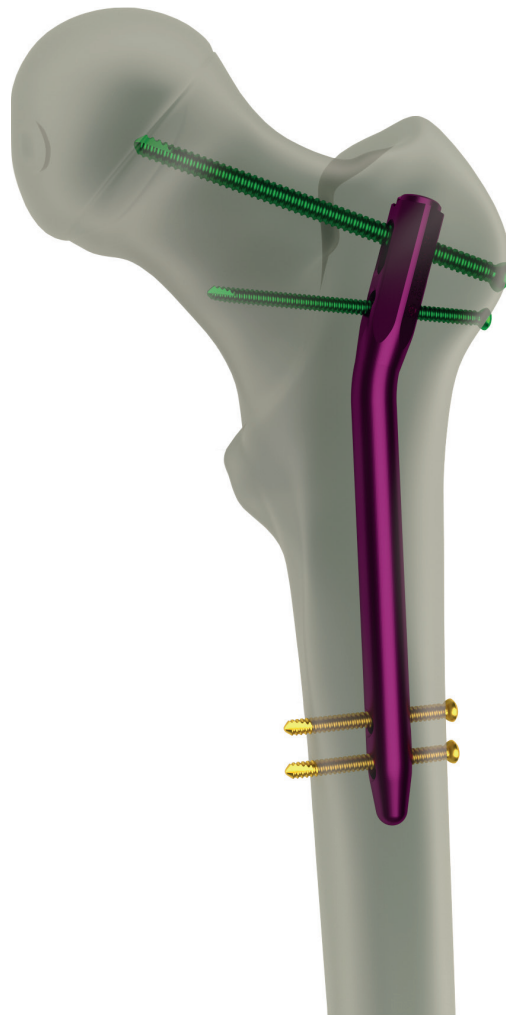


PediFIN[®]

Pediatric Proximal Femoral Nailing



Response Ortho is a global
orthopaedic trauma solutions manufacturer
offering premium products
created under its founding principles of
innovation, excellence by design
and functional superiority.





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INTRODUCTION

PediFIN® has been developed by focusing on general intramedullary nailing principles and reshaping for pediatric use. The nail designed specifically to comply pediatric patient's proximal femur anatomy. PediFIN® aims to maximize the stability over the fracture or osteotomy.

Anatomic reduction

PediFIN prepared in compliance for minimal invasive fixation principles. This supports soft tissue protection and faster recovery. The unique design on the proximal part of the nail, matched precisely for pediatric patients, and desired positioning during osteotomies.

Stability fixation - determining stability

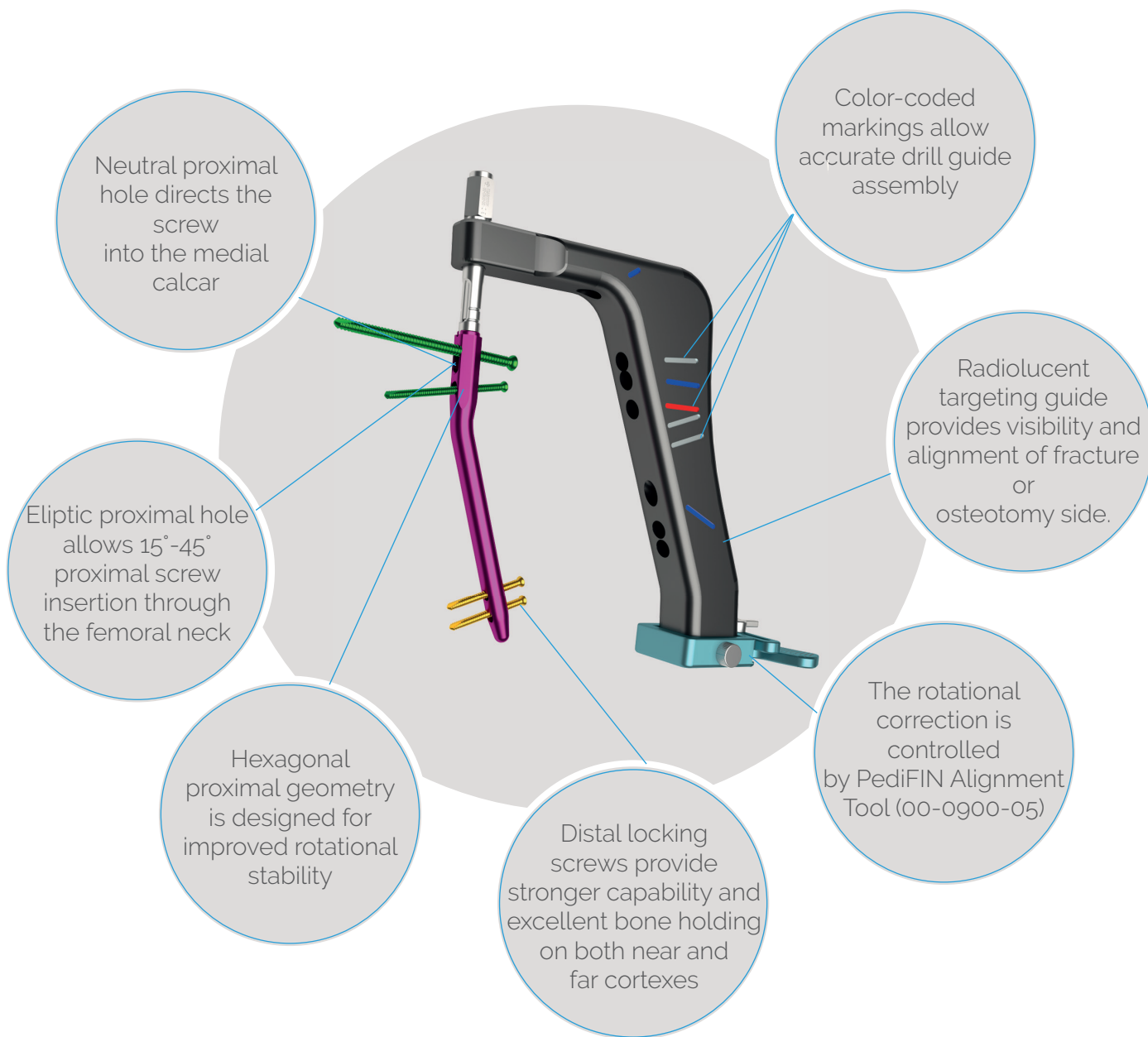
The nail geometric design and the locking screws positioning are planned to maximize the stability. Therefore, one of the proximal screws are sent to the femur neck and the other one to the calcar bone. The proximal part of the nail has hexagonal shape to increase the rotational stability and reduces the load on the locking screws.

Preserving vascularity

As generally accepted, the cycle over the periosteal is preserved perfectly and this, without a doubt, will positively affect the bone healing.

Early weight bearing

Achieved stability with the nailing system provides early mobility on normal and disabled children.



INDICATIONS:

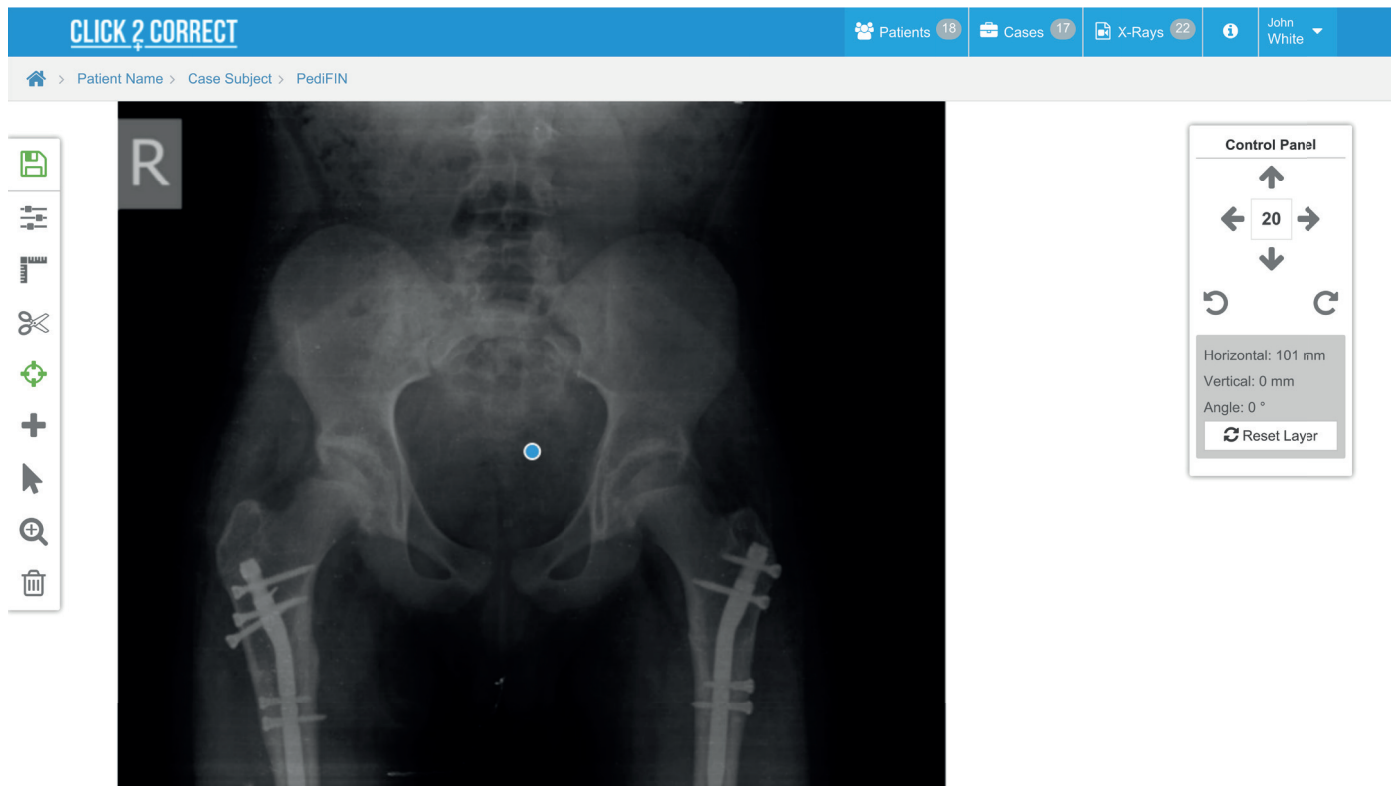
Fracture Indications

- Femur Fractures
- Femur neck fractures
- Trochanteric Fractures

Deformity Indications

- Proximal femur osteotomies
- Femoral shortening
- Tumor reconstructions
- Varus/Valgus deformities(15°)

DEFORMITY PLANNING

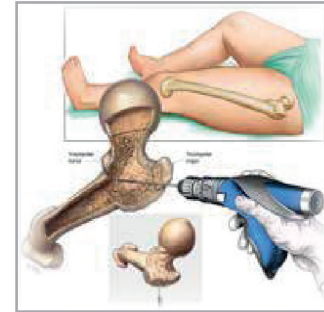


Surgical Technique

The patient is placed 30° lateral decubitus position on the radiolucent table, a bolster is placed under ipsilateral hip.

1. Proximal entry

Guide wire insertion: Place the 2.0 mm guide wire percutaneously through the lateral aspect of the greater trochanter at approximately 1 cm below the tip of the trochanter and midway between lateral cortex. Then guide wire is advanced to the trochanter.



Proximal Reaming:

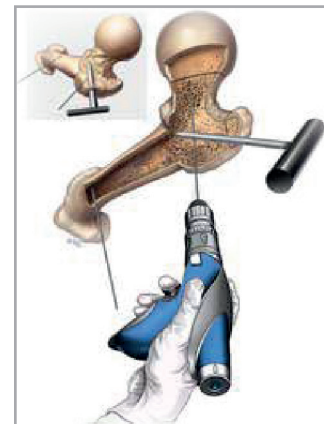
2 cm incision is done over the guide wire. The conical shape cannulated reamer is advanced over the guide wire. The awl is placed into the prepared canal and left in the proximal femur.



Proceed to "4. Distal medullary canal reaming" step if the surgery is a fracture treatment.

2. Determination of the anteversion:

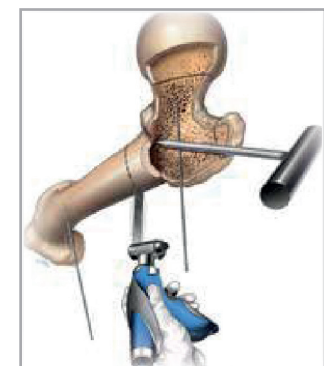
A guide wire is advanced posterior to the Awl and pointed parallel to the femoral neck. A second guide wire is inserted parallel to the posterior femoral condyles. The angle between two wires shows femoral anteversion proximately



K-wire should be sent posterior to Awl canal allowing nail insertion.

3. Osteotomy:

The optimal position of the osteotomy is roughly 10 mm distal to the lesser trochanter. A 3-4 cm longitudinal incision is done on the lateral side of femur. Osteotomy is performed perpendicular to femur diaphysis by using oscillating saw or osteotome.



4. Distal medullary canal reaming:

Ridig reamer is directed to the medullary canal and reamed with the 0.5mm wider reamer than the selected nail to avoid excessive reaming.

5. Nail application:

Install the pre-selected nail to the PediFIN Nail Guide (00-0900-01). the nail manually into the Insert femoral canal and drive (advance) into the canal. femur. Place the nail to approximately 1.0cm below the level of the trochanter but proximal to the trochanteric physis.

Placing the nail on the proximal of the trochanteric physis will allow pediatric patient's growth.

6. Proximal locking:

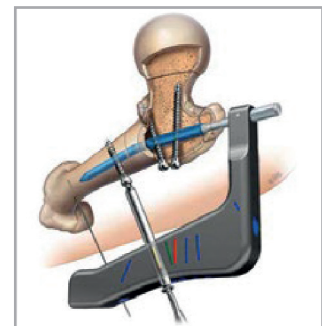
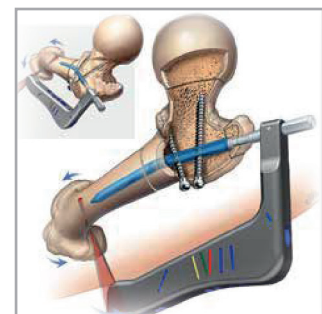
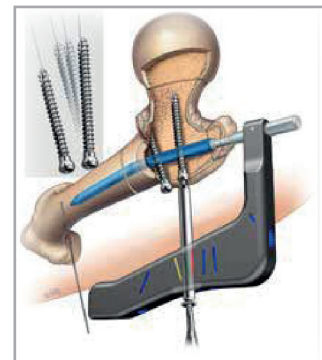
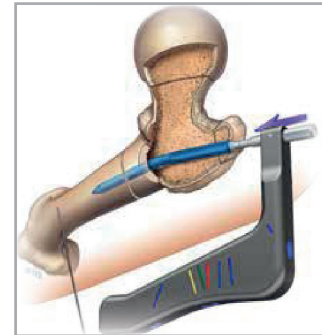
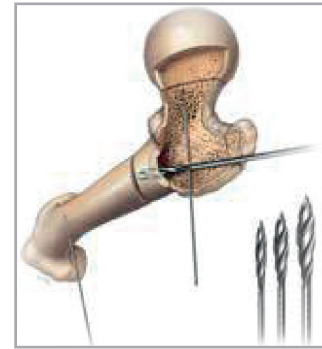
4.5mm locking screws are used for proximal locking with the PediFIN Nail Guide (00-0900-01). First screw is sent to proximal elliptic hole in three different options, which are parallel to femoral neck, to medial corner of femoral neck or from trochanter major to trochanter minor. And second towards the lesser trochanter. The second screw can sent to medial calcar.

7. Rotational maneuver:

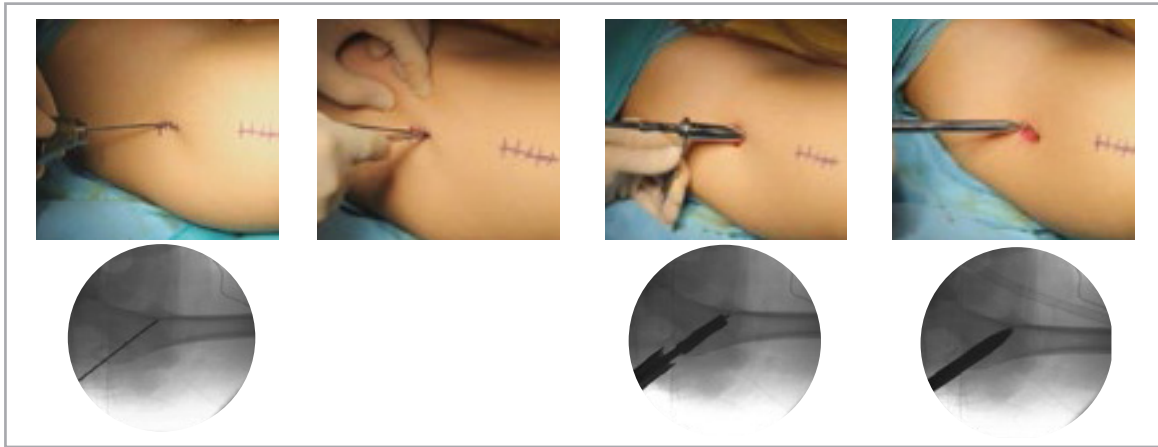
Distal femoral rotation is achieved by holding leg and rotated externally or internally according to preoperative plan. The amount of rotation is ascertained by using PediFIN Alignment Tool (00-0900-05) of the Nail Guide (00-0900-01) and controlled by guide pins.

8. Distal locking:

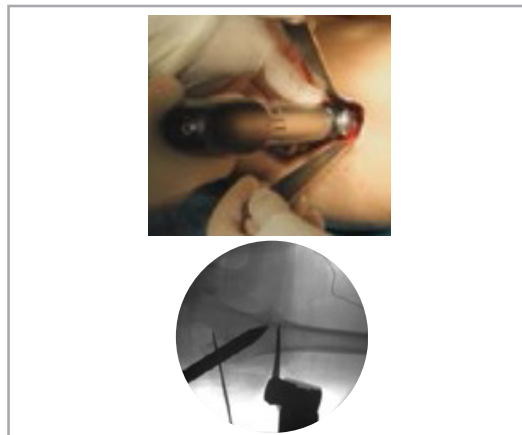
3.5 or 4.5mm locking screws are used for distal locking with the support of the PediFIN Nail Guide (00-0901-00), after desired correction is preserved.



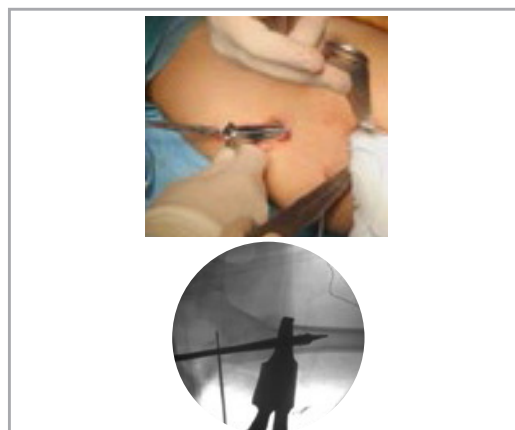
Step 1: Proximal entry



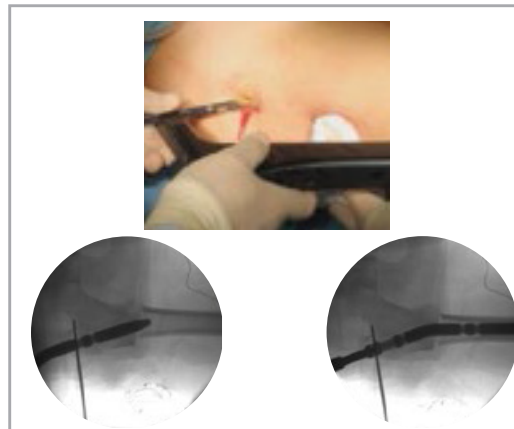
Step 2: Osteotomy



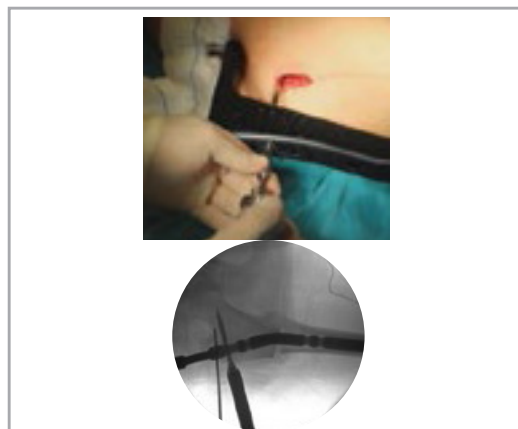
Step 3: Distal reaming



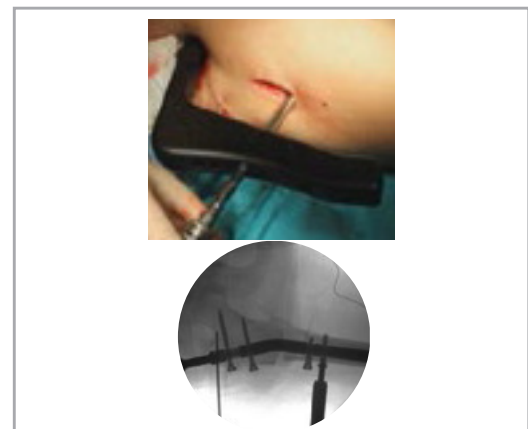
Step 4: Nail application



Step 5: Proximal locking



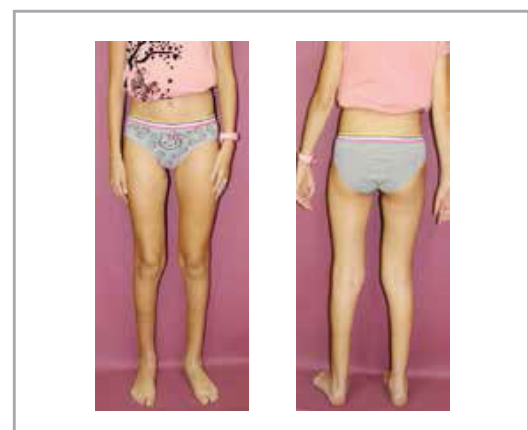
Step 6: Skin incision and closure



Preoperative



Postoperative



	<p>20-1140-14</p>	<p>Proximal Reamer 00-6031-12 30-1351-XX Fully Threaded Ø3,5mm 30-1451-XX Fully Threaded Ø4,5mm</p> <p>Distal Reamer 00-6032-105 20-2063-XX Partially Threaded Ø3.00mm 20-2064-XX Partially Threaded Ø4.00mm 20-2065-XX Partially Threaded Ø4.50mm</p>	
	<p>20-1149-14</p>	<p>Proximal Reamer 00-6031-10 30-1351-XX Fully Threaded Ø3,5mm 30-1451-XX Fully Threaded Ø4,5mm</p> <p>Distal Reamer 00-6032-95 20-2063-XX Partially Threaded Ø3.00mm 20-2064-XX Partially Threaded Ø4.00mm 20-2065-XX Partially Threaded Ø4.50mm</p>	
	<p>20-1146-14</p>	<p>Proximal Reamer 00-6031-10 30-1351-XX Fully Threaded Ø3,5mm 30-1451-XX Fully Threaded Ø4,5mm</p> <p>Distal Reamer 00-6032-85 20-2063-XX Partially Threaded Ø3.00mm 20-2064-XX Partially Threaded Ø4.00mm</p>	
	<p>20-1147-14</p>	<p>Proximal Reamer 00-6031-08 30-1351-XX Fully Threaded Ø3,5mm</p> <p>Distal Reamer 00-6032-75 20-2063-XX Partially Threaded Ø3.00mm</p>	
	<p>20-1148-14</p>	<p>Proximal Reamer 00-6031-08 30-1351-XX Fully Threaded Ø3,5mm</p> <p>Distal Reamer 00-6032-65 20-2063-XX Partially Threaded Ø3.00mm</p>	

Implants

20-1140-14	PediFIN Nail,12/10mm, 140mm length	2
20-1146-14	PediFIN Nail,8/6mm, 140mm length	2
20-1147-14	PediFIN Nail,8/7mm, 140mm length	2
20-1148-14	PediFIN Nail,10/8mm, 140mm length	2
20-1149-14	PediFIN Nail,10/9mm, 140mm length	2

Partially Threaded Screws

20-2063-25	PediFIN Locking Screw, Ø3 x 25mm	3
20-2063-30	PediFIN Locking Screw, Ø3 x 30mm	3
20-2063-35	PediFIN Locking Screw, Ø3 x 35mm	3
20-2063-40	PediFIN Locking Screw, Ø3 x 40mm	3
20-2063-45	PediFIN Locking Screw, Ø3 x 45mm	3
20-2063-50	PediFIN Locking Screw, Ø3 x 50mm	3
20-2063-55	PediFIN Locking Screw, Ø3 x 55mm	3
20-2063-60	PediFIN Locking Screw, Ø3 x 60mm	3
20-2063-65	PediFIN Locking Screw, Ø3 x 65mm	3
20-2063-70	PediFIN Locking Screw, Ø3 x 70mm	3
20-2063-75	PediFIN Locking Screw, Ø3 x 75mm	3
20-2063-80	PediFIN Locking Screw, Ø3 x 80mm	3
20-2063-85	PediFIN Locking Screw, Ø3 x 85mm	3
20-2064-25	PediFIN Locking Screw, Ø4 x 25mm	3
20-2064-30	PediFIN Locking Screw, Ø4 x 30mm	3
20-2064-35	PediFIN Locking Screw, Ø4 x 35mm	3
20-2064-40	PediFIN Locking Screw, Ø4 x 40mm	3
20-2064-45	PediFIN Locking Screw, Ø4 x 45mm	3
20-2064-50	PediFIN Locking Screw, Ø4 x 50mm	3
20-2064-55	PediFIN Locking Screw, Ø4 x 55mm	3
20-2064-60	PediFIN Locking Screw, Ø4 x 60mm	3
20-2064-65	PediFIN Locking Screw, Ø4 x 65mm	3
20-2064-70	PediFIN Locking Screw, Ø4 x 70mm	3
20-2064-75	PediFIN Locking Screw, Ø4 x 75mm	3
20-2064-80	PediFIN Locking Screw, Ø4 x 80mm	3
20-2064-85	PediFIN Locking Screw, Ø4 x 85mm	3
20-2065-25	PediFIN Locking Screw, Ø4.5x25mm	3
20-2065-30	PediFIN Locking Screw, Ø4.5x30mm	3
20-2065-35	PediFIN Locking Screw, Ø4.5x35mm	3
20-2065-40	PediFIN Locking Screw, Ø4.5x40mm	3

20-2065-45	PediFIN Locking Screw, Ø4.5x45mm	3
20-2065-50	PediFIN Locking Screw, Ø4.5x50mm	3
20-2065-55	PediFIN Locking Screw, Ø4.5x55mm	3
20-2065-60	PediFIN Locking Screw, Ø4.5x60mm	3
20-2065-65	PediFIN Locking Screw, Ø4.5x65mm	3
20-2065-70	PediFIN Locking Screw, Ø4.5x70mm	3
20-2065-75	PediFIN Locking Screw, Ø4.5x75mm	3
20-2065-80	PediFIN Locking Screw, Ø4.5x80mm	3
20-2065-85	PediFIN Locking Screw, Ø4.5x85mm	3

Fully Threaded Screws

30-1351-25	Cortical Screw, Ø3,5 x 25mm	3
30-1351-30	Cortical Screw, Ø3,5 x 30mm	3
30-1351-35	Cortical Screw, Ø3,5 x 35mm	3
30-1351-40	Cortical Screw, Ø3,5 x 40mm	3
30-1351-45	Cortical Screw, Ø3,5 x 45mm	3
30-1351-50	Cortical Screw, Ø3,5 x 50mm	3
30-1351-55	Cortical Screw, Ø3,5 x 55mm	3
30-1351-60	Cortical Screw, Ø3,5 x 60mm	3
30-1351-65	Cortical Screw, Ø3,5 x 65mm	3
30-1351-70	Cortical Screw, Ø3,5 x 70mm	3
30-1351-75	Cortical Screw, Ø3,5 x 75mm	3
30-1351-80	Cortical Screw, Ø3,5 x 80mm	3
30-1351-85	Cortical Screw, Ø3,5 x 85mm	3
30-1451-25	Cortical Screw, Ø4,5 x 25mm	3
30-1451-30	Cortical Screw, Ø4,5 x 30mm	3
30-1451-35	Cortical Screw, Ø4,5 x 35mm	3
30-1451-40	Cortical Screw, Ø4,5 x 40mm	3
30-1451-45	Cortical Screw, Ø4,5 x 45mm	3
30-1451-50	Cortical Screw, Ø4,5 x 50mm	3
30-1451-55	Cortical Screw, Ø4,5 x 55mm	3
30-1451-60	Cortical Screw, Ø4,5 x 60mm	3
30-1451-65	Cortical Screw, Ø4,5 x 65mm	3
30-1451-70	Cortical Screw, Ø4,5 x 70mm	3
30-1451-75	Cortical Screw, Ø4,5 x 75mm	3
30-1451-80	Cortical Screw, Ø4,5 x 80mm	3
30-1451-85	Cortical Screw, Ø4,5 x 85mm	3

Ordering Information

End Caps

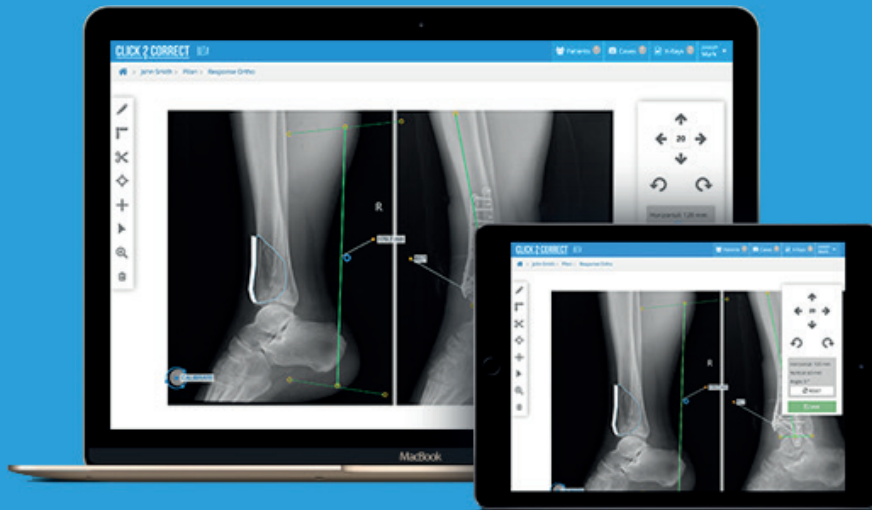
20-3050-08	PediFIN End Cap, 8mm	2
20-3050-10	PediFIN End Cap, 10mm	2
20-3050-12	PediFIN End Cap, 12mm	2

Instruments

00-3301-285	Quick Release Drill, 3.0mm Dia., 285mm Length	2
00-3401-285	Quick Release Drill, 4.0mm Dia., 285mm Length	2
00-3451-285	Quick Release Drill, 4.5mm Dia., 285mm Length	2
00-0043-30	Drill Guide, 3.0mm Diameter	2
00-0043-40	Drill Guide, 4.0mm Diameter	2
00-0043-45	Drill Guide, 4.5mm Diameter	2
00-6031-08	PediFIN Proximal Reamer, 8mm	1
00-6031-10	PediFIN Proximal Reamer, 10mm	1
00-6031-12	PediFIN Proximal Reamer, 12mm	1
00-6032-65	PediFIN Distal Reamer, 6.5mm	1
00-6032-75	PediFIN Distal Reamer, 7.5mm	1
00-6032-85	PediFIN Distal Reamer, 8.5mm	1
00-6032-95	PediFIN Distal Reamer, 9.5mm	1
00-6032-105	PediFIN Distal Reamer, 10.5mm	1
00-0053-01	PediFIN Soft Tissue Guide	2
00-8250-00	PediFIN Sterilization Tray	1
00-0900-00	PediFIN Connection Bolt	2
00-0900-01	PediFIN Nail Guide	1
00-0900-05	PediFIN Aligment Tool	1
00-0900-06	PediFIN Trochanteric Entry Tube	2
00-0900-07	PediFIN Trochanteric Entry Tube Smaller Sleeve	2
00-2055-12	Finger Wrench	1
20-3050-08	PediFIN End Cap, 8mm	2
20-3050-10	PediFIN End Cap, 10mm	2
20-3050-12	PediFIN End Cap, 12mm	2
00-2072-03	Quick Release Hex Driver Tip, 3.5mm, Long	2
00-2072-25	AA 2,5mm, L=200mm Hex Driver	2
00-2091-02	Threaded Screw Holder (using w/00-2072-03)	2
00-3301-285	Quick Release Drill, 3.0mm Dia., 285mm Lenght	2
00-3401-285	Quick Release Drill, 4.0mm Dia., 285mm Lenght	2
00-3451-285	Quick Release Drill, 4.5mm Dia., 285mm Lenght	2
00-6031-08	PediFIN Proximal Reamer, 8mm	1
00-6031-10	PediFIN Proximal Reamer, 10mm	1
00-6031-12	PediFIN Proximal Reamer, 12mm	1

00-6032-65	PediFIN Distal Reamer, 6.5mm	1
00-6032-75	PediFIN Distal Reamer, 7.5mm	1
00-6032-85	PediFIN Distal Reamer, 8.5mm	1
00-6032-95	PediFIN Distal Reamer, 9.5mm	1
00-6032-105	PediFIN Distal Reamer, 10.5mm	1
40-4201-20	Guide Wire, 2.0mm x 300mm	4
50-1065-212	Wire-2.0mm, Trocar tip, SS	4
00-7047-00	T-Ratchet Handle	1
00-6091-09	PediFIN Straight Awl, 9mm diameter	1
00-6091-10	PediFIN Straight Awl, 10mm diameter	1

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PediFIN®

Pediatric Proximal Femoral Nailing

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