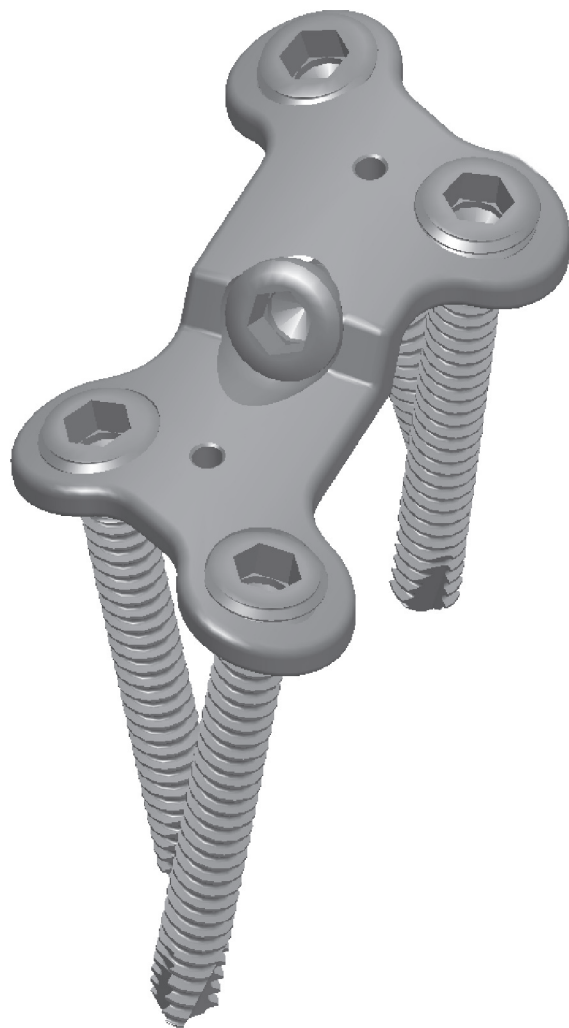


# **Angle-stable Foot plate system Pedus-L**

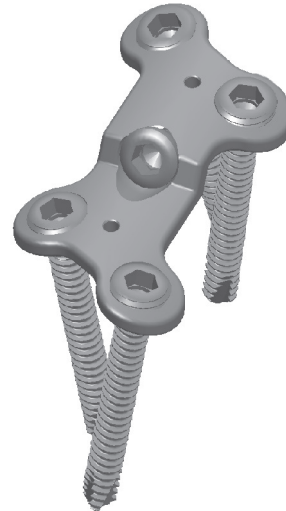


## > Angle-stable Pedus-L foot plate system

### 1. Product characteristics

- The centre hole offers the option of inserting a cortical screw to exert compression on the arthrodesis site
- The combination holes offer the option of using angle-stable and non angle-stable screws
- Titanium screws and plates
- Special surface treatment involving type II anodisation of plates and angle-stable screws
- This results in:
  - reduced tendency to cold welding when screws are turned into the plate
  - hardened titanium surface
  - implants have improved fatigue resistance
  - significant reduction in Al and V release
- Simple instrument set with an easy overview

01



### 2. Advantages of Lapidus arthrodesis

- Proximal osteotomy with large cancellous contact areas
- Good range of correction options
- Good range of options for combining with other interventions

### 3. Indications for Lapidus arthrodesis

- Hallux valgus with persistent symptoms
  - Pseudoexostosis
  - First metatarsophalangeal joint
- Intermetatarsal angle > 16°-20°
- Unstable 1st tarsometatarsal joint
- Arthrosis in the 1st tarsometatarsal joint
- Re-intervention
- Misalignment of the 1st tarsometatarsal joint

### 4. Complications

- Disorders of wound healing
- Secondary dislocation
- Pseudarthrosis
- Nerve injuries
- Transfer metatarsalgia
- Over-correction
- Rate of recurrence less than 10%

### Dimensions of the Pedus-L implants

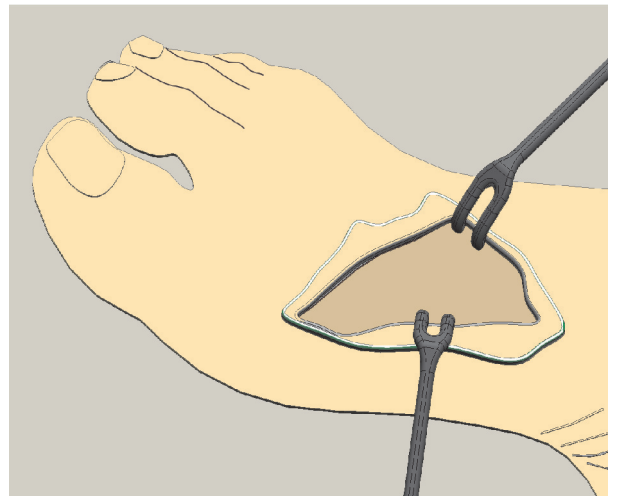
- **Angle-stable cortical screws, 3.0 mm dia., Self-tapping**
  - Thread diameter: 3.00 mm
  - Core diameter: 1.95 mm
  - Pitch: 1.25 mm
  - Inner hexagon: 2.50 mm
  - Screw length: 16 mm to 30 mm
  - Material: Ti6Al4V; Eli (ISO 5832-3)
- **Cortical screws, 2.7 mm dia., self-tapping**
  - Thread diameter: 2.70 mm
  - Core diameter: 1.90 mm
  - Pitch: 1.00 mm
  - Inner hexagon: 2.50 mm
  - Screw length: 12 mm to 30 mm
  - Material: Ti6Al4V; Eli (ISO 5832-3)
- **Cannulated screws, 3.5 mm dia., partial thread, titanium**
  - Thread diameter: 3.50 mm
  - Core diameter: 2.50 mm
  - Pitch: 1.25 mm
  - Inner hexagon: 2.50 mm
  - Screw length: 34 mm to 42 mm
  - Cannulation: 1.35 mm
  - Material: Ti6Al4V; Eli (ISO 5832-3)
- **Pedus-L plates**
  - Step: 0/2/3/4/5 mm
  - Plate thickness: 1.6 mm
  - Material: Ti6Al4V; Eli (ISO 5832-3)

## > Surgical technique Lapidus arthrodesis

### ● 1. Access

After dissecting the soft tissues from the first metatarsophalangeal joint, a second incision is made on the back of the foot over the 1st tarsometatarsal joint. (TMT1). (Fig. 1)

01



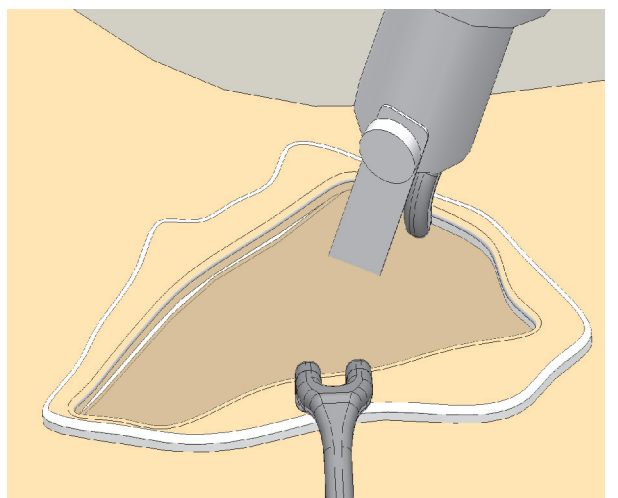
### ● 2. Resection

After checking correct identification of the tarsometatarsal joint (e.g. using a cannula and an image intensifier), a conservative resection of the articular surface is carried out.

**Note:** The first tarsometatarsal joint always runs more plantar than expected.

The resected wedge determines the direction of correction. It is usually easiest to align the arthrodesis surface at 90° to the MT1 axis. A small osteotomy spreader facilitates exposure of the full depth of the arthrodesis surface. Note that the plantar side of the resected bone may be adhered to the insertion of peroneus longus, making removal more difficult.

02

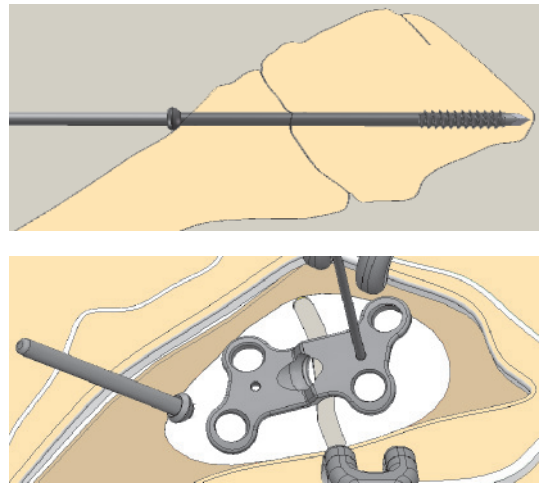


## > Implanting the plate

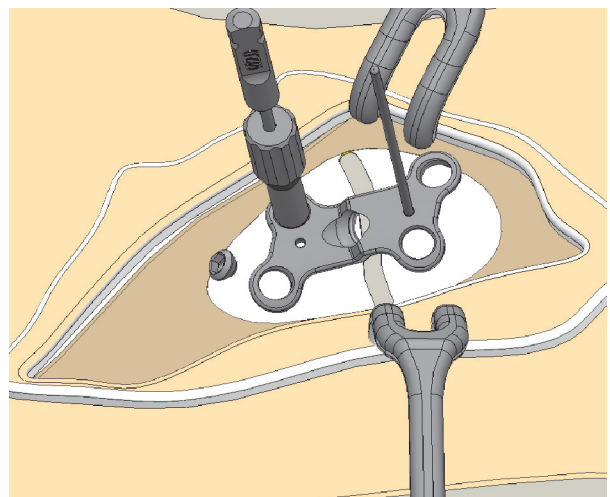
### ● 3. Inserting the 3.5 mm dia. Cannulated screw

The 1st tarsometatarsal joint is now transfixed in the required position using a Kirschner wire (REF:11.90212.150) with the assistance of a double drill guide (REF:08.20060.027). The degree of plantarisation should be determined by the extent of the resection. A larger resection should mean a greater degree of plantarisation. The entry point for the Kirschner wire is distal to the plate. The wire runs into the Os cuneiform bone in a proximal and plantar direction. A high degree of stability can be achieved if the wire lies in the plantar cortex of the Os cuneiform bone. After checking the position of the Kirschner wire radiologically in two planes, the length is measured using the measuring device (REF:08.20100.035). The cannulated, scaled drill bit (REF:12.20010.027) is then inserted over the guide wire and the hole is drilled to the previously determined depth as shown on the scale. (The scale on the drill bit corresponds to the length of the wire in the bone and can be read off on the edge of the double drill guide (REF:08.20060.027).) To prevent projection of the screw head, an indentation can be cut into the bone using the countersink (REF:08.20030.035). In the case of osteoporotic bone, a washer can be used as required. The according 3.5 mm dia. cannulated screw is now placed over the guide wire and screwed into place using the small, cannulated hexagon screwdriver (REF:08.20040.025). The positioning of the implant and the compression outcome is then checked in two planes under radiological guidance. It is easiest to assess the compression of the plantar component of the arthrodesis with the foot at an angle of 45° of supination. (Fig. 3, top)

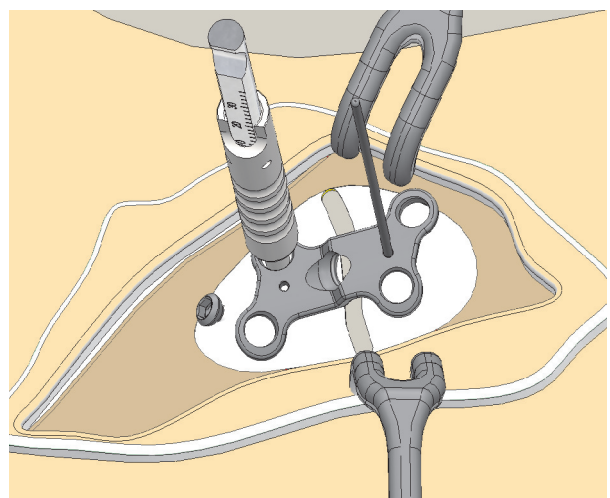
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04



05



### ● 4. Placement of the plate

The plate with the required plantarisation is now put into place. The plate can be temporarily held in place using a Kirschner wire if required. (Fig. 3, bottom)

### ● 5. Drilling for the 1st distal screw

The 2.0 mm dia. drill guide (REF:10.20060.046) is now screwed into one of the two distal holes. The precise placement of the plate is checked radiologically in two planes. The bone is now drilled bicortically through the drill guide (REF:10.20060.046) using the 2.0 mm dia. Drill bit (REF:10.20010.020). (Fig.4)

### ● 6. Screw length determination

The screw length is determined using the depth gauge (REF:02.20100.038). The depth gauge is placed directly onto the bone. (Fig. 5)

## > Implanting the plate

### ● 7. Inserting the first distal screw

The first distal screw is now screwed into place using the 2.5 mm hexagon screw driver shaft (REF:12.20040.025) and handle (REF:02.20050.010). The second distal screw is then screwed into place following the procedure described in sections 5 and 6.

**Note:** Use of angle-stable screws is indicated in particular where the curvature of the plate is slightly less than that of the bone. In this situation, the angle-stable screw fixes the raised plate. The bone is not pulled towards the plate.

**Caution:** If a non-angle-stable screw is used, the bone will be pulled towards the plate if the curvature of the plate differs from that of the bone. This may lead to loss of reduction when the screws are tightened.

### ● 8. Inserting the transverse cortical screw

In order to generate greater compression at the arthrodesis site, a 2.7 mm dia. self-tapping cortical screw can be inserted through the plate's centre hole. Before inserting the screw, the 2.0 mm dia. drill guide (REF:10.20060.046) must be screwed into the centre hole. A hole is then drilled in the bone using the 2.0 mm dia. drill bit (REF:10.20010.020) under image guidance (fig. 7). Screw length is now determined using the depth gauge (REF:02.20100.038). The depth gauge is placed directly onto the bone. The 2.7 mm dia. cortical screw is then screwed into place using the screwdrivershaft (REF:12.20040.025) and handle (REF:02.20050.010).

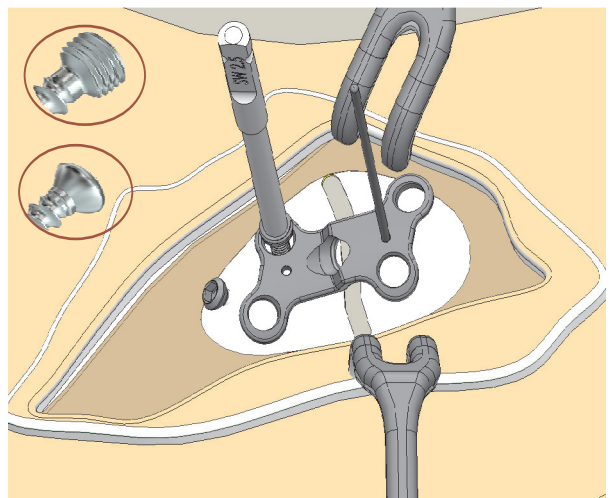
### ● 9. Inserting the remaining screws

The proximal screws are inserted in a manner analogous to that described in sections 5 to 7.

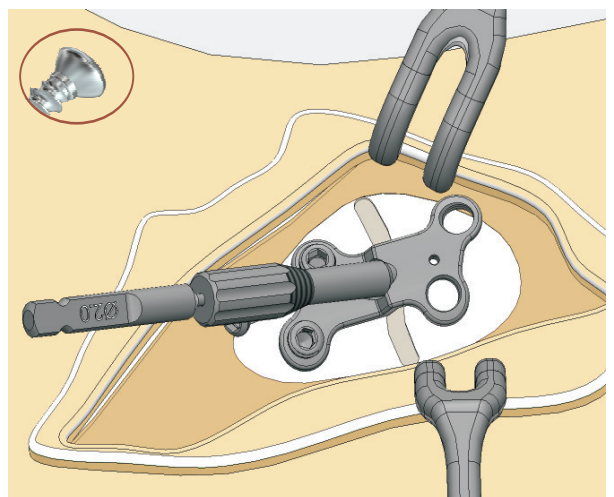
It is essential that the correct screws are selected as described in section 7.

After checking the precise positioning of the implant in two planes radiologically, distal procedures can, if required, be carried out on the soft tissues and bones to ensure that the joint is centred.

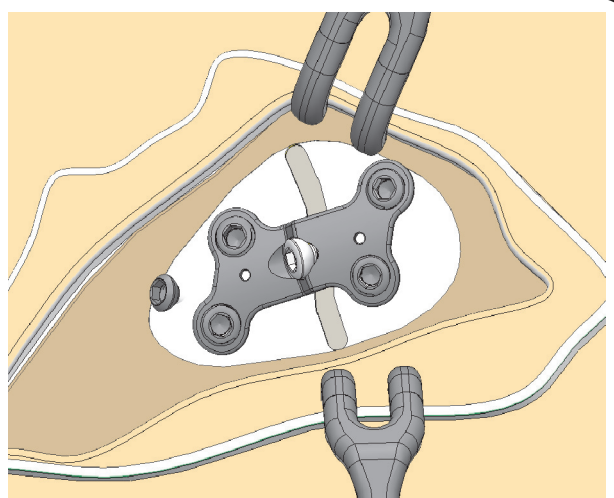
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07



08



## > Implanting the plate

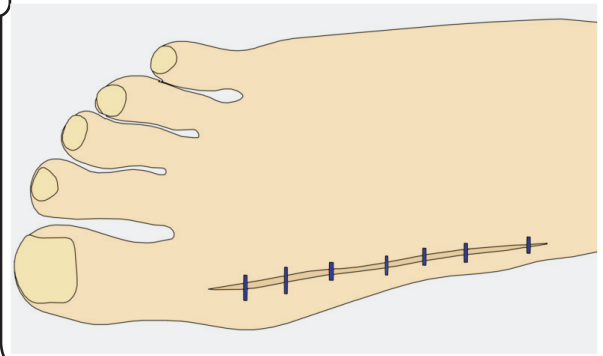
### 10. Concluding the operation and post-operative treatment

After layered wound closure, a compression dressing is applied with fixation.

#### Post-operative care

- 6 - 8 weeks lower leg walker with 20 kg partial weight-bearing until ossification has taken place.
- Increasing weight bearing following radiological follow-up.
- Mobilisation of the first metatarsophalangeal joint, corrective bandaging and hallux splinting should be selected in accordance with the requirements of the distal intervention.

09

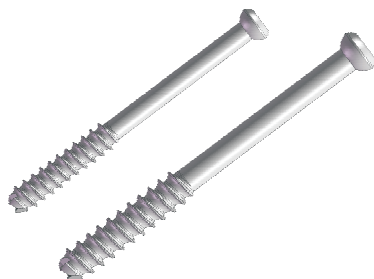


### 11. Alternative plate positions

The angle-stable plate can alternatively be applied to the first tarsometatarsal joint medially or medioplantarly. In this case extra attention must be paid to the tibialis anterior muscle, the insertion zone of which may in some cases stretch as far as the distal Os cuneiform bone. Primary stability and compression at the arthrodesis site can also be improved with the use of an additional tension screw where alternative plate positions are used.

## > Implants

Cannulated screw Ø 3.5 mm, partial threaded, titanium



Article no.	Screw length
08.03535.034	34 mm
08.03535.036	36 mm
08.03535.038	38 mm
08.03535.040	40 mm
08.03535.042	42 mm

Washer for cannulated screw Ø 3.5 mm, titanium

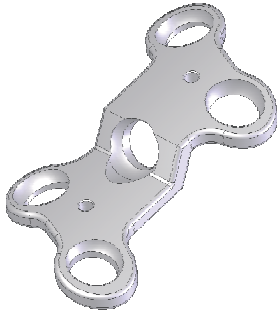


Article no.

03.91000.070

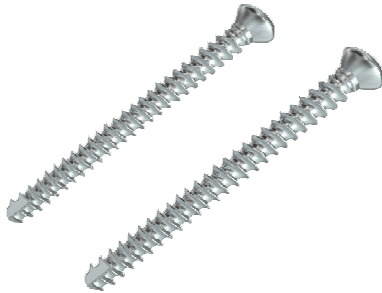
> Implants

Pedus-L Plate, titanium



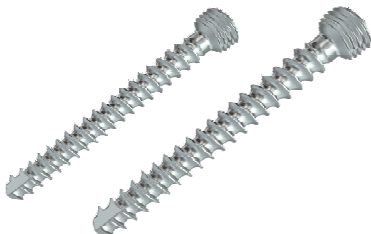
Article no.	Step
12.11123.000	0 mm
12.11123.002	2 mm
12.11123.003	3 mm
12.11123.004	4 mm
12.11123.005	5 mm

Cortical screw Ø 2.7mm,  
self-tapping, titanium



Article no.	Screw length
03.03527.012	12 mm
03.03527.014	14 mm
03.03527.016	16 mm
03.03527.018	18 mm
03.03527.020	20 mm
03.03527.022	22 mm
03.03527.024	24 mm
03.03527.026	26 mm
03.03527.028	28 mm
03.03527.030	30 mm

Angle-stable screw Ø 3.0mm,  
self-tapping, titanium



Article no.	Screw length
10.03530.016	16 mm
10.03530.018	18 mm
10.03530.020	20 mm
10.03530.022	22 mm
10.03530.024	24 mm
10.03530.026	26 mm
10.03530.028	28 mm
10.03530.030	30 mm

# Angle-stable foot plate system Pedus-L

## INSTRUMENTS IN THE SET



12.22130.012



12.22130.152



12.22130.150

Description	Article no.
Graphic case with implant rack 12.22130.012	12.22130.150
Implant rack	12.22130.012
Rack for cannulated screw instruments	12.22130.160
Lid for implant rack	12.22130.003

Description	Article no.
Screw holding forceps	02.20120.015
Screw driver shaft 2.5 mm hexagon	12.20040.025
Drill guide Ø2.0 mm	10.20060.046
Handle	02.20050.010
Double drill guide Ø1.7mm / Ø2.0 mm	12.20060.017
Drill bit Ø2.0 mm	10.20010.020
Depth gauge	02.20100.038
Kirschner wire Ø1.2x70 mm; trocar / round	11.90012.070
<b>Instruments for cannulated screw</b>	
Measuring device for Ø3.5/4.0mm cannulated screws	08.20100.035
Screwdriver 2.5mm hexagon, cannulated	08.20040.025
Countersink for Ø3.5mm cannulated screws	08.20030.035
Drill bit Ø2,7mm, 160mm, cannulated, scaled	12.20010.027
Double drill guide 2.7 mm / 1.25 mm	08.20060.027
Screw holding sleeve	03.20040.026
Cleaning wire Ø1.2x230 mm	08.20120.135
Kirschner wire Ø1.2x150 mm, trocar / round	11.90212.150

02.20120.015



10.20010.020



12.20040.025



10.20060.046



12.20060.017



02.20050.010



02.20100.038



11.90012.070 / 11.90212.150



03.20040.026



08.20060.027



12.20010.027



08.20030.035



08.20040.025



08.20100.035



08.20120.135



**Dieter Marquardt Medizintechnik GmbH**

Robert-Bosch-Str.1 - 78549 Spaichingen

Tel: +49 (0) 7424 / 95810 - Fax: +49 (0) 7424 / 501441

info@marquardt-medizintechnik.de

www.marquardt-medizintechnik.de

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