

TRAUMATOLOGY

# **YDFIX** Proximal Tibia-Med



## References

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## Introduction

The new member of Ydfix plates which are designed for the treatment of peri and intraarticular fractures, the YPT-Med (Ydfix Proximal Tibia-Medial) plate is assigned to treat proximal tibial fractures on the high standard of the Ydfix plates.

To achieve appropriate stability the system uses Ø5,1 mm polyaxial and cortical screws which have all the advantages of Ydfix screws and the outstanding mechanical properties as well.

#### 1.1 | The implant

• Polyaxial angle stabilized system in step - free ±15 deg angulation of insertion



- Optimal, pre-determined screw directions in the holes
- Maximum 3 times of correction possibility when misidentifying the correct screw direction
- Thinned head, the implant does not interfere with the soft tissues
- Rounded edges to protect nearby soft tissues
- Oval hole for plate positioning
- Ability to perform minimally invasive surgery
- Self tapping but blunt ended screws to avoid tissue irritation



- Anodized Titanium raw material
- Torx recess screws •

#### 1.2 | The instruments

- Capable of drilling in preset and ±15 deg directions step - free
- Optimized instruments

1.3 | Indications

Color coded torque limiting screwdriver

Peri- and intraarticular fractures of proximal tibia.

#### 2.1 | Ydfix Proximal Tibia - M

3Huniversal128 mm4Huniversal144 mm5Huniversal160 mm6Huniversal176 mm7Huniversal192 mm	Holes on tail	Size	Length	С
4Huniversal144 mm5Huniversal160 mm6Huniversal176 mm7Huniversal192 mm	ЗH	universal	128 mm	H
5Huniversal160 mm6Huniversal176 mm7Huniversal192 mm9Huniversal200 mm	4H	universal	144 mm	Ta
6Huniversal176 mm7Huniversal192 mm9Huniversal200 mm	5H	universal	160 mm	
7H universal 192 mm	6H	universal	176 mm	
	7H	universal	192 mm	
on universal 208 mm	8H	universal	208 mm	

#### Raw material

**Anodized Titanium** 

grey

Color

#### 2.2 | Ydfix screw Ø5,1 mm 2.3 | Cortical screw - TX Ø5,1 mm Length (mm) Length (mm) 12 - 80 24 - 55 Raw material Raw material **Anodized Titanium** Anodized Titanium Color Color purple grey 2.4 | Ydfix screw Ø6,5 mm Length (mm) 65 - 80

Raw material

#### anodized Titanium

Color

grey

Δ

## Implant range 2

ross section (width x thickness)

ead: 34 x 3 mm ail: 16 x 5 mm



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## 3 | Surgical procedure

#### 3.1 | Patient positioning

Supine position on radiolucent surgical table.

#### 3.2 | Plate selection

During preoperative planning select the most appropriate plate for the fracture and the anatomy of the patient. Consider that a little longer plate is more acceptable than a too short one.

#### 3.3 Incision

Longitudinal medial approach.

#### 3.4 | Modellation of the plate

For optimal fitting we can modellate the plate if needed. Use table bending device for that purpose. Avoid the extensive and the multiple to-and-back bending of the plate.

#### 3.6 | Positioning with the oval hole

Fix the plate in the oval hole with a grey cortical screw.

Pre-drillingisdonebydrillingthroughthestraightsideoftheØ4 mm double drill sleeve.After setting the optimalangle perform drilling with theØ4 mm drillibit.(1)

Measure the necessary screw length. Remove the Ø4 mm double drill sleeve. Hook the gauge to the other side of the hole while moving the reader on the bone surface. Read length at the red mark. (2)

#### 3.5 | Plate insertion

The plate can be inserted minimally invasively. Drive a sleeve into the hole of the plate, guide the plate on the bone surface towards the distal. Check the optimal position with image intensifier.

The plate can be fixed with Kirschner wires but fine positioning with the oval hole can be performed after the removal of the wires. Correct holding of the length gauge.

The red sign shall face the dial of the gauge. Hook the gauge to the other side of the hole while moving the reader on the bone surface. Disassembly: with the red sign turned to the side and the gauge can be pulled apart for cleaning.





## 3 | Surgical procedure

The plate is fixed to the bone with a Ø5,1 mm cortical screw in the oval hole. The screw is not fully tightened until the fine tuning of the position is done. Afterwards it is to be locked firmly. (3)



#### 3.10 | Monoaxial drilling – head

Drill through the sleeve for the Ø5,1 mm screw while using image intensifier control. The spiral drill to be used is Ø4 mm in diameter.

## 3.11 | Length gauging – head

Length gauging can take place in two ways.

As per the first, previously already detailed, use a hooked gauge. Hook it into the other wall of the hole, push the moving part on the bone surface and read length.

#### 3.8 | Locking the head

the plate.

3.7 | Temporary plate fixation

There are 3 screw holes on the head. In case of each screw hole both mono- and polyaxial locking can be applied.

Fix the plate to the bone with Kirschner wires through

the corresponding holes on the head or at the tip of

#### 3.9 | Monoaxial locking

In this case the screws can be inserted in the anatomically optimal direction. The screw-plate connection will be angle stabilized ensuring loosening-free locking. The other method uses the purple drill stop over the Ø4 mm drillbit just above the spiral part. Perform drilling through the sleeve. The necessary length can be read on the scale of the drillbit at the drill stop's side facing the sleeve.

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## 3 Surgical procedure

#### 3.12 | Screw insertion - head

Drive the selected Ø5,1 mm screw with the T25/3,5 Nm torque screwdriver. Using torque screwdriver reduces chances of cold welding during the healing period.

Repeat the above steps in case of all necessary screws. This way they are inserted in the anatomically optimal direction.



#### 3.14 | Length gauging - tail

There are two possibilities for length gauging: either with the gauge or with the drill stop.

On the tail traditional monoaxial locking is suggested.

3.13 | Drilling - tail

Place the straight part of the double drill sleeve into the hole of the plate. Perform drilling with the Ø4 mm drillbit.



#### 3.15 | Screw insertion - tail

Drive the selected Ø5,1 mm screw with the T25/3,5 Nm torque screwdriver.





## 3 Surgical procedure

#### 3.16 | Polyaxial locking

In case of polyaxial locking we have the freedom of  $\pm 15$  degrees from the anatomically optimal direction.

#### 3.19 | Screw insertion - head

Drive in the selected screw with the T25/3,5 Nm torque limiting screwdriver.

#### 3.17 | Polyaxial drilling – head

Place the conical end of the  $\emptyset$ 4 mm double drill sleeve into the hole. It fits exactly into the hole and its symmetry axis is in the anatomically optimal direction (the same direction in which monoaxial locking takes place). Thus it is ensured that the ±15 degree direction is always from the anatomically optimal direction.

Perform drilling in the desired direction with the  $\emptyset$ 4 mm drillbit.



#### 3.20 | Drilling - tail

On the tail traditional monoaxial locking is suggested.

Place the straight part of the double drill sleeve into the hole of the plate. Perform drilling with the  $\emptyset$ 4 mm drillbit.

#### 3.18 | Length gauging – head

Use the length gauge without the sleeve.

#### Attention!

The drillstop method cannot be used when drilling through the conical end of the double drill sleeve.







## 3 | Surgical procedure

#### 3.21 | Depth gauging - tail

There are two possibilities for depth gauging: either with the gauge or with the drill stop.



#### 3.23 | Compression drilling – tail

On the tail compression screw insertion is possible.

Place the compression side of the double drill sleeve - V into the hole in such a way that the arrow next to the 1.0 marking points towards the fracture and perform drilling with the Ø4 mm drillbit.

Perform length gauging and screw insertion as per described above.

#### 3.22 | Screw insertion - tail

Drive the selected Ø5,1 mm screw with the T25/3,5 Nm torque screwdriver.





## 4 | Implant list

#### 4.1 | Ydfix Proximal Tibia Plate- M

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And	Anodized Titanium	
Cat no	Size	Length (mm)
3009400003	3H	128
3009400004	4H	144
3009400005	5H	160
3009400006	6H	176
3009400007	7H	192
3009400008	8H	208

Anodized Titanium

#### 4.3 | Cortical screw - TX Ø5,1 mm

A	Anodized Titanium		
	Cat no	Size (mm)	
	1032451024	24	
	1032451026	26	
	1032451028	28	
	1032451030	30	
	1032451032	32	
	1032451034	34	
	1032451036	36	
	1032451038	38	
	1032451040	40	

#### 4.2 | Ydfix screw Ø5,1 mm

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Cat no	Size (mm)
1017451024	24
1017451026	26
1017451028	28
1017451030	30
1017451032	32
1017451034	34
1017451036	36
1017451038	38
1017451040	40
1017451042	42
1017451044	44
1017451046	46
1017451048	48
1017451050	50
1017451055	55
1017451060	60
1017451065	65
1017451070	70
1017451075	75
1017451080	80

## Implant list | 4

#### 4.4 | Ydfix screw Ø6,5 mm

Cat no	Size (mm)
1057465065	65
1057465070	70
1057465075	75
1057465080	80



## 5 | Instruments

#### 5.1 | Instruments



# Instruments for 6,5 mm cancellous screwSpiral drill with quick connecting<br/>end (3,2x195 mm)5939532195Screwdriver (3,5 mm)5939532195Screwdriver (3,5 mm)5210700035Double drill sleeve (6,5/3,2 mm)5233910002





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