Surgical Technique

3.5mm
Patella-Plating-System

SYNMEDICS®
Leben ist Bewegung. Bewegung ist Leben

This surgical technique alone does not provide sufficient background for immediate use of the described system. An instruction by a qualified surgeon who is experienced in handling the system is therefore strongly recommended.

Content

T15 screw drive for optimal force transmission and self-retention of the screw on the screwdriver

11 screw holes provide intraoperative flexibility

Low profile plate and locking screws for an angular stable treatment of the fracture with a low overall osteosynthesis profile

Dedicated Kirschner wire holes in the plate enable temporary fixation

Low profile screws sitting flush on the plate reduce the risk of soft tissue irritation

Low plate profile

Anatomical plate design

Type II anodization for a simplified implant removal after fracture healing

Suture holes alongside the edge of the plate for additional fixation with sutures

Features & Benefits

The anatomically shaped plate design facilitates an optimal placement on the patella.

11 screw holes allow for intraoperative flexibility and an individual consideration of the respective fracture pattern.

Rounded edges, the slim plate profile, the smooth coated surface as well as screws that sit flush on the plate reduce the risk of irritation of the surrounding soft tissue.

3.5mm ‚low profile' locking head screws ensure an angular stable fracture treatment while maintaining a low osteosynthesis profile.

The T15 screw drive ensures optimal force transmission, reduces the risk of deformation of the screw drive and allows for self-retention of the screw on the screwdriver.

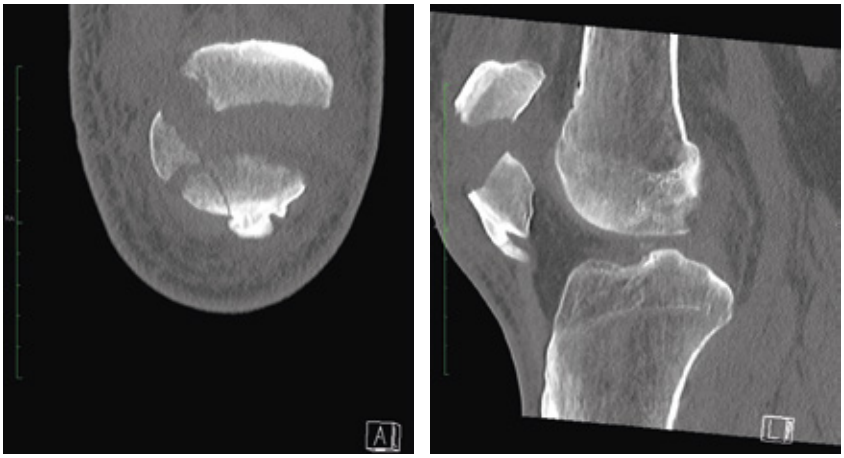
The special surface coating of the plates and screws (Type II anodization) favours a simplified removal of the implants after fracture healing.

Dedicated Kirschner wire holes in the plate allow for temporary Kirschner wire fixation to facilitate the positioning of the plate on the bone.

Suture holes alongside the edge of the plate allow additional fixation with sutures. Suture feeding is enabled through the undercuts with the plate in situ.

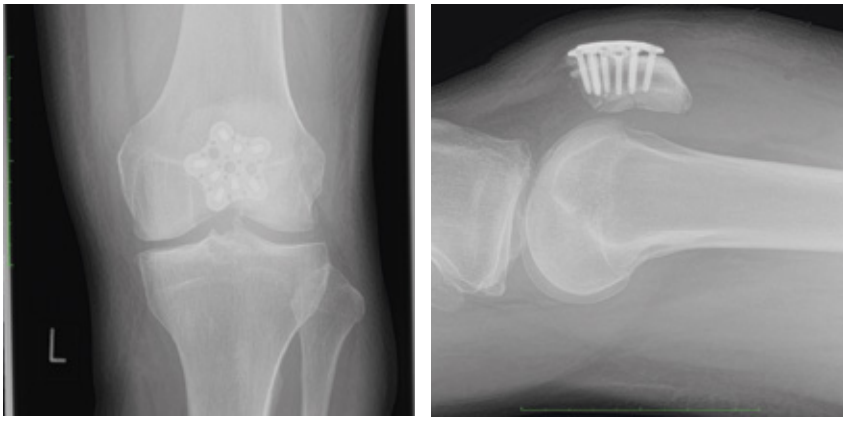
Clinical Case

(PROVIDED BY THE DEPARTMENT OF ORTHOPEDICS AND TRAUMA SURGERY, UNIVERSITY OF FREIBURG MEDICAL CENTER)



1. PREOPERATIVE CT SCAN

2. INTRAOPERATIVE X-RAYS



3. POSTOPERATIVE X-RAYS

57-year-old male patient
Quadruple fracture of the patella after fall

Indications

The Patella-Plating-System is indicated for the treatment of simple fractures, multi fragment fractures and comminuted fractures of the patella.

Special Contraindications

Comminuted fractures of the patella where there is no possibility of safe placement of the screws.

Surgical Technique

1. Preparation

With the knee in an extended position, make a medial longitudinal incision over the patella. If necessary, drain the hemarthrosis, rinse the wound and clean the fracture ends of the fracture hematoma.

Anatomically reduce the fracture and fixate with the reduction forceps.

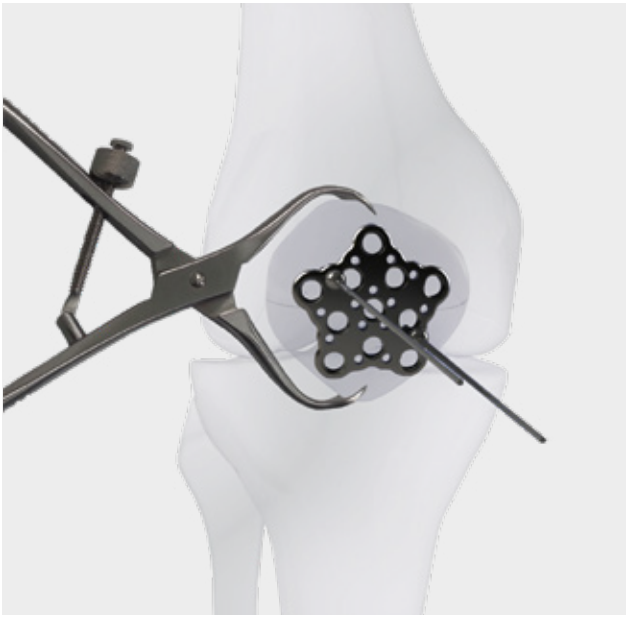
If necessary, Kirschner wires can be used for additional temporary fracture fixation

2. Selection and positioning of the plate

Depending on the size of the patella, there is a choice of different plate diameters. Select the desired plate and position it from anterior on the surface of the patella.

Check the correct positioning of the plate. The position of the plate can be temporarily fixed by inserting Kirschner wires with thread and stop through the dedicated Kirschner wire holes.

If necessary, check the plate position with the image intensifier in 2 plains.



3. Insertion of the locking screws

Drill screw holes for 3.5mm locking screws. Screw holes are prepared at a predefined angle using the drill sleeve and the drill Ø2.7mm.

Insert the drill sleeve into the desired plate hole and use the drill Ø2.7mm to prepare a screw hole with the predefined angle.

Important: The drill should not be advanced into the cartilage surface of the patella.

The drill Ø2.7mm must always be used in conjunction with the drill guide to prevent direct contact with the surrounding tissue, to prevent damage to the plate and to ensure proper alignment of the screw hole.

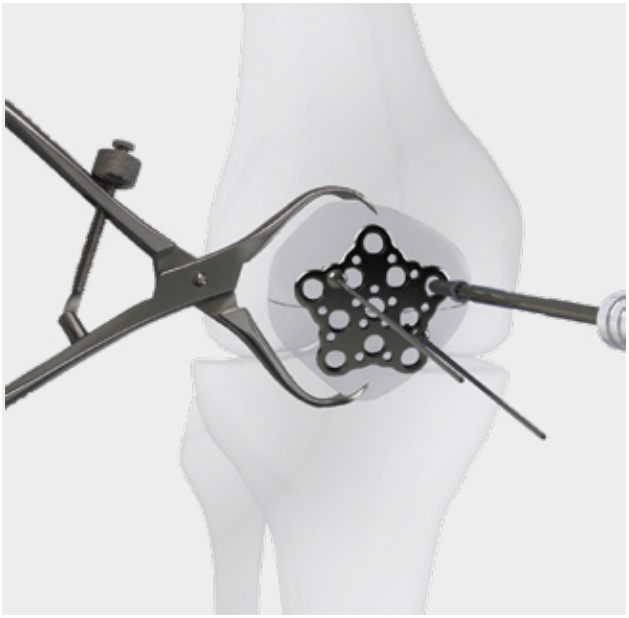
The required screw length can be read at the laser marking on the drill Ø2.7mm and the scale on the drill guide.

Additionally, the required screw length can be determined with the depth gauge for 3.5mm screws after removal of the drill guide.

After preparing the screw hole, remove the drill guide, insert the appropriate 3.5mm locking screw and tighten it with the screwdriver.

Important: The screws must be inserted unicortically. The screws should not extend into the cartilage surface of the patella.

Repeat the steps described above until a stable fracture fixation is achieved.

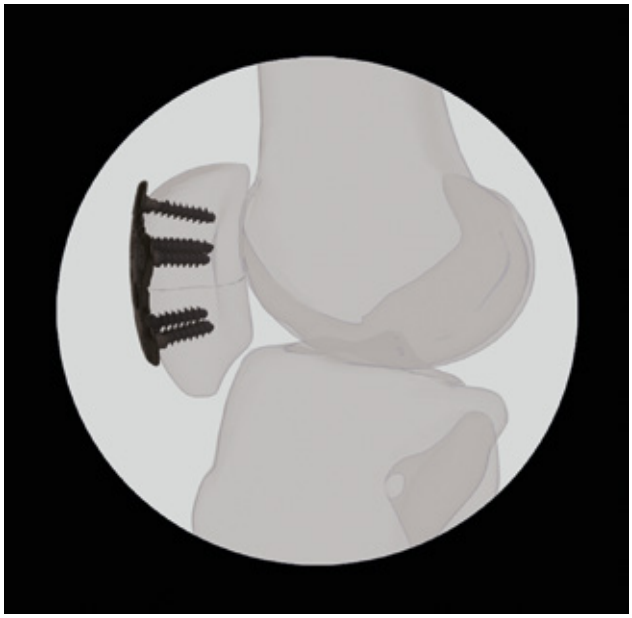


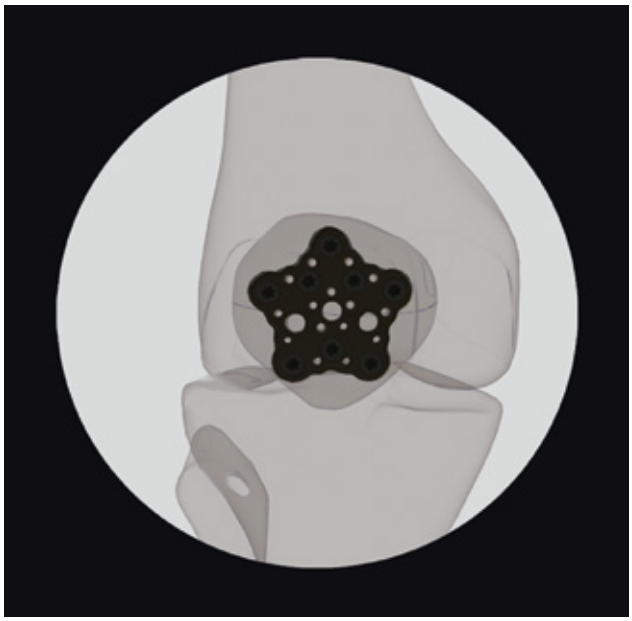
If necessary, suture the retinacula; it is possible to fix the suture in the suture holes (suture feeding is enabled through the undercuts alongside the edge of the plate with the plate in situ).

Closure of the wound in layers.

4. Control of the fracture treatment

Use the image intensifier to check the correct anatomical reduction of the fracture, the correct plate position and the correct lengths of the inserted screws.





Implants

PLATES*

Article No.	plate holes	Ø in mm	profile in mm
150-6535-403	11	32	1,6
150-6535-404	11	38	1,6

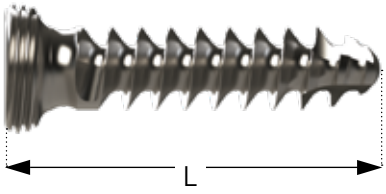
* Titanium - 6% Aluminium - 4% Vanadium Alloy (Ti6Al4V); anodized according to VH-TYPE II
All plates are also available sterile packed. The article number is extended by an "-S".

SCREWS*

Cort. LP-screw, angle-stable, Ø3.5mm

10mm – 24mm

150-6135-010LP-TXL –
150-6135-024LP-TXL



The screw length is measured inclusive screw head.

* Titanium - 6% Aluminium - 4% Vanadium Alloy (Ti6Al4V); anodized according to VH-TYPE II
All screws are also available sterile packed. The article number is extended by an "-S".

Instruments

K-Wire w. thread and stop 1.6x150mm
150-6810-016

Screwdriver shaft T15, w.AO-conn.
150-7100-024

Screwdriver handle w. AO-coupling
013-0011-050

Drill Ø2.7mm, w. AO-coupling
150-7100-032

Drill guide f. drill Ø2.7mm, w. scale
150-7100-025

Reduction forceps
150-7100-028

Depth gauge f. 3.5mm screws
150-7100-029

Dismantling

Steps for reprocessing

1) Disassembling
2) Manual Cleaning *
3) Automated cleaning with manual pre-cleaning and ultrasonic cleaning
4) Visual inspection and Function Control Check
5) Assembling
6) Steam sterilization

*For detailed instructions on manual cleaning, automatic cleaning and steam sterilization, please refer to mahe medical document "Instructions for Use - Surgical Instruments".

Depth gauge f. 3.5mm screws (150-7100-029)

1)

2)

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