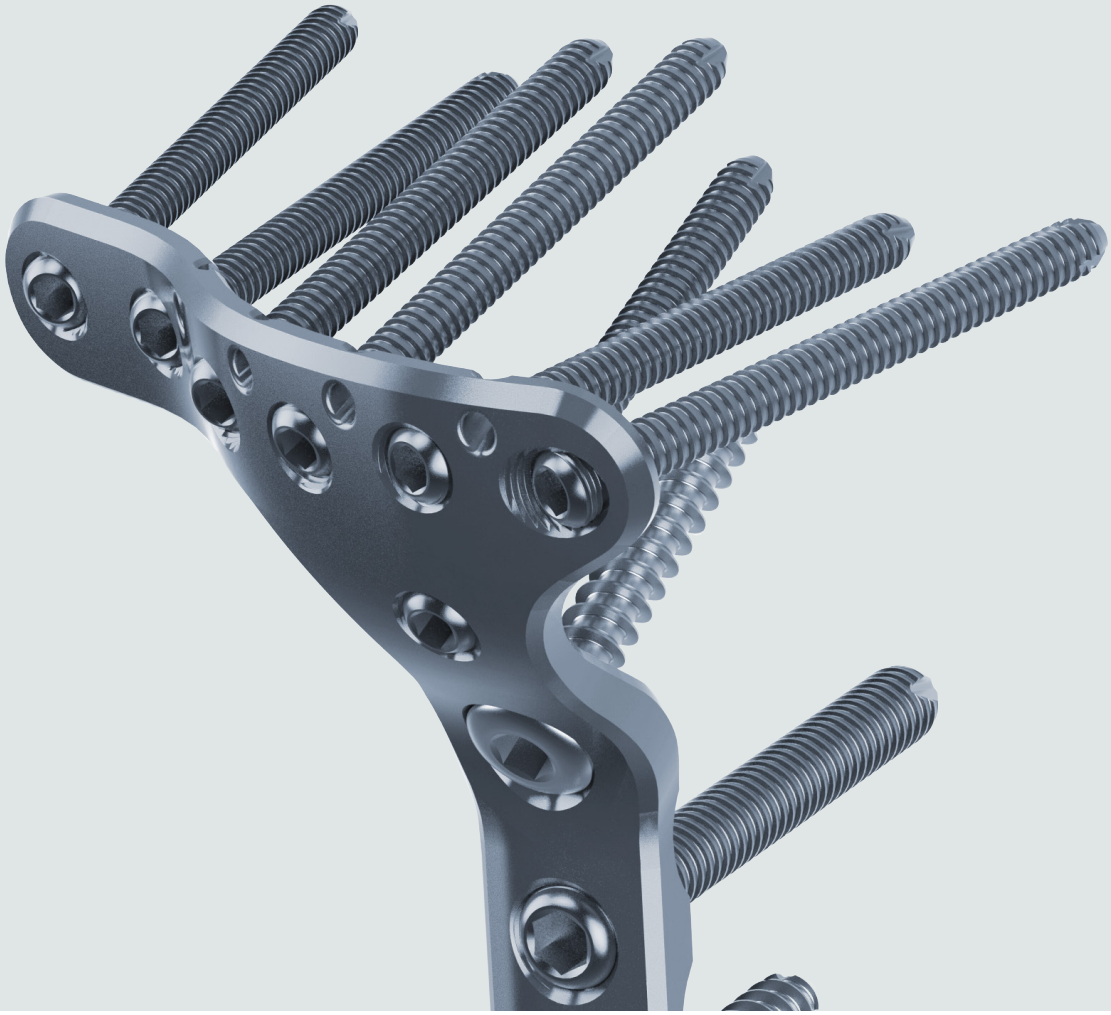
7S medical
Swiss Experts in Orthopedics.

WAVE
PROXIMAL POSTERIOR TIBIA PLATE
SURGICAL TECHNIQUE



Index

Warning

This publication describes the recommended procedures for using 7s Medical devices and instruments. It offers guidance that you should pay attention to. But as with any such technical guide, the guide alone does not provide sufficient background for direct use of the instrument set, each surgeon should also consider the particular needs of each patient and make appropriate adjustments when required. Instruction by experienced surgeon is still highly recommended.
All non-sterile devices must be cleaned and sterilized before use. Multi-component instruments must be disassembled for cleaning. Please follow the instructions provided in our Care, Cleaning and Sterilization Instructions. Please refer to the Instructions for Use for a complete list of potential adverse effects, contraindications, warnings and precautions. The surgeon must discuss all relevant risks, including the finite lifetime of the device, with the patient, when necessary.

Caution

The implants are designed for temporary fixation of fractured bone fragments until the bone heals. Therefore, if bone does not heal or bone consolidation is delayed or not sufficient, the system may break. Post-operative care under the guidance of the surgeon is also very important and it must be done to ensure the promotion of bone consolidation.

WAVE PROXIMAL POSTERIOR TIBIA PLATE

Indications

- Posteromedial and posterolateral tibia plateau fractures

Contraindications

- Critical soft-tissue conditions
- Extremely obese patients

Approach

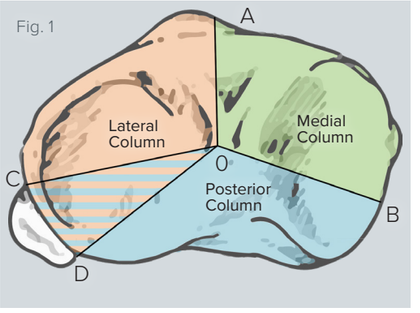
Source: University Hospitals Leuven, 2017

a) The reversed L-shaped incision of the skin begins in the center of the knee groin, parallel to the Langer lines. It extends to the medial corner of the fossa, and then bends distally, parallel to the middle line of the calve, approximately 15 cm.

Source: University Hospitals Leuven, 2017

b) A fasciocutaneous flap is elevated and retracted laterally. Be cautious not to damage the N. Suralis and V. Saphena. Identify the tendon of the medial head of the gastrocnemius muscle. Blunt dissection and retraction of the gastrognemius muscle laterally provides a good overview of the posterior column. In order to expose the posterior wall of the proximal tibia, a longitudinal dissection of the popliteus muscle should be performed medially.

Fig. 1



c) The posterior fracture fragments are exposed. No posterior arthrotomy has to be done, the exposure of the fragments is sufficient to perform a buttress plate osteosynthesis. Fragments can be manipulated and repositioned with help of a rasp. A temporary fixation with guide wires is recommended.
Alternatively, the posteromedial and/or posterolateral fracture fragments can be reduced satisfactorily on the WAVE plate.

Fig. 1: A revised three-column classification
Hoeckstra H. et al (2016)

Fig. 2

d) The WAVE plate fits into the revised three-column approach (Fig. 1), where posterolateral fracture fragments reaching to the fibula head (Fig. 1, D) are fully buttressed using the WAVE plate. Subsequently, posterolateral fracture fragments that extend into the posterolateral corner (Fig. 1, C-D striped area) are supported by the oblique locking screws (Fig. 2) as well.

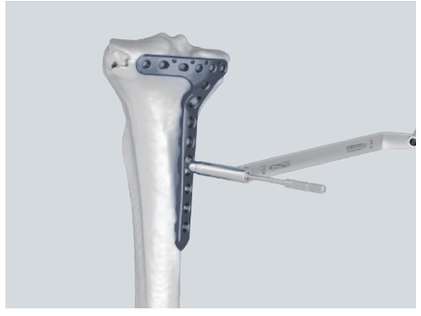
7SMedical
Swiss Experts in Orthopedics.

SURGICAL TECHNIQUE

STEP 1
- **1500130600**
  Drill Sleeve, Ø 3.2 & Ø 4.5
- **1509051000**
  Drill Bit Ø 3.2x250 mm

OPTIONAL INSTRUMENTS
- **1519905900**
  Guide Wire Sleeve, Ø 1.5
- **1501420900**
  Threaded Guide Wire, Ø 1.5, 150 mm
- **1519906000**
  Guide Wire Sleeve, Ø 2.5
- **1501430900**
  Threaded Guide wire, Ø 2.5, 250 mm

STEP 2
- **1500380100**
  Screw Driver Hex, SW3.5
- **1500380600**
  Depth Gauge, Large Fragment



STEP 1
Drill for temporary fixation of the plate
Position the plate on the bone of the posterior tibia plateau. It is recommended to fix the plate temporarily on the bone through the elongated hole with a 4.5 mm cortex screw. Use the 3.2 mm drill bit through the drill sleeve, Ø 3.2 & Ø 4.5 to pre-drill the bone.
Optional: The plate may previously be fixed with the help of guide wires. Screw the corresponding guide wire sleeve into the foreseen locking hole. Pass the guide wire through the guide wire sleeve and fix it temporarily.

STEP 2
Determine 4.5 mm cortex screw length and screw insertion
Measure the screw length with the depth gauge, large fragment and insert the screw using the Ø 3.5 screw driver hex. Do not tighten the 4.5 mm cortex screw too firmly, in order to be able to position the plate correctly. Check the correct position of the plate under image intensifier. Complete final tightening.
Note: There is a possibility to insert a second 4.5 mm cortex screw for reduction of the fracture.

STEP 3
- **1505401300**
  Threaded Drill Guide Ø 2.8
- **1509054900**
  Drill Bit & Slide Limited Device Ø 2.8x200
- **1504200400**
  Key, for locking plate drill sleeve

STEP 4
- **1500181000**
  Depth Gauge, Ø 3.5
- **1500182700**
  Quick Coupling Screwdriver T15
- **1515700400**
  1.5 Nm Torque spanner
  1500182100
  Locking Screw Holding Forceps Ø 3.5

STEP 3
Drill for 3.5 mm proximal locking screws
Screw the threaded drill guide Ø 2.8 into one of the proximal holes. Insert the drill bit Ø 2.8 through the drill guide and drill to the desired depth. Remove the drill bit and drill guide.
Note: To support the surrounding soft tissue initially place a drill guide into the most lateral hole of the proximal part.

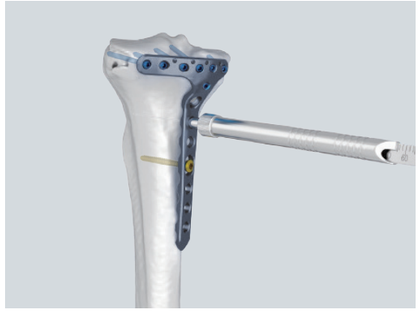
STEP 4
Determine 3.5 mm locking screw length and insert screw
Determine screw length with depth gauge Ø 3.5. Insert the 3.5 mm locking screw using the quick coupling screwdriver T15. Check the desired position of the locking screw under image intensifier. Perform final tightening with the 1.5 Nm torque spanner.
Note: Before setting the first locking screw, anatomical reduction must have been established. After setting the locking screws, additional reduction can no longer occur without removing the locking screws. Repeat steps 3 and 4 for the remaining necessary 3.5 mm locking screws.

7SMedical
Swiss Experts in Orthopedics.

WAVE PROXIMAL POSTERIOR TIBIA PLATE

STEP 5
- **1505401400**
  Threaded Drill Guide Ø 4.3
- **1509055000**
  Drill Bit & Slide Limited Device Ø 4.3
- **1504200400**
  Key, for locking plate drill sleeve

STEP 6
- **1500380600**
  Depth Gauge, Large Fragment
- **1500382100**
  Quick Coupling Screwdriver T25
- **1500380500**
  Locking Screw Holding Forceps T25
- **1515800500**
  3.5 Nm Torque spanner



STEP 5
Drill for 5.0 mm distal locking screws
Screw a threaded drill guide Ø 4.3 into one of the shaft holes for locking screws. Insert the drill bit Ø 4.3 through the threaded drill guide and drill through both cortices. Remove the drill bit and threaded drill guide.

STEP 6
Determine 5.0 mm locking screw length and screw insertion
Determine the screw length with the depth gauge, large fragment. Add 2 to 4 mm to the measured screw length for a bicortical fixation. Insert the 5.0 mm locking screw using the quick coupling screwdriver T25. Perform final tightening with the 3.5 Nm torque spanner. Repeat steps 5 and 6 for the remaining 5.0 mm locking screws. Check final result under image intensifier.

7S medical
Swiss Experts in Orthopedics.

INSTRUMENTS – 15199-063 TIBIA INSTRUMENT SET

1505401300 Threaded Drill Guide Ø 2.8

1505401400 Threaded Drill Guide Ø 4.3

1504200400 Key for Locking Drill Sleeve

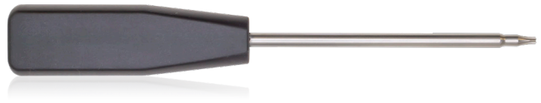
1519905900 Guide Wire Sleeve, Ø 1.5

1519906000 Guide Wire Sleeve, Ø 2.5

1500182100 Locking Screw Holding Forceps Ø 3.5

1500182700 Quick Coupling Screwdriver T15

1505710800 Screwdriver T15



1500180500 Screw Driver, Hex, SW2.5

1500180501 Screw Holding Guide, SW2.5

1515700400 1.5 Nm Torque spanner

1509054900 Drill Bit & Slide Limited Device Ø 2.8 × 200

1501420900 Threaded Guide Wire, Ø 1.5, length 150 mm

1500181000 Depth Gauge Ø 3.5, 100 mm

1500382100 Quick Coupling Screwdriver, T25

1500380500 Locking Screw Holding Forceps T25

1505810800 Screwdriver T25

1500380100 Screw Driver, Hex, SW3.5

1500380101 Screw Holding Guide, SW3.5

1515800500 3.5 Nm Torque spanner

1509055000 Drill Bit & Slide Limited Device Ø 4.3

1501430900 Threaded Guide wire, Ø 2.5, 250 mm

1500130600 Drill Sleeve, Ø 3.2 & Ø 4.5

1509051000 Drill Bit Ø 3.2 × 250 mm

1509051900 Drill Bit Ø 4.5 × 250 mm

1500380600 Depth Gauge, Large Fragment

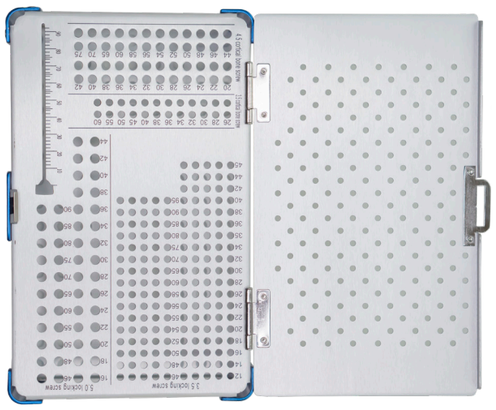
1500180800 Straight Quick Coupling Handle

1500180100 Drill Bit Ø 2.5 × 112

1500180600 General Drill Guide Ø 2.5 & Ø 3.5

1510100500 Tap for Cortical Screw, HA3.5

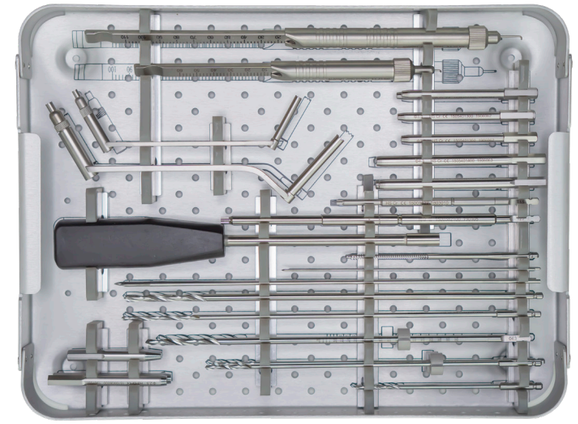
1519906100 Screw Case

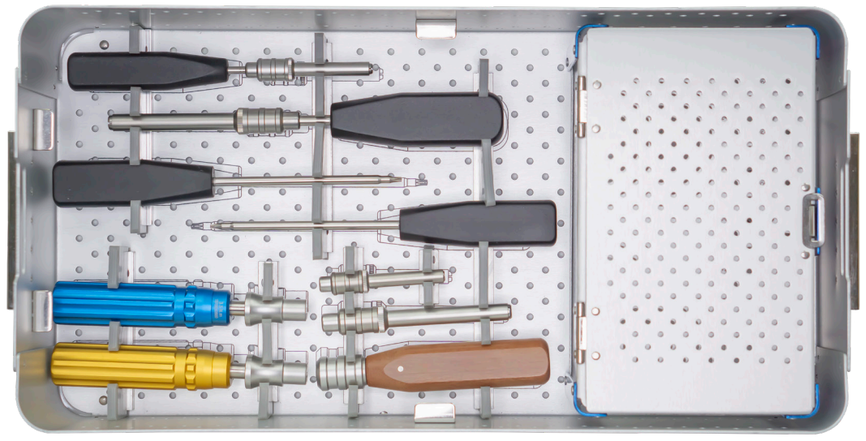


OPTIONAL

1500380400 Quick Coupling Screw Driver, Hex, SW3.5

INSTRUMENT SET





7Smedical
Swiss Experts in Orthopedics.

WAVE PROXIMAL POSTERIOR TIBIA PLATE

7s Medical AG
Länggasse 4
CH-6208 Oberkirch

+41 41 925 66 60
+41 41 588 01 99

info@7smedical.com
www.7smedical.com

7S medical
Swiss Experts in Orthopedics.

NBF0.A000.012.2004