

EXTERNAL FIXATORS FIELD KIT SURGICAL TECHNIQUE

C € 2803 Certificate No.: 1164C04210502



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Indications and contraindications

Indications

The Medium-size External Fixator (rod diameter: 8 mm) is particularly appropriate for the extremities of adults are:

- Second and third-degree open fractures
- Infected pseudoarthrosis
- Rapid, initial immobilization of soft tissue injuries and fractures in severely injured patients
- · Immobilization of closed fractures with severe soft tissue trauma (bruising of the soft tissue mantle, burns, skin
- diseases)
 Extensive shaft and periarticular fractures
- Transient joint-bridging immobilization in severe soft tissue and ligament injuries
- Arthrodeses and osteotomies

Contraindications

- Patients who for social and physical reasons are not suitable for an External Fixator.
- Patients in whom no screws can be inserted due to a bone or soft tissue disease.

Modular frame using the rod-to-rod Technique

You can choose between a unilateral or modular frame construction. If a modular frame is chosen, you can freely choose how to set the Schanz screws. This method is recommended as a standard technique for fractures that require reduction. Schanz screws, clamps and stainless steel rods are required to construct the different frames.

TIP

In emergency situations often there is no X-Ray (fluoroscopy) available. Under such circumstances it is not possible to localize the fracture site accurately. Therefore, it is recommended to place the Cortical Schanz in an area which is in a safe distance proximally and distally from the fracture site.



Femoral Safe Zone



Between anterolateral & lateral sites Antero-Lateral

Distal from the greater trochanter to 3-4 fingers proximal to patellaLateral Distal from the greater trochanter to 1-2 fingers proximal to knee joint

The insertion point of the schanz Pin in the first cortex should be positioned exactly in the center of the crosssection of the bone to avoid excentric or tangential positioning. After penetration of the first cortex, a drop in resistance will be detected. Using light pressure, insertion of the pin is continued.

Tibial Safe Zone



Medial

1-2 fingers distal to knee joint avoidingpatella tendon and tibial tubercle





Smart Tech Solution

Set two Schanz screws per main fragment the greater the distance between the Schanz screws, the greater the stability of the frame.

Connect the Schanz screws with stainless steel rods

The two Schanz screws per main fragment are connected with a rod. Clip-on, self-holding clamps are used.

Make sure that the rods project a bit beyond the fracture zone so that sufficient length remains for the combination clamp. Tighten all the clamp nuts.

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Connect the stainless steel rods

Connect the two ends of the rods near the fracture to a third rod using two self-holding combination clamps. Do not yet tighten the nuts for the combination clamps.



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Reduce the fracture

Use the two partial frames as handles to reduce the fracture. After checking the reduction, alternately tighten the nuts of the combination clamps in the image intensifier while manually holding the reduction.



Tighten nuts

Finally, recheck all the nuts with the wrench to ensure they are all tight. Retighten all the nuts after 24 hours.



Secondary reduction

A secondary correction of the reduction can be performed within the first few days after surgery. Only the two combination clamps are released. The correction can then be made using the partial frames that move relative to each other. After the correction, retighten the two combination clamps.





Additional treatment options using the rod-to-rod technique

Adult femur

Insert 2–3 Schanz screws into the proximal and distal main fragment from a lateral direction. With adipose patients, it is recommend to use 6.0 mm screws. The stability of the rod-to-rod assembly can be increased with an additional neutralization rod.



Bridging the ankle Unilateral

Insert the screws into the calcaneus and talus from a medial direction. In the tibia, set the screws at an anteromedial to medial angle, and connect them using the rod-to-rod technique.



Bridging the knee joint

Insert two Schanz screws into the distal femur from a lateral or ventral direction, and into the proximal tibia from an anteromedial direction. Connect them using the rod-to-rod technique.





Humerus

Insert the Schanz screws in the proximal humerus from a lateral direction and into the distal humerus from a dorsal direction, avoiding injury to the radial nerve. Connect the Schanz screws using the rod-to-rod technique.



Bridging the elbow

Insert Schanz screws into the distal humerus from a dorsal direction. The screws can be introduced into the forearm from a dorsal direction into the ulna. Connect the Schanz screws using the rod-to-rod technique. It is only recommend to insert an additional screw in the radius to stabilize the radio-ulnar joint.



Unilateral frame with double-rod construction



Provisionally reduce the fracture, and set the first Schanz screw

Provisionally reduce the fracture, and insert the first Schanz screw in a main fragment. From a ventrolateral direction, locate the first screw as distally as possible.



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Mount the stainless steel rod and clamp

Mount the rod with the assistance of a clip-on, self-holding clamp.



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Definitively reduce the fracture, and set the second Schanz screw

After reducing the fracture, set the second Schanz screw as proximally as possible. Secure the reduction by tightening the proximal and distal clamp, yet continue to hold the reduction until the fracture is definitively fixed





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Unilateral frame with double-rod construction

A double-rod construction increases stability of the assembly in the case of bone defects or comminuted fractures. Use the same procedure as for single-rod construction; however, after setting the first two Schanz screws, place the second rod over the first. The double-rod construction should be standard for the femur.



Pelvic use

Supraacetabular pin placement





Placing pins in the Iliac crest





Product Information

2x Double Rod to pin clamp 2x Rod Ø 8mm x 400 4x Coetical Schanz 5mm x 250 mm 1x T-wrench for Cortical Schanz Item: D1108.06030.2 Item: 10059.08400 Item: 22004.05250 Item: THCS-1

* Kindly refer to instructions of use and operative technique opertive technique.







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