



Synicem Clous

FEMORAL

SURGICAL TECHNIQUE

Synicem Clous FEMORAL

Indications

- Infected femoral diaphyseal fractures.
- Infected femoral diaphyseal pseudoarthrosis.
- Open femoral diaphyseal fractures.

Contraindications

- Fracture pattern inadequate for treatment with endomedullary nail.
- Fracture location inadequate for treatment with endomedullary nail.
- Hipersensitivity to aminoglucoseyde ATB.
- Any situation where the use of an endomedullary nail is contraindicated.

Procedure

- Surgical approach (according to conventional insertion/implanting technique).
- Access to the medullar canal.
- Reaming of the medullar canal.
- Measurement of the nail diameter and length.
- Locking:
 - Proximal: (2 holes in the lateromedial direction).
 - Distal: (2 holes in the lateromedial direction, and one hole in the anteroposterior direction).
- Introduction of the nail plug.
- Wound closure.

PATIENT POSITIONING

The positioning of the patient for the anterograde insertion of the femoral nail is determined by the surgeons preference and need, and by the type of fracture.

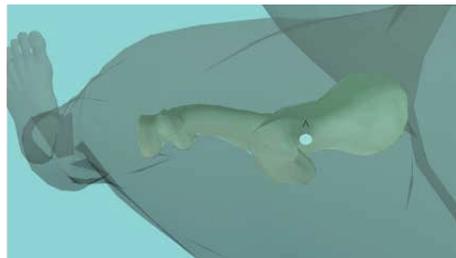
Reduction: The reduction of the fracture under radioscopy prior to the surgical approach is stongly recommended.

Antisepsis must be performed as well as the establishment of sterile fields following the corresponding technique.

ACCESS POINT

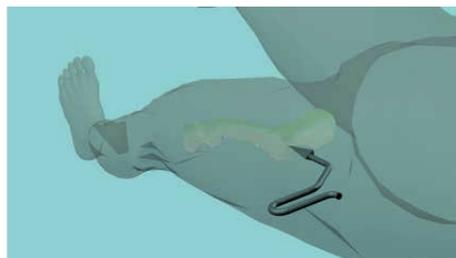


Usual incision for regular / usual endomedullary femoral nailing/insertion, with access through the



piriform fossa. Once the access point is reached, a cavity is performed using the AWL to allow the insertion of the guide wire.

The guide wire is inserted using the T shaped handle provided to this end. It will serve as a guide to the



reaming heads. The use of the soft tissue protector is recommended.

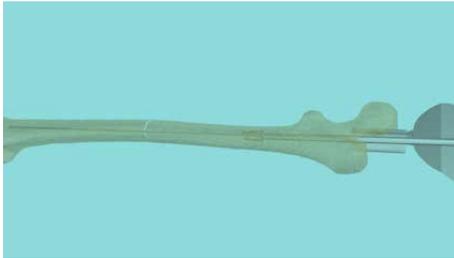
The reaming is performed with interchangeable reamer heads with 0.5 mm increments, until the contact



with the cortical bone is perceived. It is suggested to ream 1 to 1.5 mm in excess of the diameter of the nail selected, so as to allow its smooth insertion. ** It must be taken into account that the proximal diameter of the 10, 11, and 12 mm nails is 13 mm, which means that

the reaming must reach 14 mm before the nail is inserted. In the case of the 13, 14 and 15 mm diameter nails, the proximal diameter is 15, which means that the reaming must reach 16 mm. It is advised, in all cases, to perform a debridement and to eliminate all traces of necrotic, devitalized or infected tissue, following the conventional technique.

An abundant rinsing with sterile solutions must be performed after the reaming process.



- At this point, after the reaming, the debriding and the rinsing/washing of the femoral canal, it is recommended to change the basic surgical instruments and the sterile fields which were used until then, in order to prevent the contamination of the implant to be inserted.

INSERTION OF THE FEMORAL ENDOMEDULLARY NAIL

The selected nail is connected to the Guide by means of the femoral coupling system (screw, femoral coupling and coupling nut), which holds the nail. Firmly tighten the coupling screw which holds the nail by means of the ratchet wrench to prevent it from loo-

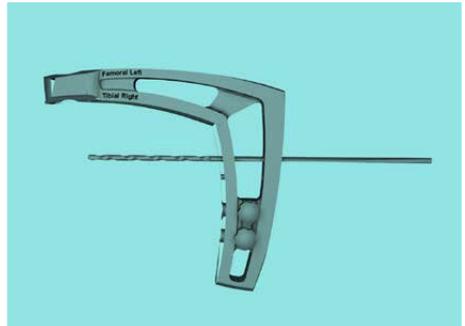


sening during the nail insertion. The sliding hammer may be used gently to facilitate the nail insertion. The sides of the guide body are marked with the following



text: (FEMORAL RIGHT/TIBIAL LEFT) or (FEMORAL LET/TIBIAL RIGHT). This text must be positioned so as to be visible during surgery and correspond to the bone being treated.

On the lateral side there are two orifices marked with the letters F (femoral) and T (tibial).



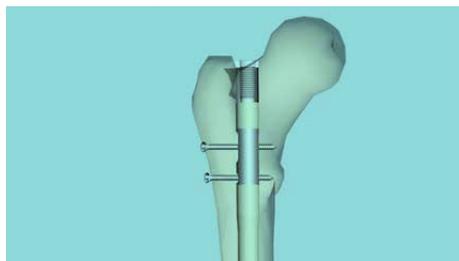
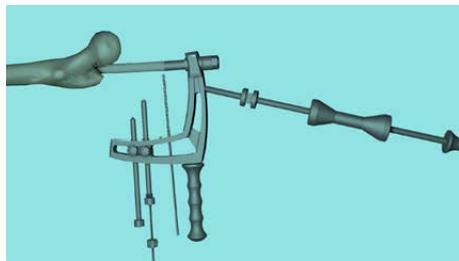
The one identified with the letter F permits the insertion of the corresponding drill bits supplied in the instrument box, which, when in place, will indicate the beginning of the femoral nail.

The insertion of the nail must be controlled by radiocopy.

PROXIMAL LOCKING

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The drill bit guide and the screw sleeve, which are aligned with the orifices of the endomedullary nail in the guide, are used for proximal locking. Before the insertion of the nail, it is recommended to verify that the orifices in the guide are properly centered



red with the nail coupled to the guide.

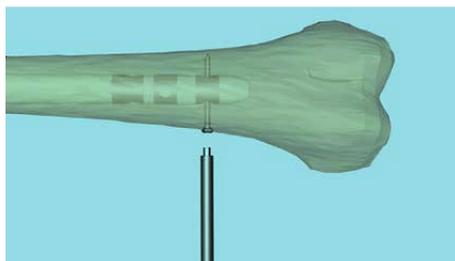
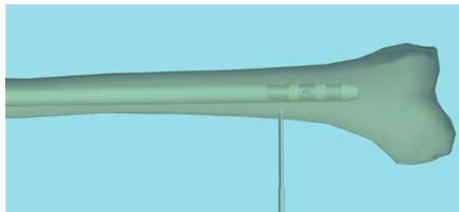
The drill bit guide is placed inside the sleeve which guides the screw. This sleeve is removed by means of the knobs on the Guide handle.

The screw meter supplied in the box is used to select the appropriate locking screw.

DISTAL LOCKING

A Steinmann \varnothing 3,5mm supplied in the instrument box can be used for distal locking, as an initiator for the free hands technique, under radioscopy. The nail orifice must be seen completely round.

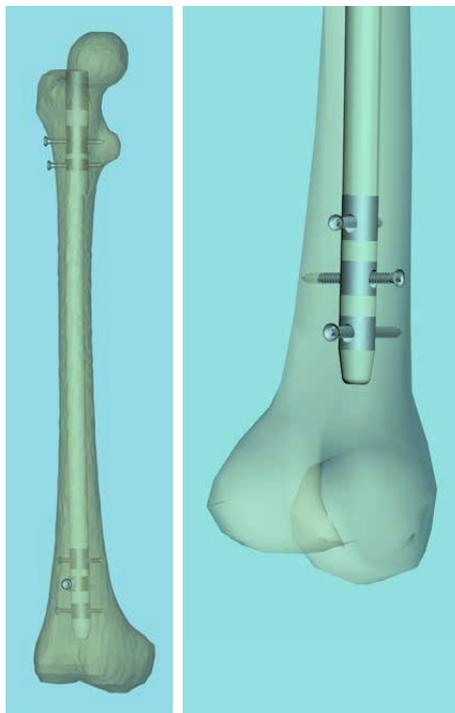
Both bone corticals must be drilled, the length of the



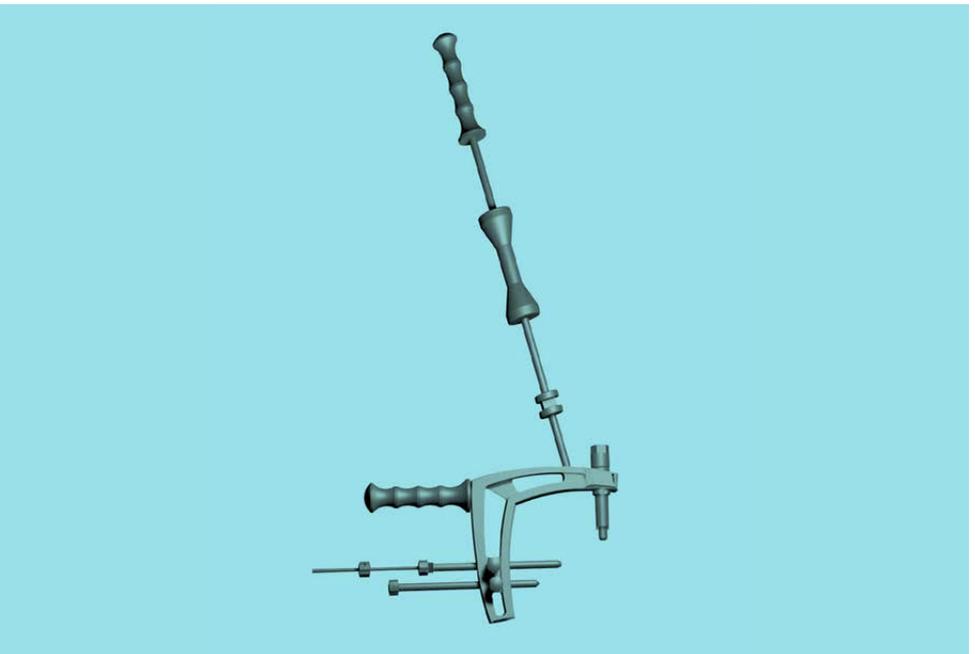
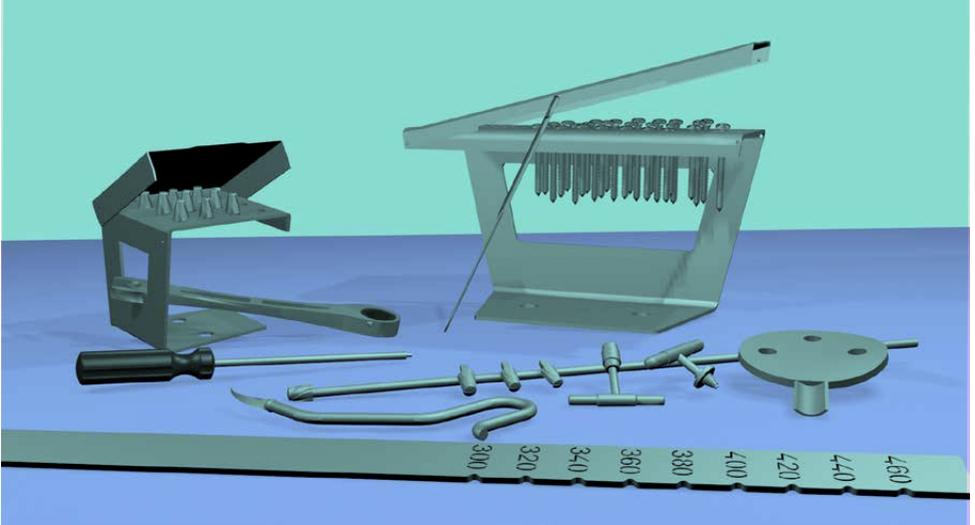
screw must be measured and then it must be locked.

INSERTED AND LOCKED NAIL

Once the locking is completed, there is still the option of inserting the nail plug in order to reduce the formation of scarring tissue in the opening of the endomedullary nail. This step will facilitate the ulterior removal of the implant.



INSTRUMENTS





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Rev.01 / 14.09.2015 / 02B