ST/80-501

ChM®

5,0 ChM Locked Plating ChLP system

5.0ChLP Posterior tibia plate
3.7094
3.7095

- *IMPLANTS*
- *INSTRUMENT SET 15.0205.201*
- *SURGICAL TECHNIQUE*

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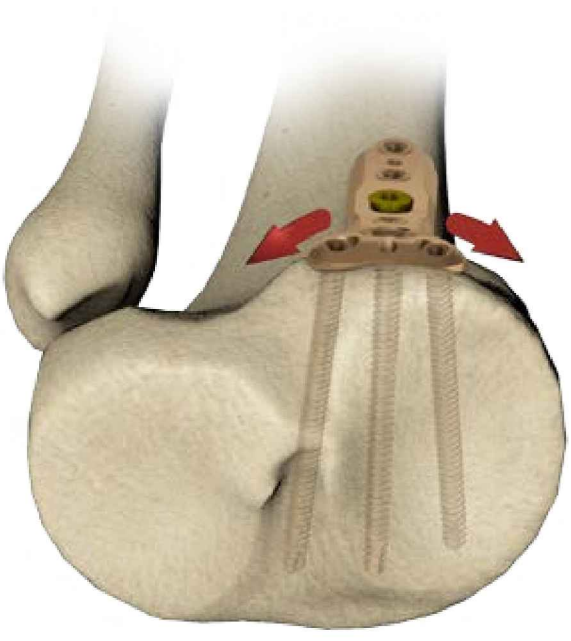
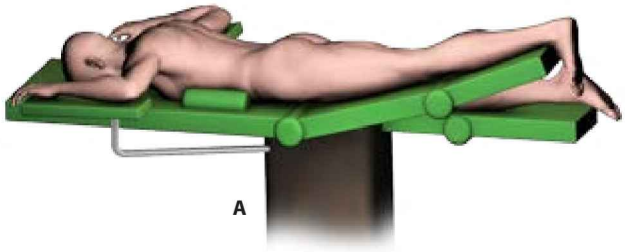
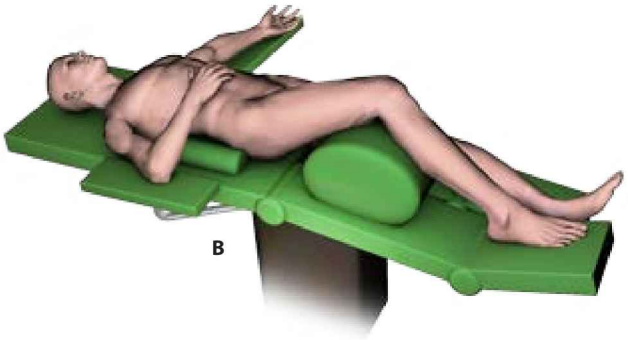


3. SURGICAL TECHNIQUE

3.1. PATIENT'S POSITIONING

Depending on the surgical approach, it is recommended to position a patient on their abdomen *(A)* with the knee elevated above the opposite knee level, or in the supine position *(B)* with the knee bent by an angle of about 30°. Make sure the position allows taking adequate X-Ray image in the lateral and anterior-posterior *(AP)* projection.

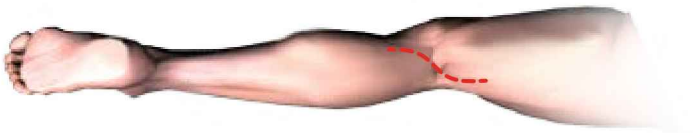




3.2. SURGICAL APPROACH

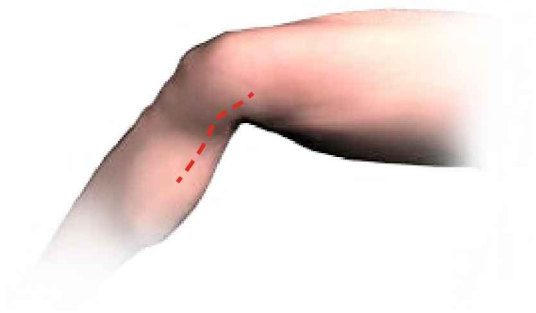
For a patient placed on the stomach, perform a gentle S-shaped incision through the popliteal fossa. The incision in the length of about 8cm proximally and 8cm distally from the line of the knee joint should be performed.

Posterior approach



For a patient placed supine, perform a straight or slightly curved incision from the medial femoral epicondyle posteriormedially to the edge of the tibia. If needed, the incision can be extended both proximally and distally.

Posterior-medial approach



3.3. FRACTURE REDUCTION

Perform fracture reduction. If need be, temporarily stabilize the bone fragments with Kirschner wires and/or reduction pliers.

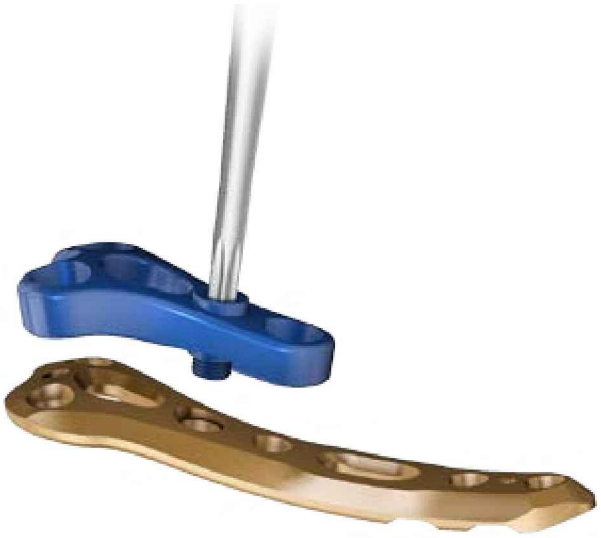
3.4. IMPLANT SELECTION

Select the right size of the implant to the type of fracture, bone size and structure.

3.5. AIMING INSERT INSERTION

Attach appropriate aiming block to the plate by tightening the fixing screw of the block using screwdriver tip T15 **[40.5677.000]**.

plate 3.7094:		40.8224.000
plate 3.7095:		40.8225.000
		40.6654.000
		40.5677.000

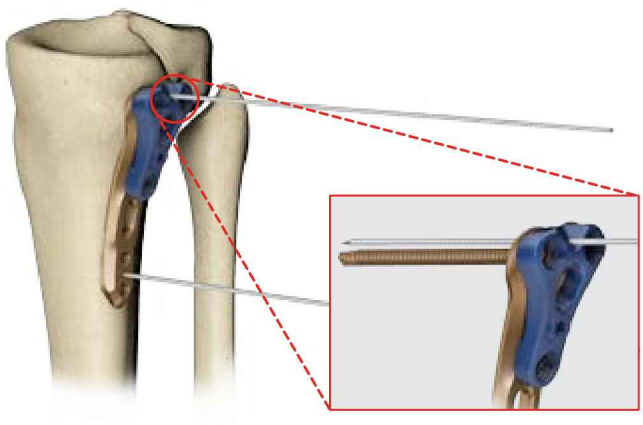


Most ChLP locking plates are available with aiming blocks as additional supplementary instruments. The use of aiming blocks ensures proper guide sleeves locking in the plates epiphyseal locking holes. Aiming blocks facilitate also the surgery procedure, shorten its time and ensure drilling in the axis of the locking hole.

Not using aiming blocks may lead to improper device implantation. Incorrectly locked screws can cause complications when removing the plates.

3.6. PLATE INSERTION

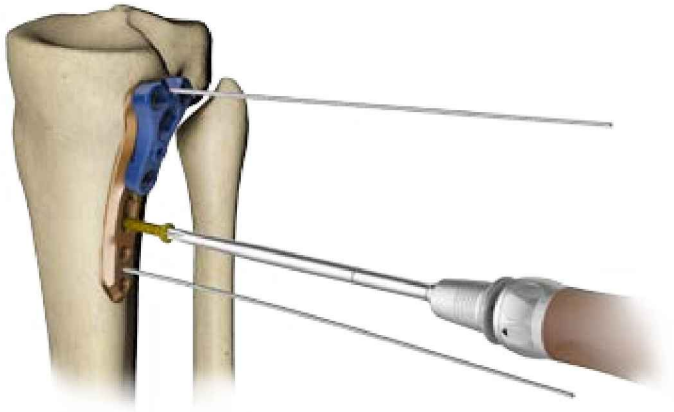
Position the implant correctly on the bone.



3.7. TEMPORARY PLATE STABILIZATION

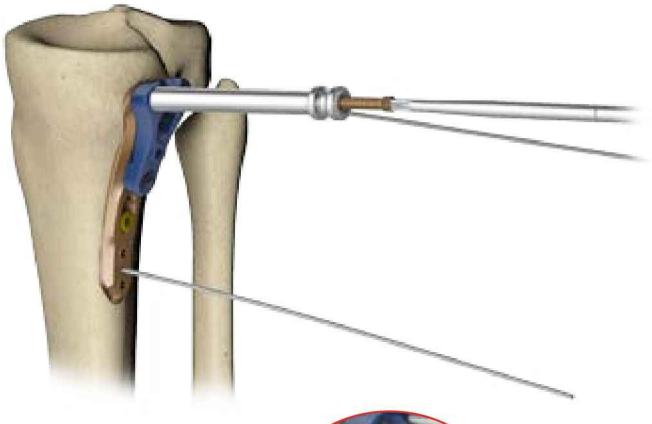
Stabilize the position of the implant inserting Kirschner wires into appropriate holes or using setting-compressing screw *(acc. to procedure 4a)*.

Kirschner wire inserted proximally *(through the aiming block)* presents *(in the lateral view)* the plane of the screws supporting the articulation surface.



3.8. CORTICAL SCREW INSERTION

Insert cortical self-tapping screw 3.5 **[3.1306]** into the oval-shaped hole of the plate *(acc. to procedure 4b)*.

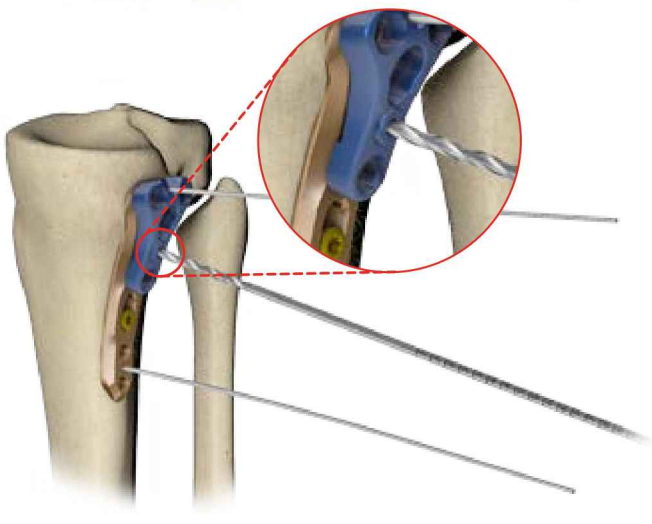


3.9. LOCKING SCREWS INSERTION IN THE EPIPHYSEAL PART OF THE PLATE

Insert protective guide 7/5 **[40.5672]** into the aiming block hole.

40.5672.000

Insert 5.0ChLP self-tapping screw 3.5 **[3.5200]** of a suitable length, through the guide, into the locking holes of the epiphyseal part of the plate *(acc. to procedure 4c)*.



The cannulated fixing screw of the aiming block allows for hole drilling for locking screw insertion.

3.10. AIMING BLOCK REMOVAL

Loosen the fixing screw using screwdriver tip T15 **[40.5677.000]** and remove the aiming block from the plate.

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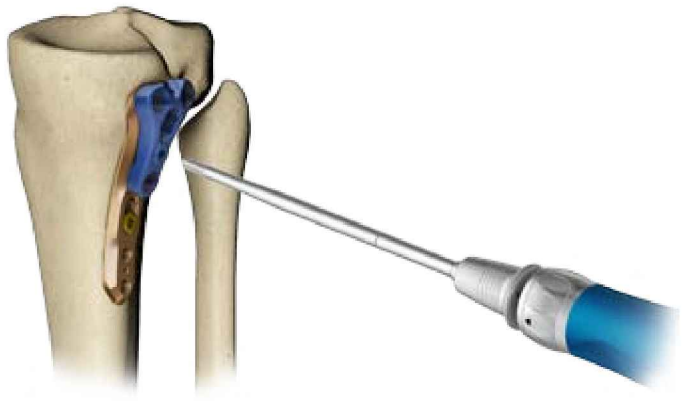
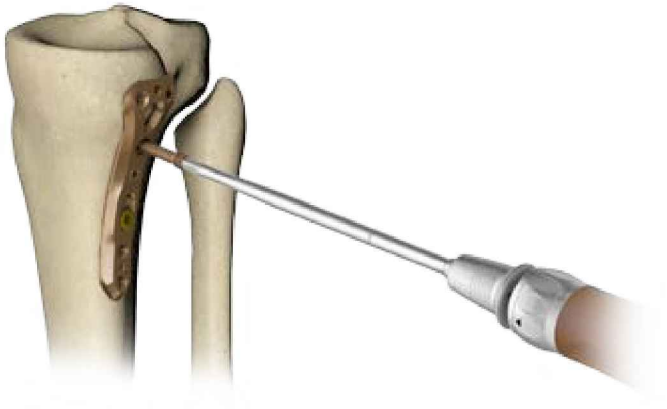


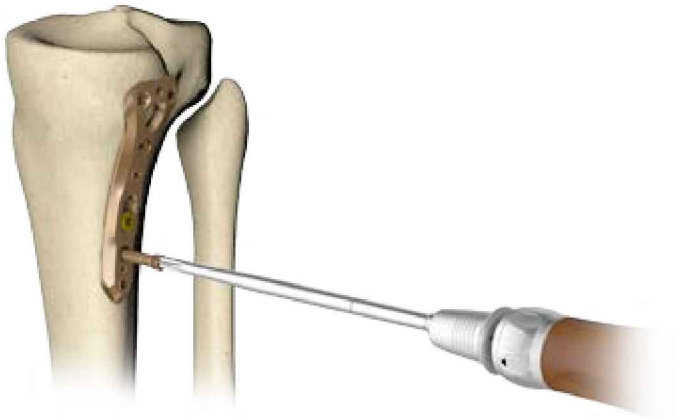
3.11. INSERTION OF THE INCLINED LOCKING SCREW

Having removed the aiming block, insert a 5.0ChLP self-tapping screw 3.5 **[3.5200]** *(acc. to procedure 4c)*.



3.12. INSERTION OF LOCKING SCREW IN THE SHAFT PART OF THE PLATE

Insert 5.0ChLP self-tapping screws 3.5 **[3.5200]** of an appropriate length into the locking holes of the shaft part of the plate *(acc. to procedure 4c)*.

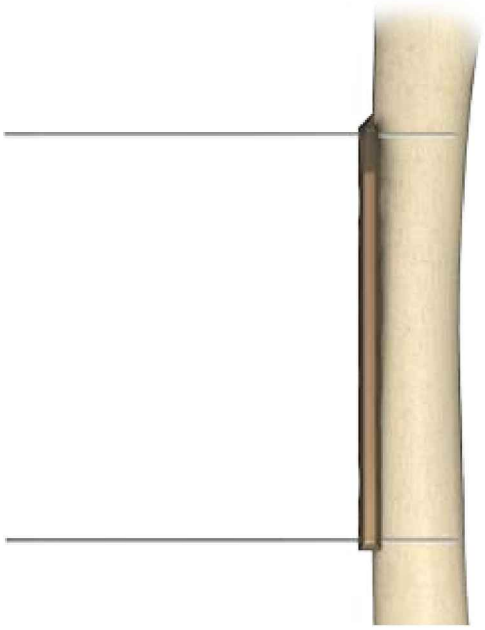


3.13. WOUND CLOSURE

Before closing the wound, take an X-Ray image in at least two projections to confirm implant position and fracture reduction. Make sure all the screws are properly tightened and do not penetrate the joint surface.
Use appropriate surgical technique to close the wound.

4. SURGICAL PROCEDURES

4.a. PROCEDURE OF TEMPORARY IMPLANT STABILIZATION

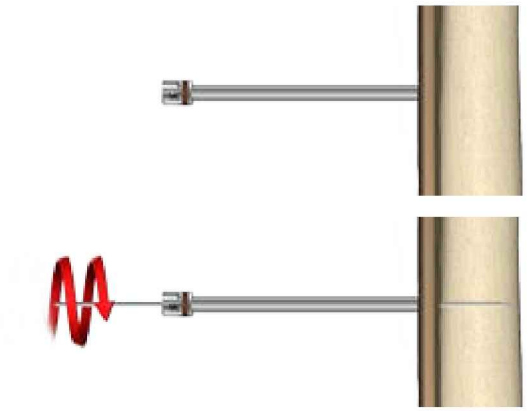


Stabilization using Kirschner wires

- Stabilize temporary the implant inserting Kirschner wires 1.5/210 **[40.4592.210]** into dedicated holes in the plate.


40.4592.210

Stabilization in locking holes using Kirschner wires



- Insert guide sleeve 5.0/1.8 **[40.5673.718]** into the locking hole of the plate.
- Insert Kirschner wire **[40.4592.210]** through the guide sleeve 5.0/1.8 **[40.5673.718]**.


40.5673.718

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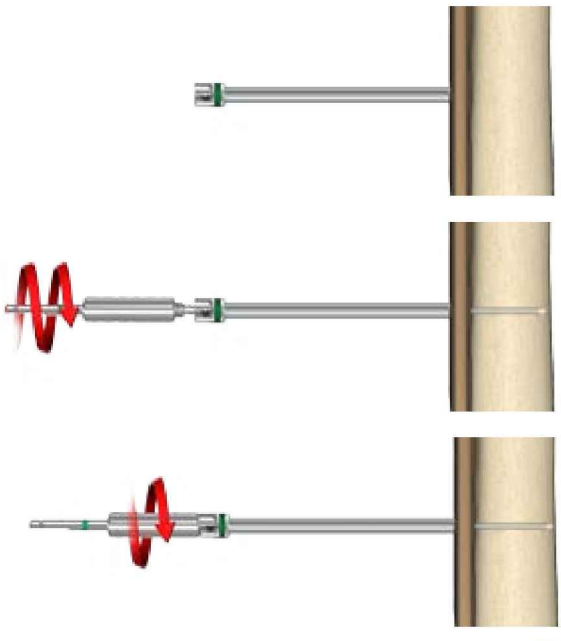
Stabilization using setting-compressing screw



- Insert guide sleeve 5.0/2.8 **[40.5673.728]** into the locking hole of the plate.
- Insert setting-compressing screw 2,8/180 **[40.5674.728]** through the guide sleeve 5.0/2.8 **[40.5673.728]**.
- Tighten the nut of the setting-compressing screw **[40.5674.728]** and push the plate to the bone.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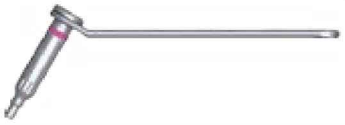
40.5674.728

4.b. PROCEDURE OF CORTICAL SELF-TAPPING SCREW 3.5 [3.1306]INSERTION

Compression guide positioning

Position the compression guide 2.5 in a desired position:



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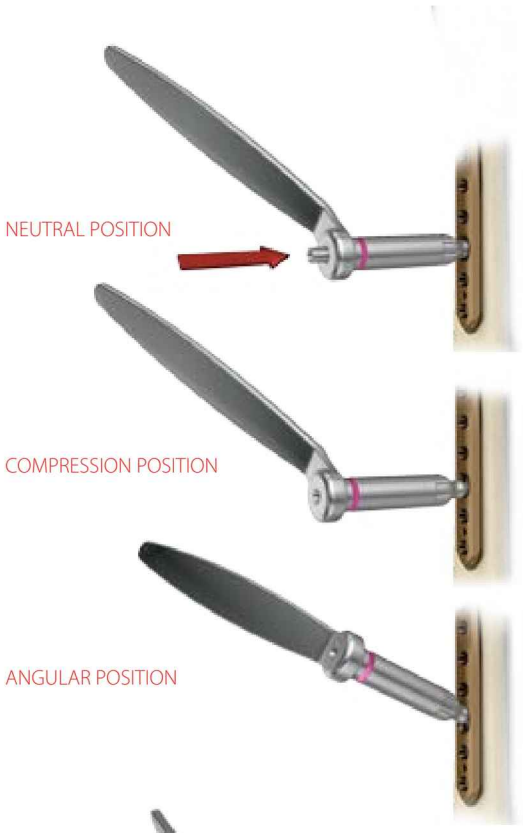
NEUTRAL POSITION: Push the guide to the plate. It will position itself so as neutral insertion of the screw is allowed.

COMPRESSION POSITION: Do not push the guide and move it to the edge of the compression hole. The hole drilled in this position allows compressive insertion of the screw.

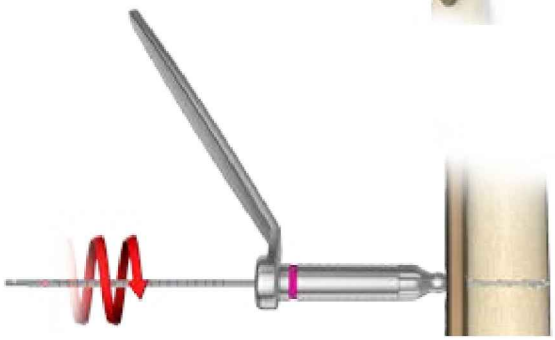
ANGULAR POSITION: Angular position of the guide may also be applied.



Hole drilling

Perform a hole through both cortices for a cortical screw 3.5 insertion. For drilling, use drill with scale 2.5/210 **[40.5912.212]** and compression guide in a desired position.

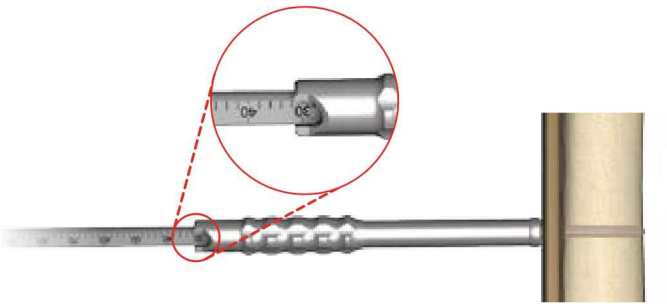
40.5912.212



Measurement of hole depth

Insert depth measure **[40.4639.550]** into drilled hole until the hook of the measure rests against the outer surface of the second cortex.

40.4639.550



Screw insertion

Insert cortical screw using handle ratchet device **[40.6654.000]** and screwdriver tip T15 **[40.5677.000]**.

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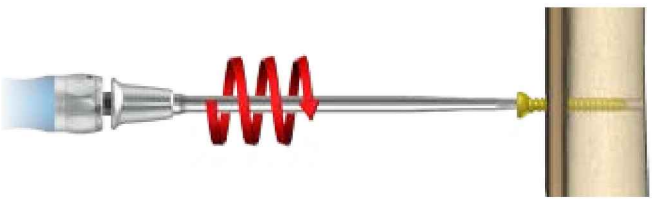
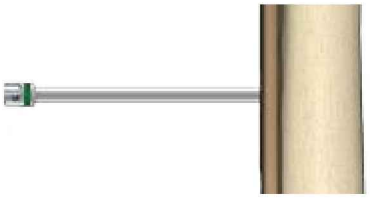


4.c. PROCEDURE OF 5.0ChLP SELF-TAPPING SCREW 3.5 [3.5200] INSERTION

Guide sleeve insertion

- Insert guide sleeve 5.0/2.8 **[40.5673.728]** into a locking hole of the plate.

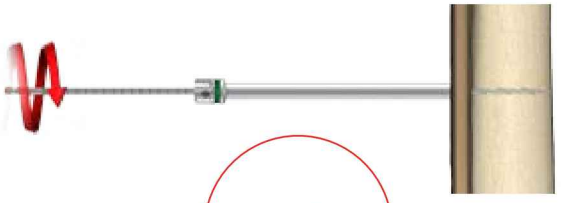

40.5673.728



Hole drilling

Drill using drill with scale 2.8/210**[40.5653.212]** until desired depth is reached.

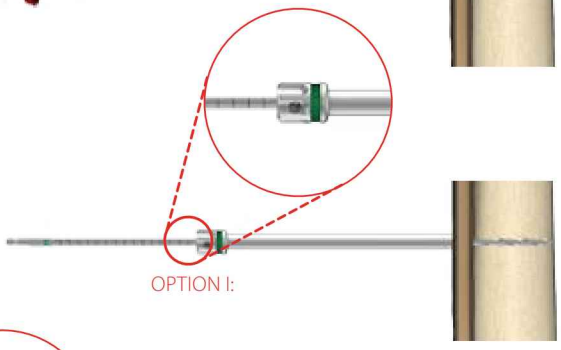
40.5653.212



Measurement of hole depth

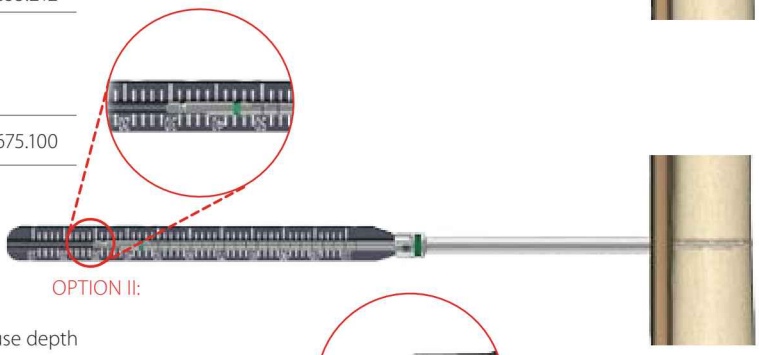
OPTION I: Read the length of the screw from the drill measure **[40.5653.212]**

40.5653.212



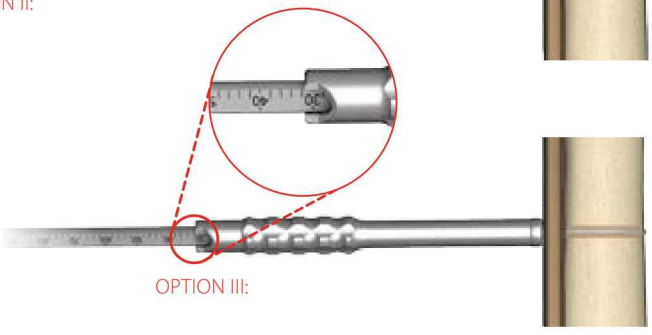
OPTION II: or use screw length measure **[40.5675.100]**.


40.5675.100



OPTION III: Having removed the guide sleeve 5.0/2.8 **[40.5673.728]**, use depth measure **[40.4639.550]** to determine the length of a screw.


40.4639.550



Screw insertion

Remove the guide sleeve 5.0/2.8 **[40.5673.728]**. Use torque limiting ratchet handle 2Nm **[40.6652.000]** and screwdriver tip T15 **[40.5677.000]** to insert the locking screw.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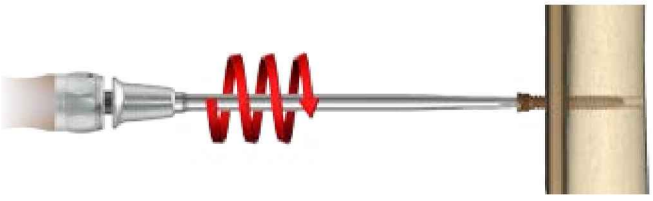

5. POSTOPERATIVE PROCEDURE

Introduce appropriate postoperative treatment. The physician decides on the post-operative treatment and its conduct. In order to avoid patient's movement limitations, introduce exercises as soon after surgery as possible. However, make sure that the limb is not fully loaded before fragments osteosynthesis is complete.

6. IMPLANT REMOVAL

The physician decides about implant removal. In order to remove the implants from the body, unlock all the locking screws first and then remove them from the bone. This will prevent any rotation of the plate when removing the last locking screw.

Having cleaned the outer surface of the plate and the screws sockets, it is recommended to attach the aiming block to the plate. Using aiming block and protective sleeve ensures positioning of the screwdriver tip in the axis of the screw, its full placement in the recess, and reduces the risk of twisting the screw while removing.