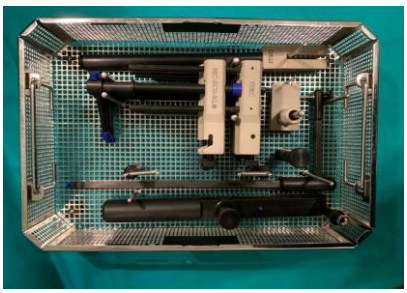
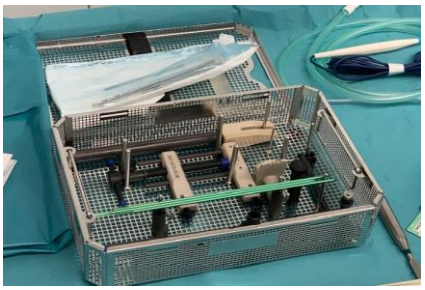
MC SYSTEM®
MC-SCD-RL® X-RAY TRANSAPRENT CALCENEUS DISTRACTOR KIT

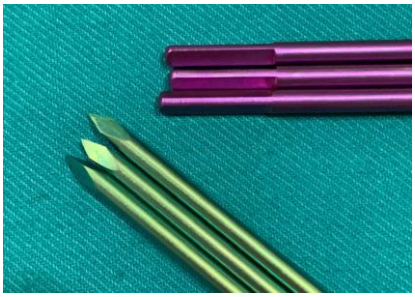
User's Manual





MC-SCD-RL 901

Bone Pin (Steinmann Pin)

1.  **MC-SCD-RL KD-3.5** **MC-SCD-RL KD-4.0**

There are 3.5mm green and 5.0 mm purple Steinmann pins in the Kit. (1.) One can mix and match these pins when necessary. The distractors fasten both sizes safely and securely. The pins are made of titanium and cut their own thread, so no rough-boring is necessary. (4.-5.) The use of damaged or blunted pins are strictly forbidden because these may cause permanent injuries in the tissues and distractors.

DISTRACTOR (REPOSITIONING TOOL)

2.

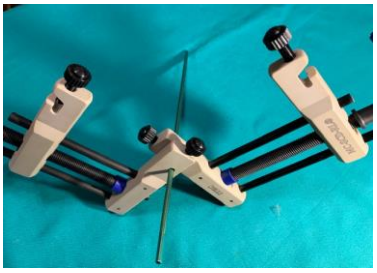
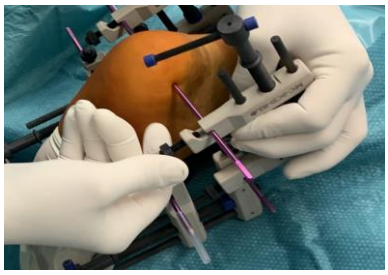
MC-SCD-RL NY-01

We can reset the broken bone fragments (3.) to their original position with the help of distractors, and keep them in the correct position until the screws are fastened. (2.)
It is practical to prepare and set these tools before use according to the distances between the already inserted bone pins. (6.)

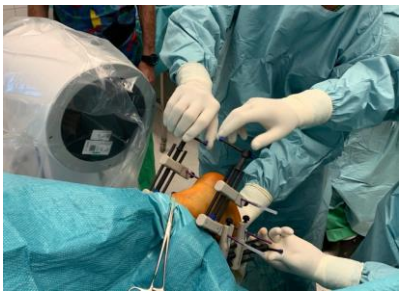
3. 4. 5.

The black screws, fastening the Steinmann pins should be screwed-out to the extent that they mustn't hinder the insertion of the pins into the boreholes. (7.) The distance between the legs of the tool can be controlled by rotating the threaded rod. (8.) We set the distractor in a manner that the middle of the closed and open boreholes on the tool should be 1-2 cm less than the distance between the Steinmann pins drilled through the talus, the calcaneus and the os cuboideum. We use this solution for the two distractors used on the other side of the foot. The screws provide a stable fastening even at minimal force and the screwing is done manually.

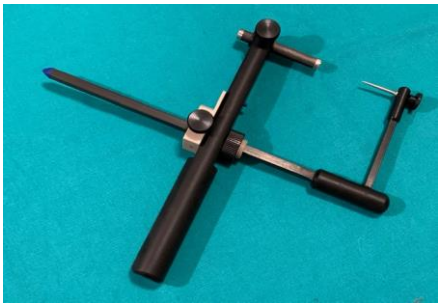
6. 7. 8.

9.  10.  11.

We put two distractors to both sides of the foot to be operated on. (11.) We slide the distractors through the circular holes onto the bone pin already drilled through the talus. The stable legs of the distractors are positioned above each other. (9.) It is practical to leave 2-3 cm distance between the surface of the foot and the tool. (10.) We can fasten all four distractors with the black screws located at the end of each. (12.) The moving position pressing legs and the handles located on the threaded rods should face the calcaneus and os cuboideum. It is practical first to fasten the two distractors tightly above each other on the bone pins drilled through the talus and the pin lead through the stable leg of the tool. It is practical to fasten the two tightly stacked distractors on the bone pin drilled through the talus, which pin is already put through on the stable leg of the tool. The distractors put on the bone pins drilled through the talus should be positioned relative to each other in such degree that during the distraction the gap boreholes on the moving legs can receive the bone pins drilled through the calcaneus and os cuboideum. (6.) When during distraction these bone pins get into place into the gap borehole of the moving leg, they should be fastened by the black screws located at the end. When all four distractors are set and the four tools' legs are stably connected to the three already drilled bone pins then all the screws should be drawn again manually. (12.) After this the distraction can start which is the manipulation of bone fragments in 3D. Through the adjustment of the four handles the bone fragments can be brought in the appropriate position to fasten with screws. (13. 14.)

12. 13.  14.

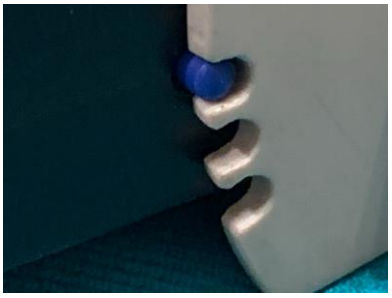
AIMING DEVICE

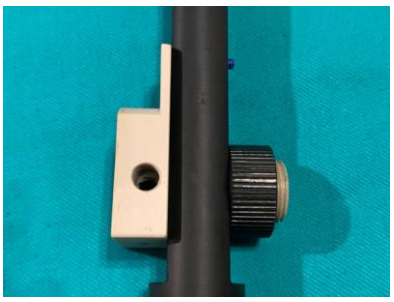
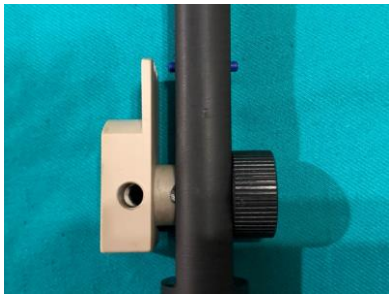
15. 

MC-SCD-RL CK-01

This aiming device allows the preparation of rough-bores in specific direction and degree mainly for screws. With the switch of the guide we can hold the thread-cutter and the screws in the appropriate direction.

16. 17. 18.

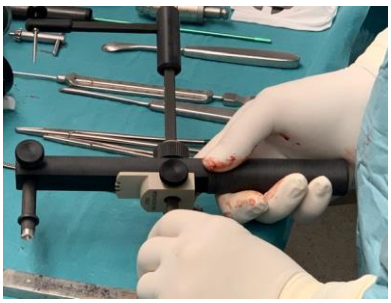
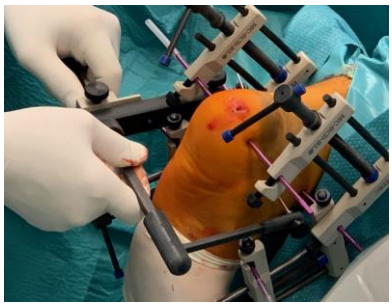
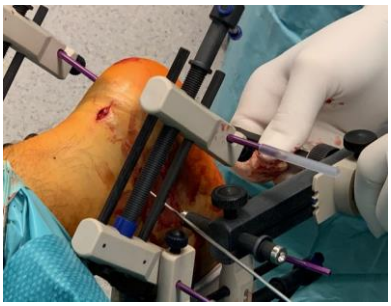
19. 20. 21. 

22.  23.  24.

By turning the two consoles holding the bone pins, the parts of the aiming device can be taken out of the box. (16. 17.) There are two boreholes on the handle. (18.) We should put the beige colored rectangular part into the bigger diameter hole in the middle of the handle. To fasten this rectangular part, we should use the large black lead screw. (19. 20.) We can do this from either side, it doesn't influence the usability of the device. At the top part of the rectangular part there are three positioning notches. (21.) We can fasten the rectangular element in three different positions with the blue pins ("stifts") on the handle between two boreholes by drawing the black lead-screw. (22.) By partially unscrewing the lead screw, by 5-6 mm, we can change the position of the rectangular part. By partially unscrewing the lead screw by 5-6 mm we can change the position of the rectangular part. In this case we can pull out the rectangular element from the handle 5-6 mm, so it can be taken out from the blue pin ("stift") and can be repositioned into any of the three notches. (23.) Slide the L-shaped rod with the rectangular handle into the beige colored rectangular part. (24.)

25. 26. 27.

We can fasten the L-shaped rod with the threaded borehole on the side of the rectangular part with the other large-headed black screw. By using the middle notch, we can make an axial rough-bore. By tilting it left or right we can make a rough-bore for the appropriate foot, and by exchanging the guide, we can guide the thread-cutter and the insertion of the screws. (25.)
After fastening the rectangular part in the appropriate degree, we can adjust the length of the needle-holding rod after unscrewing the screw on the side of the rectangular part, as the operational situation requires. (28.) The rectangular part, similarly to the handle, can receive the black large-headed screw from either side. The aiming device helps to determine the direction for the borehole and holds the drill or the Kirschner wire used for marking in the appropriate direction. (29. 30.)

28.  29.  30. 

In the top borehole of the handle we can fasten the drill-guide, the thread cutter guide and the screw guide from either sides. The position of these can be adjusted by the unscrewing of the fastening screw (32.)

DRILL GUIDE

31. **MC-SCD-RL FP-01**

We can fasten and adjust the drill-guide used for rough-boring with the large-headed black screws in the top borehole located on the handle of the aiming device. We can draw the screw either from the left or from the right side. (27.-32.)

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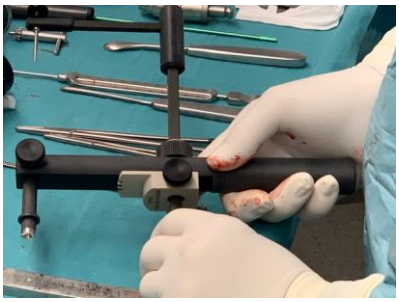
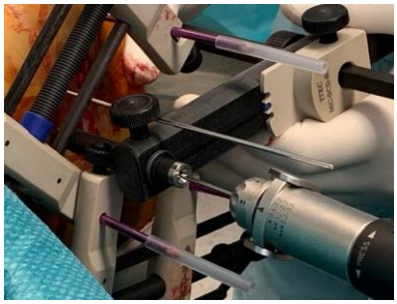
33. 
34. 

We must use a drill-guide or thread-cutting guide if we drill or screw close to the threaded rod of the distractor, or we get close to it with any metal instruments. (37.-38.) The threaded rod must not be used to support any instruments used for the operation. Damage to the thread of the rod jeopardizes the correct operation of the distractor!

THREAD-CUTTING AND SCREW GUIDE

35. **MC-SCD-RL MP-01**

The guide used for cutting the thread and guiding the screw should be used similar to the way we use the drill-guide. It was made to be used with 6-8 mm head diameter screws and 6 mm thread cutter exclusively.
It must be used for any drilling, thread cutting, and screwing for the protection of the threaded rod.

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37.
38.

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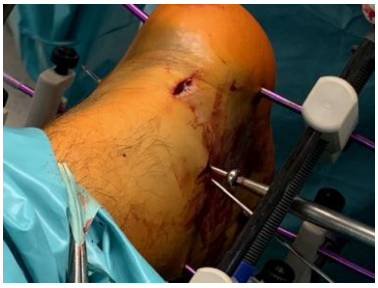
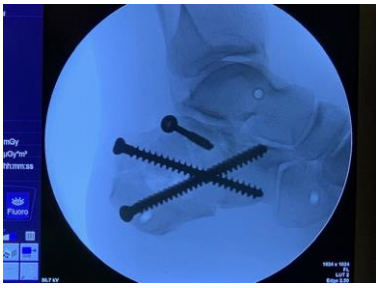
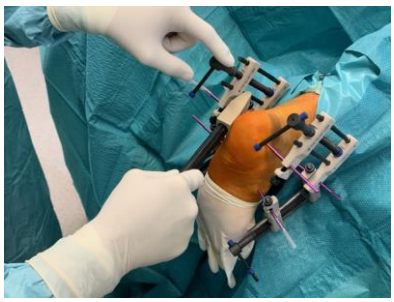
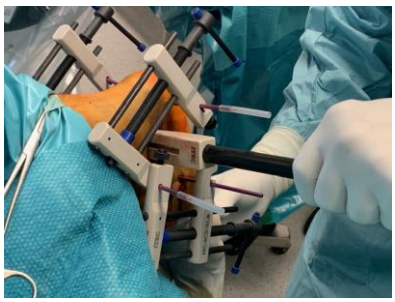
40. 
41. 

REPOSITIONING AID TOOL

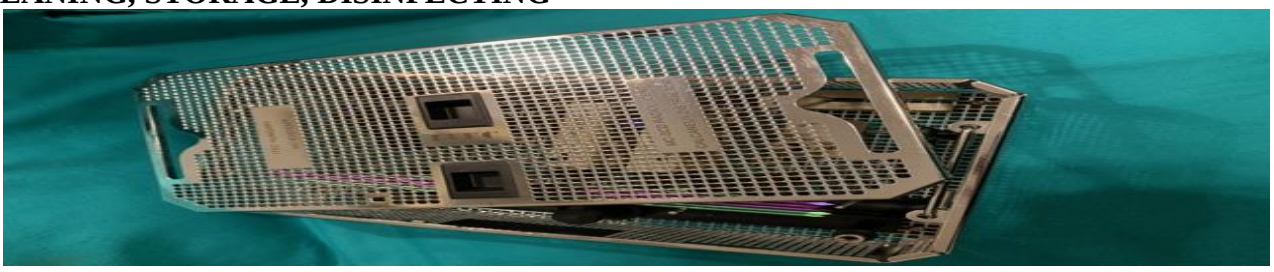
42.

MC-SCD-RL TF-01

With this tool, we can avoid or mitigate the lateral movement of bone fragments.
In case the bone fragment from the calcaneus moved in a lateral direction too then guiding the tool on the bone pin closest to the fracture, we put the tool in between the distractor and the foot. (44. 45.) Using the bone pin as a fulcrum, we rotate the tool in the appropriate direction with a pressing movement, we can force the broken fragment into its original appropriate place. (43.)

43.
44. 
45. 

CLEANING, STORAGE, DISINFECTING

46. 

In the **MC-SCD-RL 901** storage tray, all tools were created an ideal place for cleaning, storage and removing. (46.) The tools can be cleaned with all cleaning agents appropriate for use in healthcare except mechanical devices and practices. These may damage the sliding surfaces and threads. All cleaning practices that may cause surface damage can make the tools irreversibly unusable. Using any such cleaning method immediately cancels the warranty.
The tools can also be cleaned in their own tray. High-pressure water spray should be used as a first priority. In this case it is important, that all tools must be placed for their own specific place because only this way can it be ensured that these tools don't damage one another during cleaning.
It contributes greatly to the preservation of the tools' condition if the they are stored in their own storage tray.
The tools must be protected from mechanical damage with extra care. Tools not to be used during the remaining part of the operation, or temporarily used tools should be stored in their appropriate place in their storage tray. Parts of this kit are only suitable to use for the specific activities determined in the user's manual. In case of any other usage the warranty becomes immediately void. The tools may be disinfected with any known disinfecting methods.

ITEC HUNGARY® H-1026 PASARÉTI ÚT 122/A TEL+36 1 394 4535 MOBIL+36 209 332 535