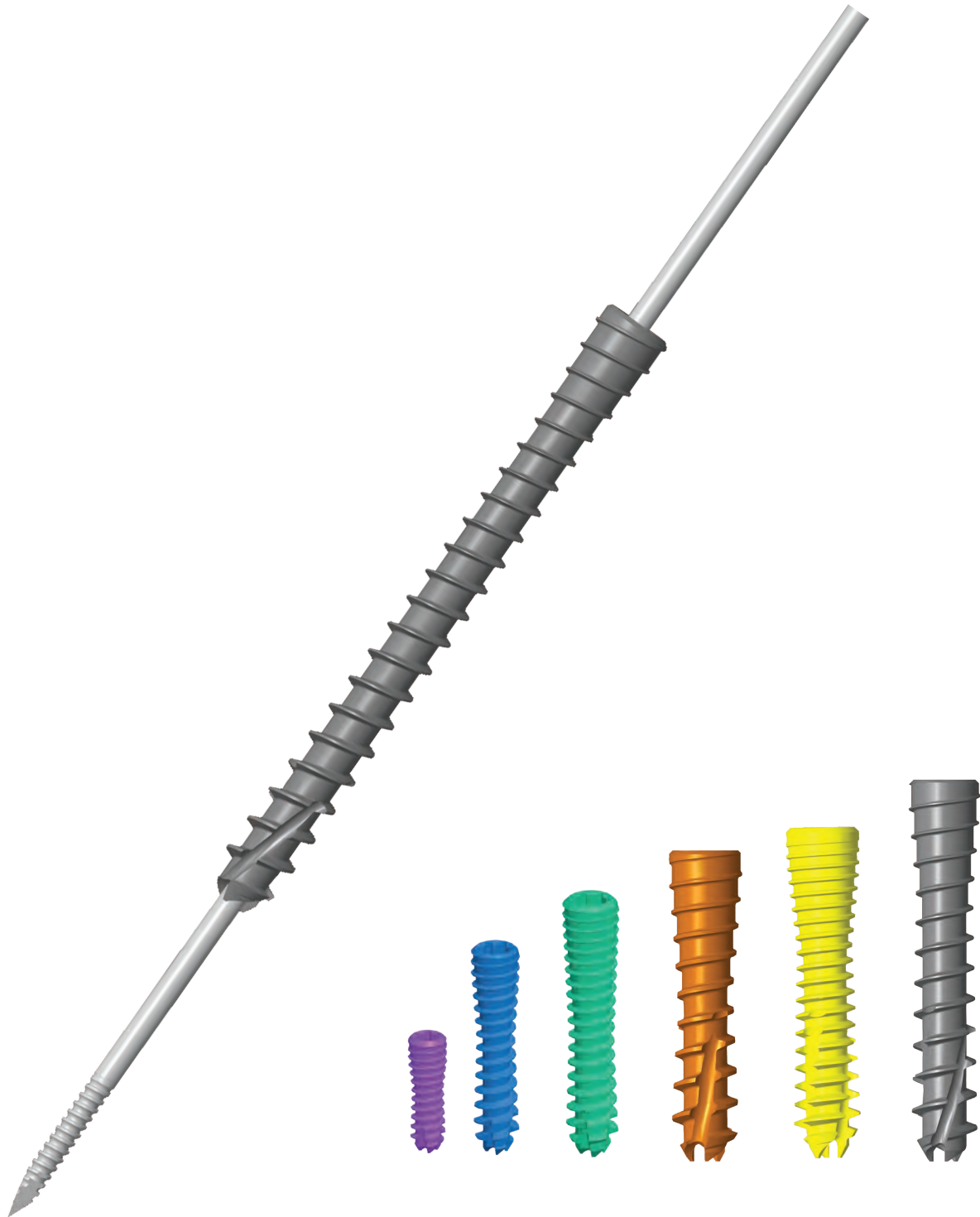




Helezonic Headles Canullated Screw



Helezonic is a compression type screw which, unlike Herbert screws, has threads in its full length. Compression effect is created by the continuously changing (decreasing) pitch. Thus, not only the compression effect but the pullout force is higher than in case of traditional screws ensuring much higher stability.

Additionally, Helezonic has conical core which compacts bone tissues, especially in case of porotic bones.

1.1 | The implant

- Continuously changing pitch – optimal compression
- Conical core – bone compaction in porotic tissue



- Self tapping and self drilling tip



- Headless construction
- Color coded per diameter
- Cannulated insertion

1.2 | Instruments

- Torx type screw recess
Only TA (Torx Alternative) screwdrivers shall be used which are part of the instrument set.

1.3 | Indications

- Extra- and intraarticular fractures of spongy bones (scaphoideum, calcaneus, talus)
- Arthrodesis
- Osteotomy
- Non-unions

Indications per sizes:

5,1 mm: Lapidus arthrodesis, Lisfranc arthrodesis, talonavicular arthrodesis, 1. metatarso-phalangeal arthrodesis, medial malleolar fracture talonavicular arthrodesis, talus fracture

7,0 mm: ankle arthrodesis, subtalar arthrodesis, calcaneus fracture, talus fracture, calcaneus osteotomy

2.2 | Helezonic screw Ø5,1 mm



Raw material	anodized Titanium
Size	25 - 80 mm
Color	yellow

2.3 | Helezonic screw Ø7 mm



Raw material	anodized Titanium
Size	50 - 120 mm
Color	grey

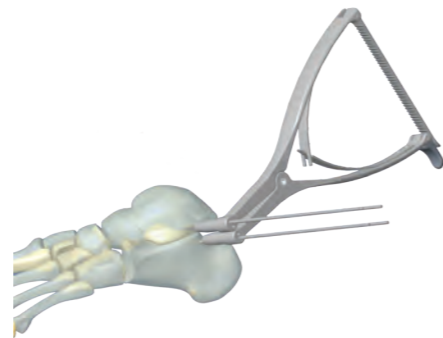
3 | Surgical procedure

3.1 | Approach

For subtalar joint apply an approach according to the surgeon's preference (direct lateral, Ollier or Eastwood-Atkins). For isolated subtalar arthrodesis, having met the personnel and instrumental requirements, arthroscopic technique can also be used. If subtalar arthrodesis is performed as part of the triple arthrodesis then open approach is necessary. Open approach is detailed in the followings.

3.2 | Opening the joint

After lateral incision place one Steinmann pin (strong Kirschner wire) into talus and calcaneus, respectively. Slide the Hintermann distractor on the Steinmann pins and by pressing the handle open up the joint.



3.3 | Joint surface removal, grafting

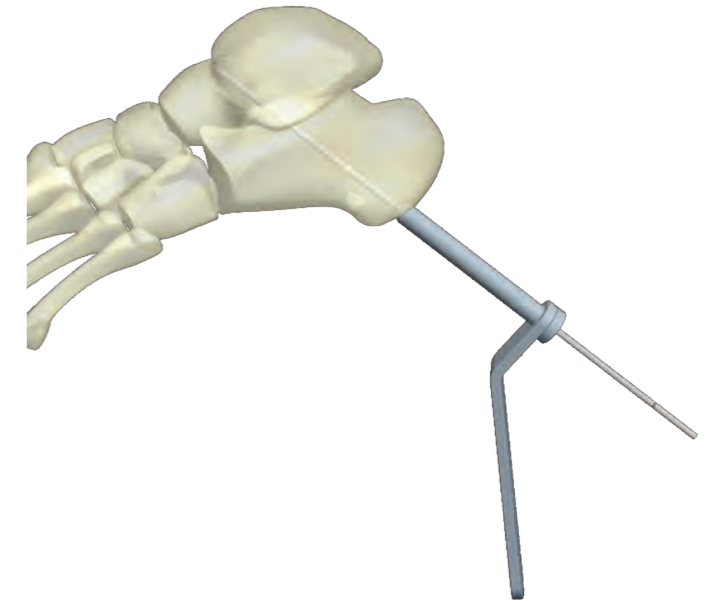
Remove joint surface and make sure it is done completely on the medial surface as well. If the arthrodesis is performed because of valgus correction then ream the necessary bone medially of the lower section of the talus.

After the removal of the distractor and the Kirschner wires set the subtalar joint in such a position that the joint surfaces match each other. If the correction requires place an allo- or autograft wedge lateral to sinus tarsi.

3.4 | Drilling the Kirschner wires

Place a gray coded 2,5 mm Kirschner wire from the tuber calcanei through the posterior joint facet of calcaneus to the talus while maintaining fluoroscopy control. During this the assistant shall keep the ankle in neutral position and the subtalar joint in 0-5 degree valgus.

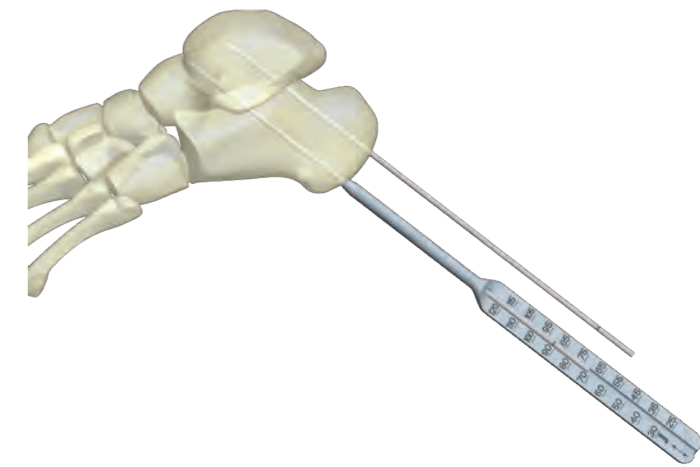
In lateral view check that the wire is not in the ankle joint and in axial view if the wire is in the central third of the calcaneus and talus. Use the parallel guide to drill another wire parallel to the previous one. Pay attention that both wires shall end in the talus body, going through the posterior facet and in a secure distance from tibio-talar joint.



3.5 | Length gauging

Make 1-2 cm incisions above calcaneus then push the gauge through the wires on the bone surface. Read the length on the scale which shows the screw length corresponding to the actual wire. Read the scale at the grey sign on the wire and not at the tip of the wire.

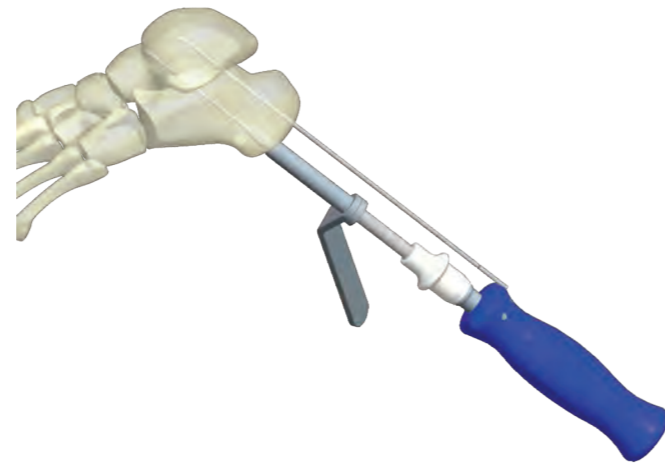
Screw length increments are by 5 mm and if the measured length is in between, choose the shorter one. (If for instance 73 mm is measured use the 70 mm screw.) If we consider the wire to be dangerously close to the tibiotalar joint then instead of the measured screw select a 5 mm shorter one.



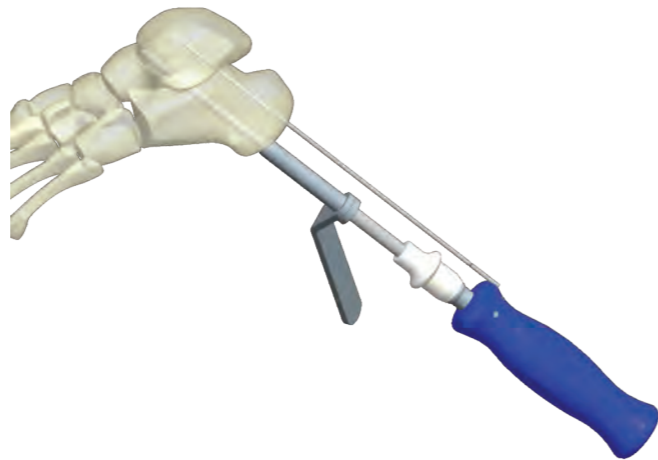
3 | Surgical procedure

3.6 | Screw preparation

By using the soft tissue protector push the reamer through the wire and make a few turns by hand to open the hard cortex of the calcaneus.



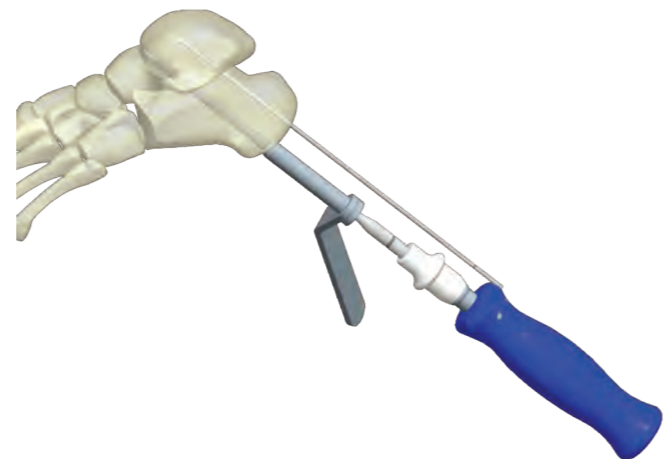
In case of a very hard bone use the grey color coded cannulated drill to make pre-drilling prior to screw insertion in 1-2 cm shorter than the full depth.



3.7 | Screw insertion

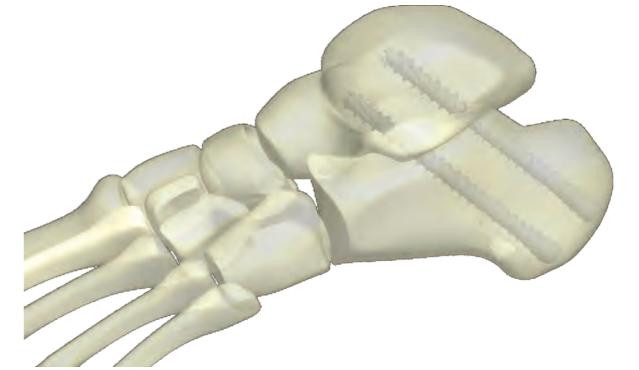
The selected length 7 mm dia cannulated Helezonic screw is placed on the guide wire and inserted into the bone.

Use fluoroscopy to check that the distal tip of the screw is not in the ankle joint while the proximal tip is adequately sunk in the cortex.



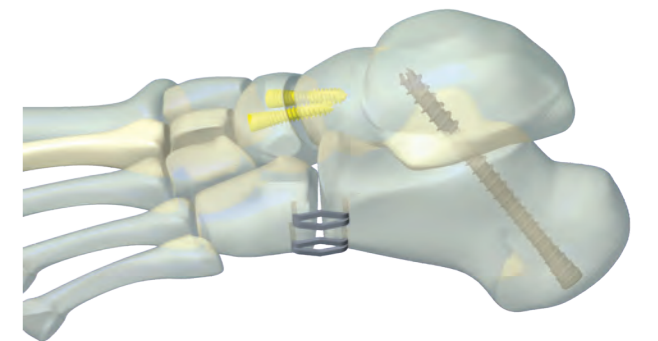
3.8 | Second screw insertion

The second screw is inserted in the same way as the first one. Close the skin above the screws then close the lateral wound in layers. Apply plaster at the end.



3.9 | Triple arthrodesis

In case of triple arthrodesis, for the subtalar arthrodesis a 7 mm dia Helezonic screw is adequate. In this case the talonavicular joint arthrodesis can be performed with 2 pcs of Helezonic screw (5.1 mm diameter screws according to foot size). Alternative fixation in the talonavicular joint can be accomplished with 2 pcs of compression staple or by hybrid technique (screw+staple) or with locking plates. For the fusion of the calcaneocuboideal joint usually one or two compression staples are used.



4 | Implant list

4.2 | Helezonic screw Ø5,1 mm



Anodized Titanium	
Cat no	Length (mm)
1014452025	25
1014452030	30
1014452035	35
1014452040	40
1014452045	45
1014452050	50
1014452055	55
1014452060	60
1014452065	65
1014452070	70
1014452075	75
1014452080	80

4.3 | Helezonic screw Ø7 mm

Anodized Titanium	
Cat no	Length (mm)
1014407050	50
1014407055	55
1014407060	60
1014407065	65
1014407070	70
1014407075	75
1014407080	80
1014407085	85
1014407090	90
1014407095	95
1014407100	100
1014407105	105
1014407110	110
1014407115	115
1014407120	120



5 | Instrument list

5.1 | Instruments

Quick connecting handle



5210510041

Screw forceps



5939999002

5,1 mm technique



Drill sleeve (1,6 mm)



5265452902

Conical reamer (5,1 mm)



5265452903

Reamer (5,1 mm)



5265452904

Screwdriver (TA 20 can 1,6 mm)



5265452905

Screwdriver (TA 20)



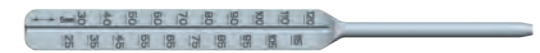
5265452906

Soft tissue protector (8 mm)



5265452907

Length gauge (25-120 mm)



5265452908

Kirschner wire (1,6x230 mm)



5265416230

5 | Instrument list

7 mm technique



Drill sleeve (2,5 mm)



5265470902

Conical reamer (7 mm)



5265470903

Reamer (7 mm)



5265470904

Screwdriver (TA 25 can 2,2 mm)



5265470905

Screwdriver TA 25



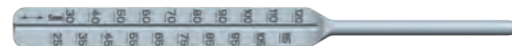
5265470906

Soft tissue protector (8 mm)



5265452907

Length gauge (25-120 mm)



5265452908

Kirschner wire (2,5x230 mm)



5265425230

Threaded Kirschner wire (2,5x230x15 mm)



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