

CALCANHEAL.



CALCANEAL
FRACTURES





Calcanheal.

CALCANHEAL

Intended purpose :

The implants of the Footmotion Plating System are intended for arthrodeses, fractures and osteotomies fixation and revision surgeries of the foot in adults.

Contra-indications :

- Pregnancy.
- Acute or chronic local or systemic infections.
- Allergy to one of the materials used or sensitivity to foreign bodies.

Technical features.

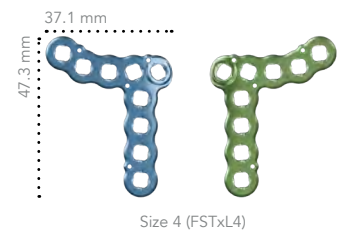
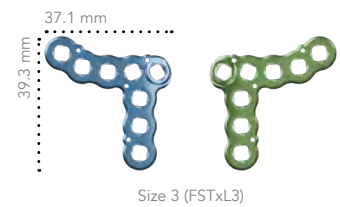
A COMPREHENSIVE RANGE OF PLATES

SINUS TARSI PLATES

- 4 sizes available



FSTD L4

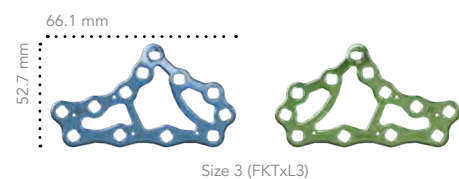
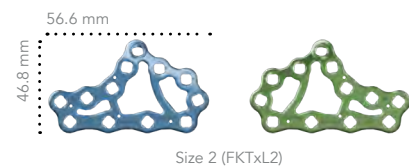
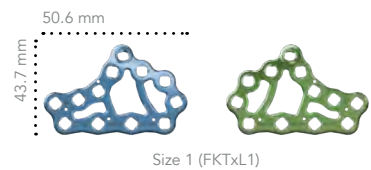


EXTENSILE LATERAL PLATES

- 3 sizes available

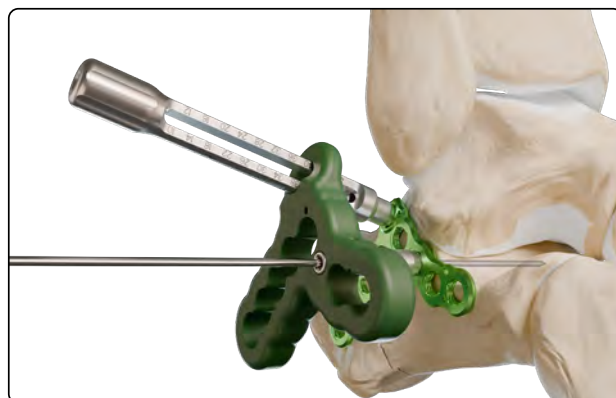


FKTD L2



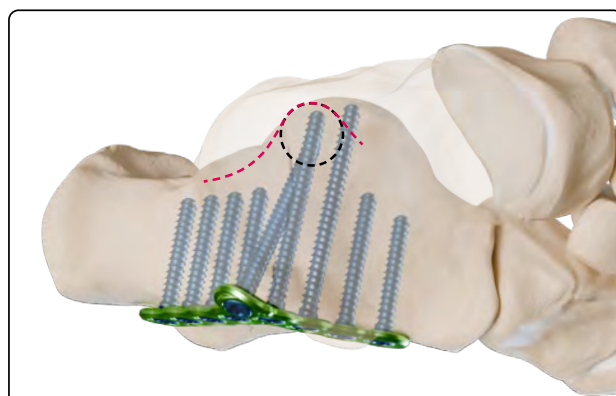
MINIMALLY INVASIVE EXTERNAL GUIDE

- Allowing the manipulation of the plate under the skin.
- Targeting of the holes percutaneously.



SUSTENTACULUM TALI TARGETING

- Targeting the strongest part of the calcaneus: the sustentaculum tali.



ANATOMICAL FEATURES

- **Precontoured implants**

The design of these implants is the result of a proprietary state-of-the-art mapping technology to establish the maximum congruence between the plate and the bone.

- **Bendable plates**

However, in the case of difficult bone anatomy, all the Calcanheal plates can be bent with the appropriate bending irons (ANC578). The bending of these plates must be performed **once and in one direction only**. Please refer to the IFU for bending precautions.

Warning: If the bending irons are used for the sinus tarsi plates, the external guide can no longer be used.



FIXATION AND SCREW FEATURES

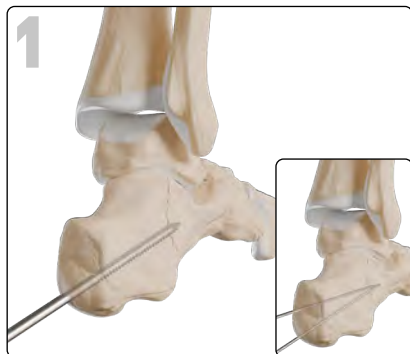
- **Ø3.5 mm and Ø2.8 mm locking and non locking** (compressive) screws, from 10 mm to 50 mm (2 mm incrementation).
- **Polyaxiality of $\pm 10^\circ$** for all the holes of the plate.
- **Hexalobe screw recess design (T15).**



Surgical technique.

SINUS TARSI APPROACH

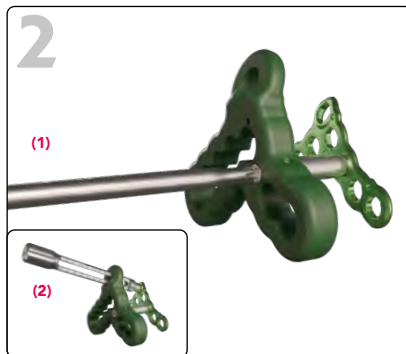
Surgical technique example using the size 4 calcaneal fracture sinus tarsi plate (FSTD4).



Make a slightly S-shaped incision from the base of the lateral malleolus to the calcaneocuboid joint. Continue the dissection down to the subtalar joint.

Reduce the posterior tuberosity by placing in the posterior part of the calcaneus a Schanz pin (ANC1162) or a Denham pin (ANC1163). Insert a Ø1.6 mm pin (33.0216.150) to maintain the reduction.

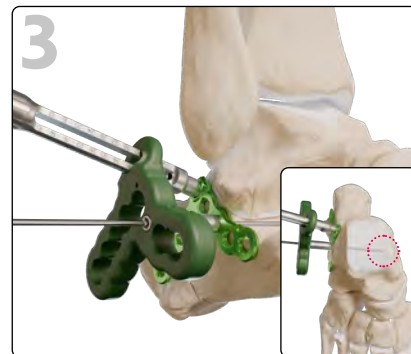
Check the reduction under fluoroscopy and ensure the Bohler's angle is between 20° and 40°.



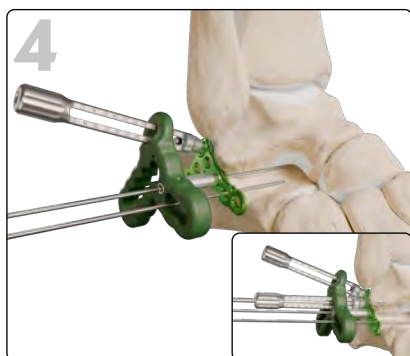
Assemble the external drill guide onto the sinus tarsi plate following these two steps:

Use the T15 screwdriver (ANC1027) to lock the centering pin into the plate.⁽¹⁾

Lock the guide gauge (ANC1094) into the postero-dorsal hole of the plate (as shown in the picture above) to avoid the rotation of the guide around the plate.⁽²⁾



Slide the plate under the skin and insert a Ø1.6 mm pin (33.0216.150) into the centering pin to validate its correct positioning. The pin must target the sustentaculum tali.



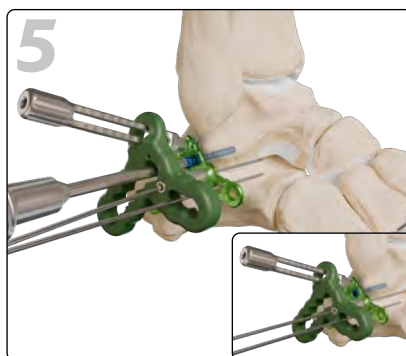
Insert Ø1.2 mm pins (33.0212.120) into the guide.

For the drilling, start with the holes following the sinus tarsi.

For Ø3.5 mm screws ●: drill using the Ø2.7 mm drill bit (ANC1099) through the Ø2.7 mm threaded guide gauge (ANC1094).

For Ø2.8 mm screws ●: drill using the Ø2.0 mm drill bit (ANC1098) through the Ø2.0 mm threaded guide gauge (ANC1096).

Read the drilling depth on the guide gauge (ANC1094 or ANC1096 respectively).



Insert the Ø3.5 mm locking screws (SAT3.5Lxx) or the Ø2.8 mm locking screws (SAT2.8Lxx) along the sinus tarsi, using the T15 screwdriver (ANC1027).

Use the external guide to drill the holes located on the posterior part of the calcaneus.

Finalize the procedure by inserting the remaining locking screws. Remove the guide and insert the last screw.

Warning: Final tightening of the screws must be performed by hand.

FINAL RESULT.



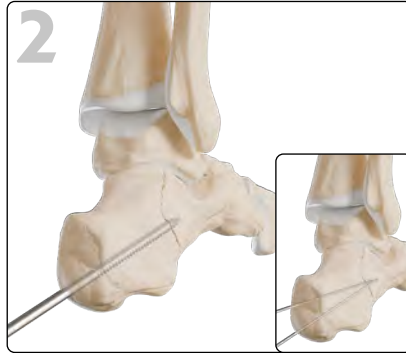
EXTENSILE LATERAL APPROACH (PAGE 1/2)

Surgical technique example using the size 2 calcaneal fracture plate (FKTDL2).

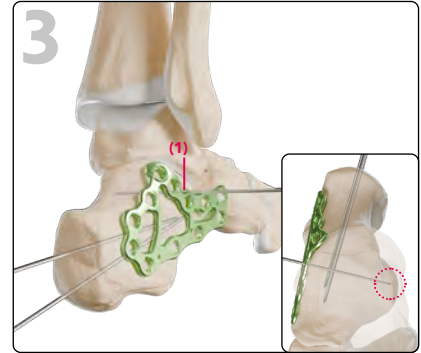


Make an incision from the basis of the fifth metatarsal and extend it posteriorly, following the junction between the plantar skin and the lateral skin.

Make a second incision beginning approximately 6 to 8 cm above the skin of the heel, halfway between the posterior aspect of the fibula and the lateral aspect of the Achilles tendon. Extend the second incision distally so it meets the first incision.



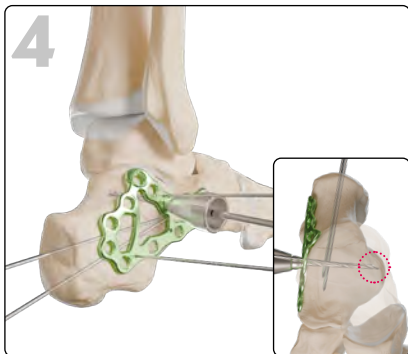
Perform the reduction of the fracture following step 1 described in the sinus tarsi approach (see page 6).



Select the most appropriate plate shape to fit the bone anatomy*. Then, check the correct positioning by inserting a Ø1.2 mm pin (33.0212.120) into the #1 pin hole. The pin must target the sustentaculum tali.

The remaining pin holes can then be filled to stabilize the plate.

* If needed, the plates can be bent with the appropriate bending irons (ANC578), **once and in one direction only**.



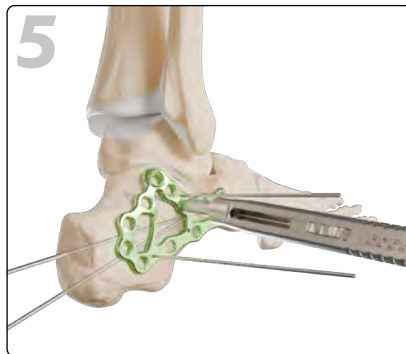
For the drilling, start with the holes following the sinus tarsi.

For Ø3.5 mm screws ●: drill using the Ø2.7 mm drill bit (ANC1099) through the Ø2.7 mm polyaxial drill guide (ANC1067).

For Ø2.8 mm screws ●: drill using the Ø2.0 mm drill bit (ANC1098) through the Ø2.0 mm polyaxial drill guide (ANC1100).

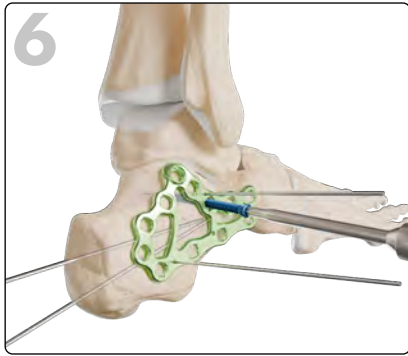
If needed, the pin #1 can be removed before the drilling.

NB: When drilling, target as close as possible the sustentaculum tali.

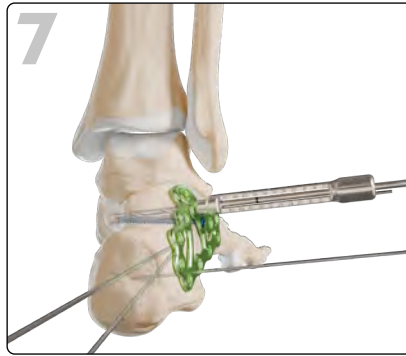


Measure the drilling depth using the length gauge (ANC1095).

EXTENSILE LATERAL APPROACH (PAGE 2/2)



Insert a Ø3.5 mm locking screw (SAT3.5Lxx) or a Ø2.8 mm locking screw (SAT2.8Lxx) using the T15 screwdriver (ANC1027).

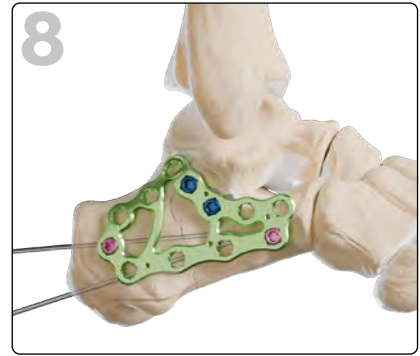


If a normoaxial targeting is desired,

For Ø3.5 mm screws ●: drill using the Ø2.7 mm drill bit (ANC1099) through the Ø2.7 mm threaded guide gauge (ANC1094).

For Ø2.8 mm screws ●: drill using the Ø2.0 mm drill bit (ANC1098) through the Ø2.0 mm threaded guide gauge (ANC1096).

Read the drilling depth on the guide gauge (ANC1094 or ANC1096 respectively).



Insert Ø3.5 mm or Ø2.8 mm non locking screws (CAT3.5LxxD or CAT2.8LxxD) in order to be flush to the bone.

Finalize the procedure by inserting the remaining screws.

Warning: Final tightening of the screws must be performed by hand.

FINAL RESULT.



Implants references.

Remark: Please note that all implants are also available in sterile packaging. An 'ST' code is added at the end of the reference.
Ex : «FSTGL1-ST» stands for Sinus tarsi plate - Calcaneal fracture - Left - Size 1 - Sterile.

Sinus tarsi plates

Ref.	Description
FSTGL1	Sinus tarsi plate - Calcaneal fracture - Left - Size 1
FSTD11	Sinus tarsi plate - Calcaneal fracture - Right - Size 1
FSTGL2	Sinus tarsi plate - Calcaneal fracture - Left - Size 2
FSTD21	Sinus tarsi plate - Calcaneal fracture - Right - Size 2
FSTGL3	Sinus tarsi plate - Calcaneal fracture - Left - Size 3
FSTD31	Sinus tarsi plate - Calcaneal fracture - Right - Size 3
FSTGL4	Sinus tarsi plate - Calcaneal fracture - Left - Size 4
FSTD41	Sinus tarsi plate - Calcaneal fracture - Right - Size 4



Size 1 (FSTxL1)



Size 2 (FSTxL2)



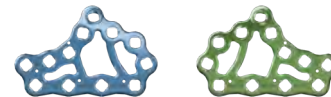
Size 3 (FSTxL3)



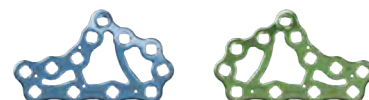
Size 4 (FSTxL4)

Extensile lateral plates

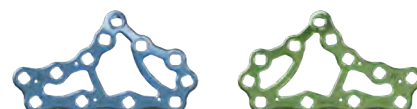
Ref.	Description
FKTGL1	Extensile lateral plate - Calcaneal fracture - Left - Size 1
FKTD11	Extensile lateral plate - Calcaneal fracture - Right - Size 1
FKTGL2	Extensile lateral plate - Calcaneal fracture - Left - Size 2
FKTD21	Extensile lateral plate - Calcaneal fracture - Right - Size 2
FKTGL3	Extensile lateral plate - Calcaneal fracture - Left - Size 3
FKTD31	Extensile lateral plate - Calcaneal fracture - Right - Size 3



Size 1 (FKTxL1)



Size 2 (FKTxL2)



Size 3 (FKTxL3)

● Ø2.8 mm locking screws*

Ref.	Description
SAT2.8L10 to SAT2.8L50	Ø2.8 mm locking screw - L10 to 50 mm (2 mm increments)

*Green anodized



● Ø2.8 mm non-locking screws*

Ref.	Description
CAT2.8L10D to CAT2.8L50D	Ø2.8 mm non-locking screw - L10 to 50 mm (2 mm increments)

*Yellow anodized



● Ø3.5 mm locking screws*

Ref.	Description
SAT3.5L10 to SAT3.5L50	Ø3.5 mm locking screw - L10 to 50 mm (2 mm increments)

*Blue anodized



● Ø3.5 mm non-locking screws*

Ref.	Description
CAT3.5L10D to CAT3.5L50D	Ø3.5 mm non-locking screw - L10 to 50 mm (2 mm increments)

*Fuchsia anodized



REMOVAL KIT

If you have to remove Calcanheal implants, make sure to order the Newclip Technics removal set which includes the following instruments:

- ANC042: Mini set - Base
- ANC350: Ø4.5 mm AO quick coupling handle - Size 1
- ANC1027: T15 AO quick coupling prehensor screwdriver

To remove any of the Calcanheal plates, first loosen all the screws without completely removing them (this prevents rotation of the plate when removing the last screw). Finally, completely remove all screws and the plate. An extraction set can also be ordered separately.

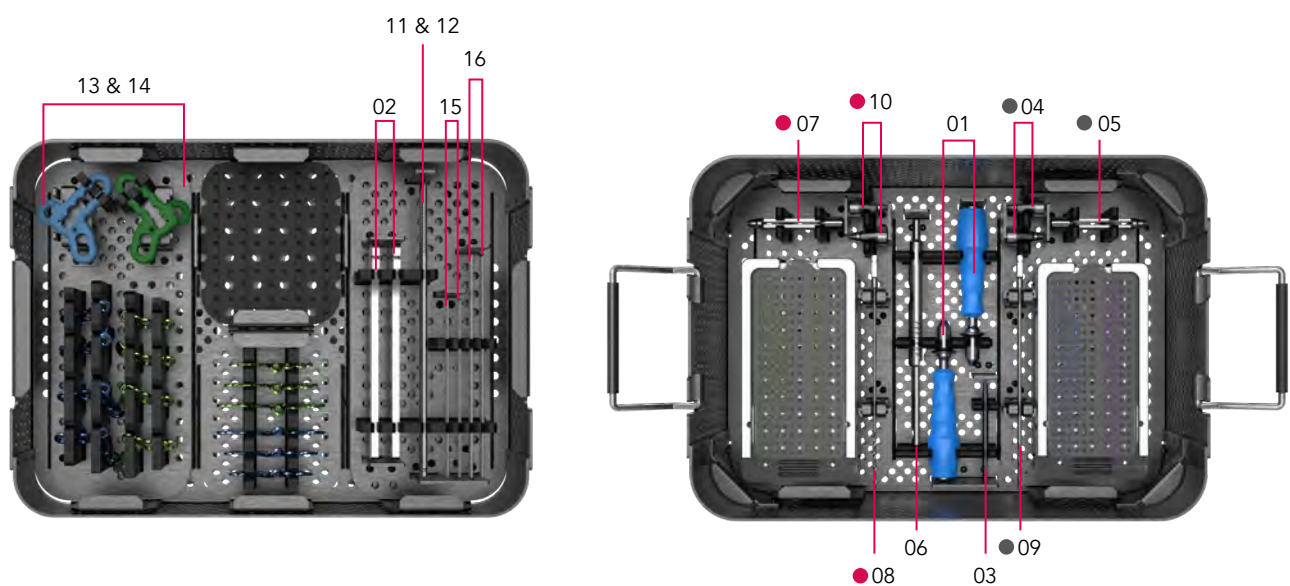
Instruments references.

Depending on surgical habits, it is possible to order either:

- a complete kit,
- an adapted kit for Ø2.8 mm screws ● with associated instruments,
- an adapted kit for Ø3.5 mm screws ● with associated instruments.

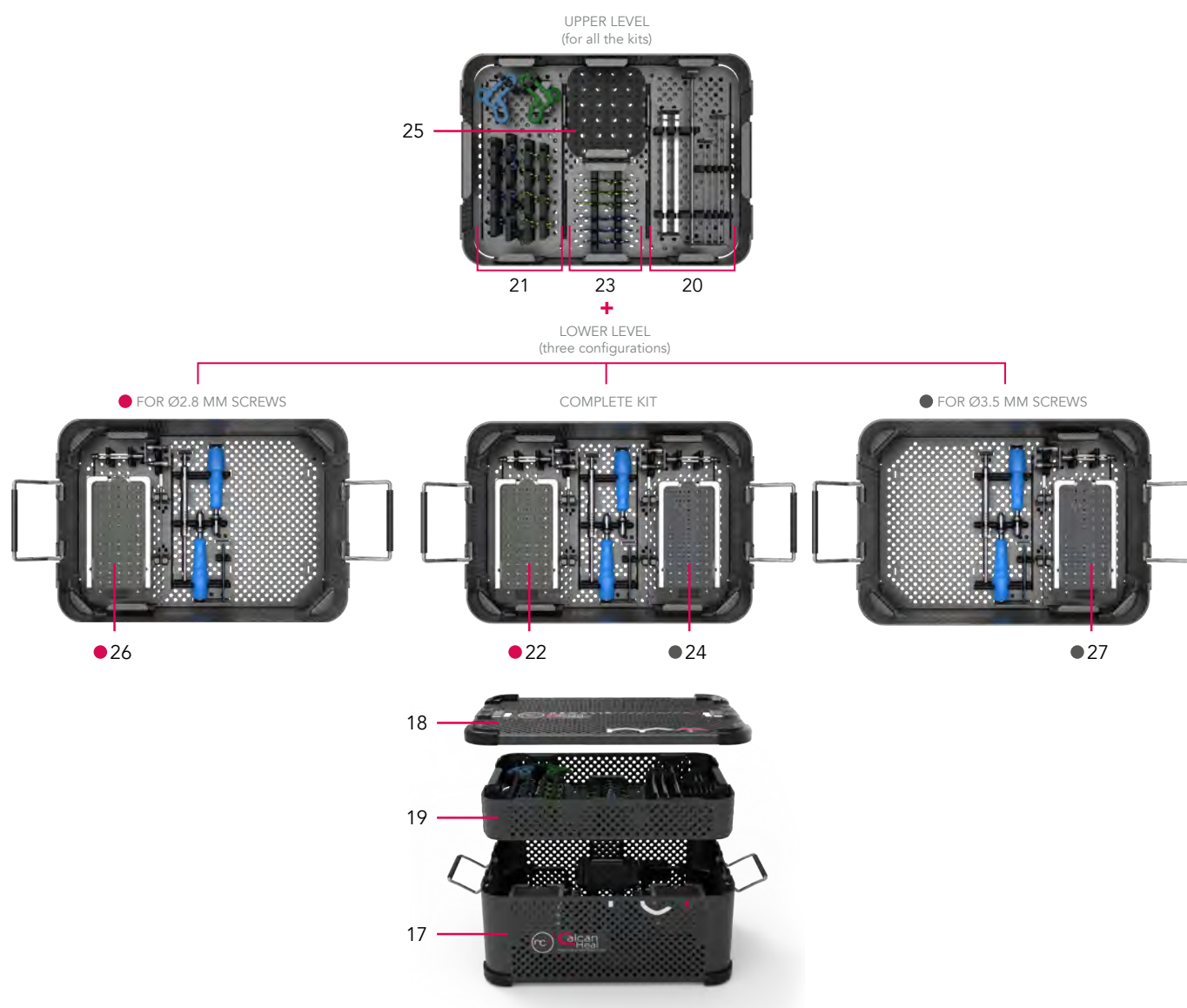
Instrumentation

#	Ref.	Description	Ø2.8 mm	Ø3.5 mm	Qty
01	ANC350	Ø4.5 mm AO quick coupling handle - Size 1			2
02	ANC578	Bending pliers			2
03	ANC1027	T15 AO quick coupling prehensor screwdriver			2
04	ANC1067	Ø2.7 mm polyaxial drill guide - SAT3.5 hole		●	2
05	ANC1094	Ø2.7 mm threaded guide gauge - SAT3.5 hole		●	2
06	ANC1095	Length gauge for Ø2.8 and Ø3.5 mm screws			1
07	ANC1096	Ø2.0 mm threaded guide gauge - SAT3.5 hole	●		2
08	ANC1098	Ø2.0 mm quick coupling drill bit - L180 mm	●		2
09	ANC1099	Ø2.7 mm quick coupling drill bit - L180 mm		●	2
10	ANC1100	Ø2.0 mm polyaxial drill guide - SAT3.5 hole	●		2
11	ANC1162	Schanz pin Ø4.5 mm - L200 mm			1
12	ANC1163	Denham pin Ø4.5 mm - L200 mm			1
13	ANC1164	MIS guide for sinus tarsi plate - Calcaneal fracture - Left			1
14	ANC1165	MIS guide for sinus tarsi plate - Calcaneal fracture - Right			1
15	33.0212.120	Pin Ø1.2 - L120 mm			6
16	33.0216.150	Pin Ø1.6 - L150 mm			6



Container references

#	Ref.	Description	Ø2.8 mm	Ø3.5 mm
17	ANC1166/B	CalcanHeal set - Base		
18	ANC1166/C	CalcanHeal set - Lid		
19	ANC1166/I	CalcanHeal set - Insert		
20	ANC1166/M1	CalcanHeal set - Module 1 - Common instrumentation		
21	ANC1166/M2	CalcanHeal set - Module 2 - Sinus tarsi plates		
22	ANC1166/M2.8	CalcanHeal set - Module 2.8 - Ø2.8 mm screws	●	
23	ANC1166/M3	CalcanHeal set - Module 3 - Extensile lateral plates		
24	ANC1166/M3.5	CalcanHeal set - Module 3.5 - Ø3.5 mm screws		●
25	ANC1166/M4	CalcanHeal set - Module 4 - Options		
26	ANC1166/R2.8	CalcanHeal set - Ø2.8 mm Screw rack	●	
27	ANC1166/R3.5	CalcanHeal set - Ø3.5 mm Screw rack		●



This information is intended to demonstrate the Newclip Technics portfolio of medical devices. Always refer to the package insert, product label and/or user instructions including cleaning and sterilization before using any Newclip Technics product. These products must be handled and/or implanted by trained and qualified staff who have read the instructions before use. A surgeon must always rely on her or his own professional clinical judgement when deciding whether to use a particular product when treating a particular patient. Product availability is subject to the regulatory or medical practices that govern individual markets. Please contact your Newclip Technics representative if you have questions about the availability of Newclip Technics products in your area.

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