



Surgical Technique
All inside

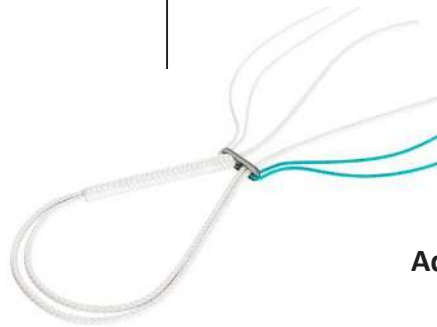
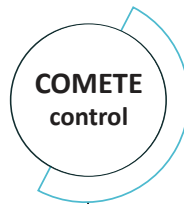


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Concept and range



Adjustable cortical fixation



Plate for 6 to 11 mm tunnel

COMETE CONTROL and COMETE Extra plate are a medical devices manufactured by COUSIN BIOTECH S.A.S. The evaluation of EC conformity has been assessed by the notified body SGS Belgium NV (CE1639). The quality management system of COUSIN BIOTECH S.A.S is compliant with ISO 13485 standard. Please read carefully the instructions for use before using the device.

Non contractual pictures and texts. Specifications likely to be modified without notice.

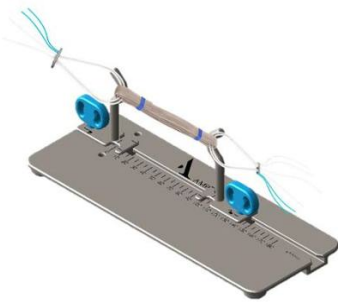
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Surgical technique overview

1

Harvesting and graft
preparation

**2**

Femoral socket
placement

**3**

Femoral retro drilling

**4**

Tibial socket
placement



Surgical technique overview

5

Femoral retro drilling



6

Graft positioning and locking

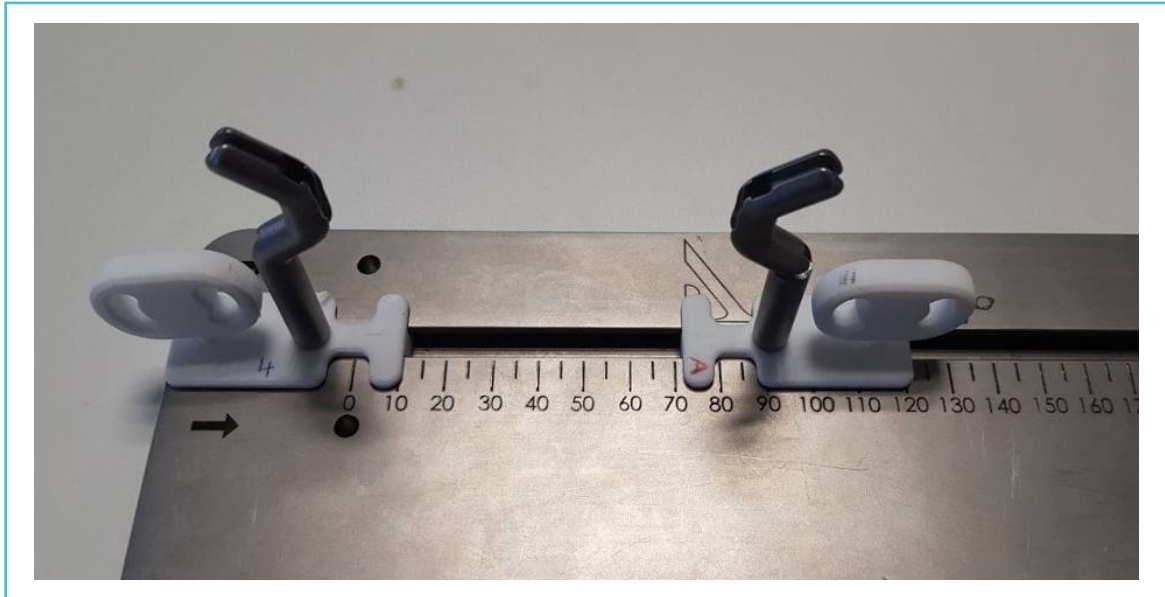


1 Graft harvesting



Harvest the semi tendinosus.

2 Graft preparation



Match the C mark of an support for graft station to the 0 of the graft station.

Match the C mark of the other support for graft station to the graft length minus 10 mm. For a 55mm graft length place the support for graft station on the 45 mark.



COMETE Control into the slot of the adjustable support for graft station (Side view)

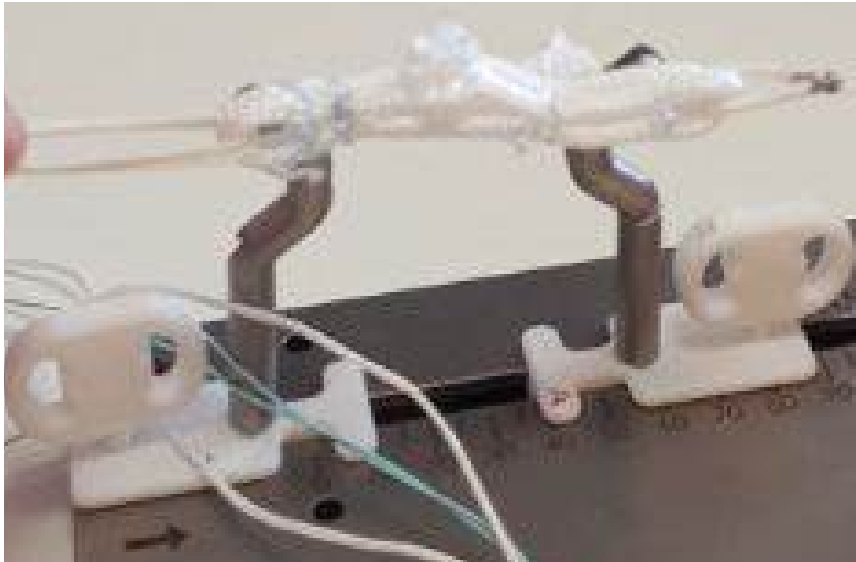
Place the COMETE Control loop in the slot of the support for graft station. Place the loop of the second COMETE Control in the slot of the second support for graft station.

Prepare the graft as usual.



COMETE Control into the slot of the adjustable support for graft station (Front view)

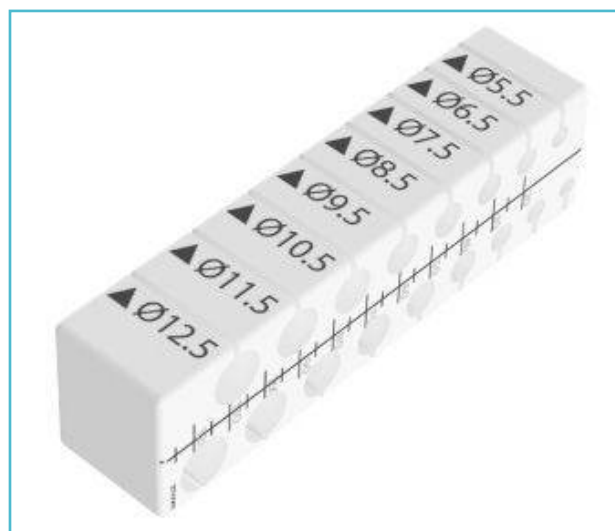
3 Calibration



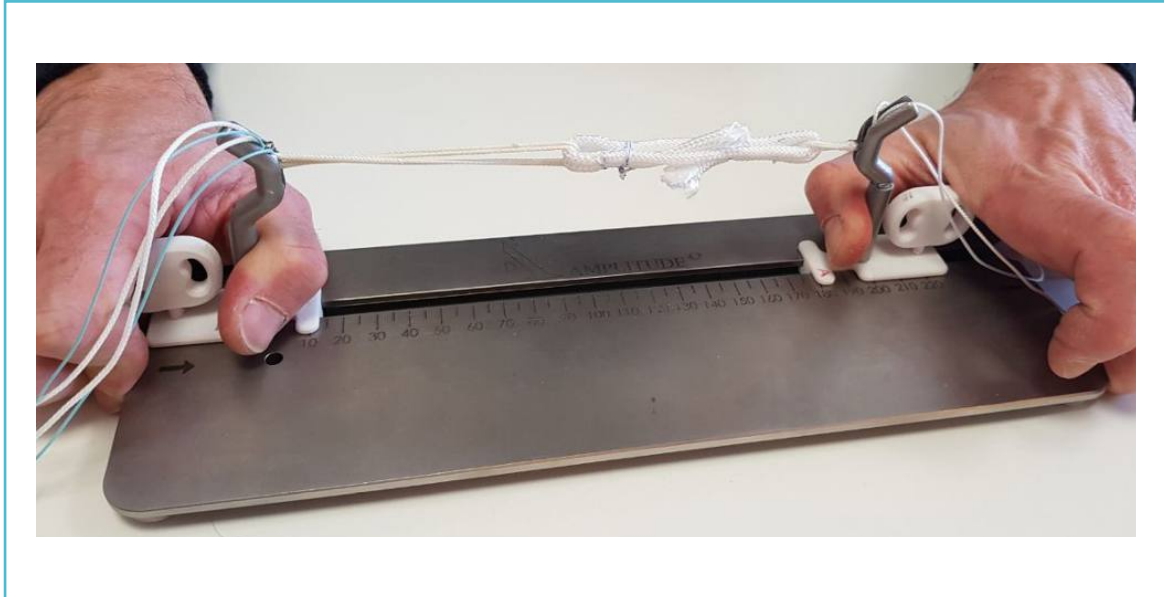
Once the graft preparation is complete, remove the graft from the supports for graft station:

- Unlock the supports for graft station.
- Bring them closer together.
- Remove the graft from the supports for graft station.

Calibrate the graft diameter and check the length.



3 Graft tensioning



Load the COMETE Control plate into the slot of the support for graft station. Load the plate of the second COMETE Control into the slot of the second support for graft station.

Apply a light tension and put a compress onto the graft.

Be careful, too much tension can damage the graft.

4 Femoral socket placement



Assemble the femoral guide.

Hook the posterior notch in the «over the top position».

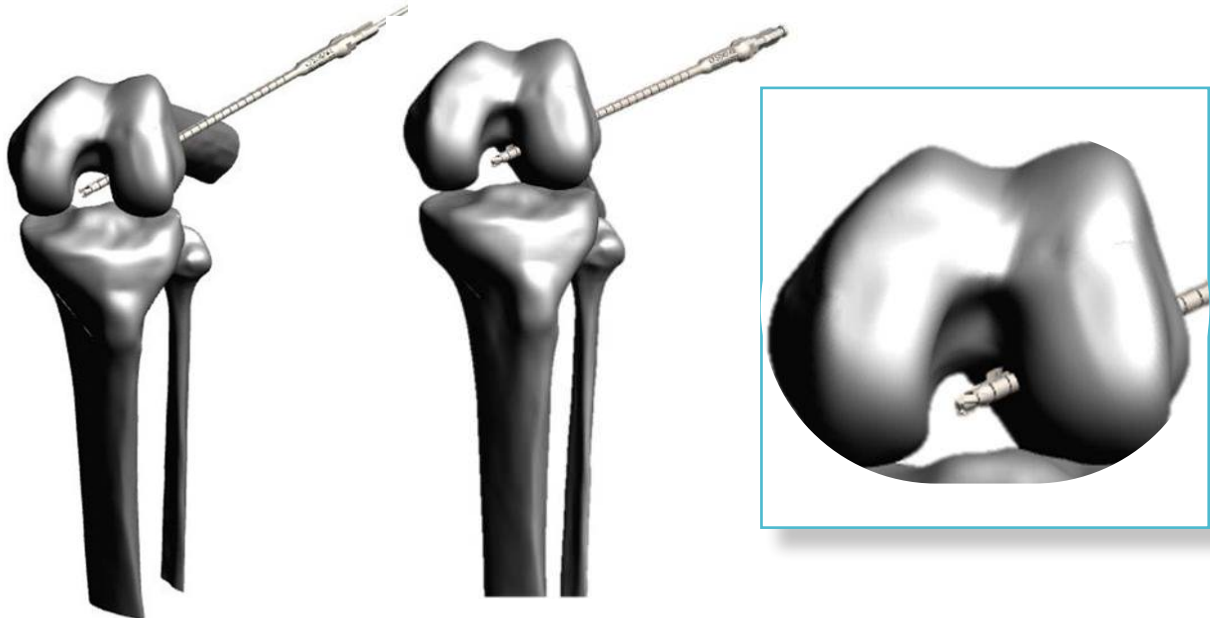
Make a skin incision in front of the modular guide sleeve.

Insert the modular guide sleeve through the skin incision until cortex contact.

Drill the wire pin guide through the modular guide sleeve. The pin guide exit 7 mm anterior to the hook.

Remove the guide from the joint. Then check the wire pin guide position.

5 Femoral socket drilling



Slide the retro drill reamer over the pin guide.

Drill a tunnel from outside to inside. The head of the retrodrill reamer has to exit from the bone to allow the retro drill blade to exit in intra articular. Remove the pin guide.

Put the retro drill blade in the retro drill reamer. Position the retro drill blade on the anterior or posterior part of the tunnel.

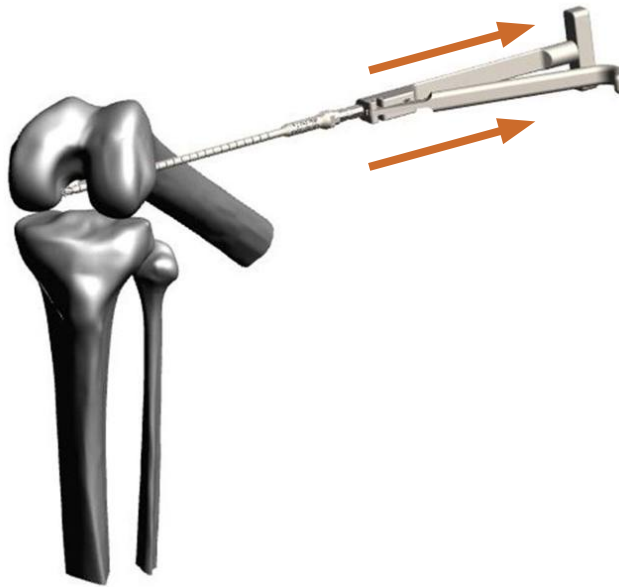
Impact the retro drill blade through the retro drill reamer with a hammer until the blade exits entirely from the tunnel. The blade must be in contact with the head of the retro drill reamer.

Place the retro drill blade in contact with the cortex, then, note the graduation on the femoral side. **Push the blade back so that it can make a full turn without contacting the cortex.**

Place the power tool on the retro drill reamer. **Run the power tool before the blade makes contact with the cortex.**

Drill the femoral socket to the desired length.

6 Retrodrill blade removing



Put the retro drill reamer in the joint.

Place the retro drill blade in the same orientation as during impaction.

Place the extractor on the extraction area of the retro drill blade.

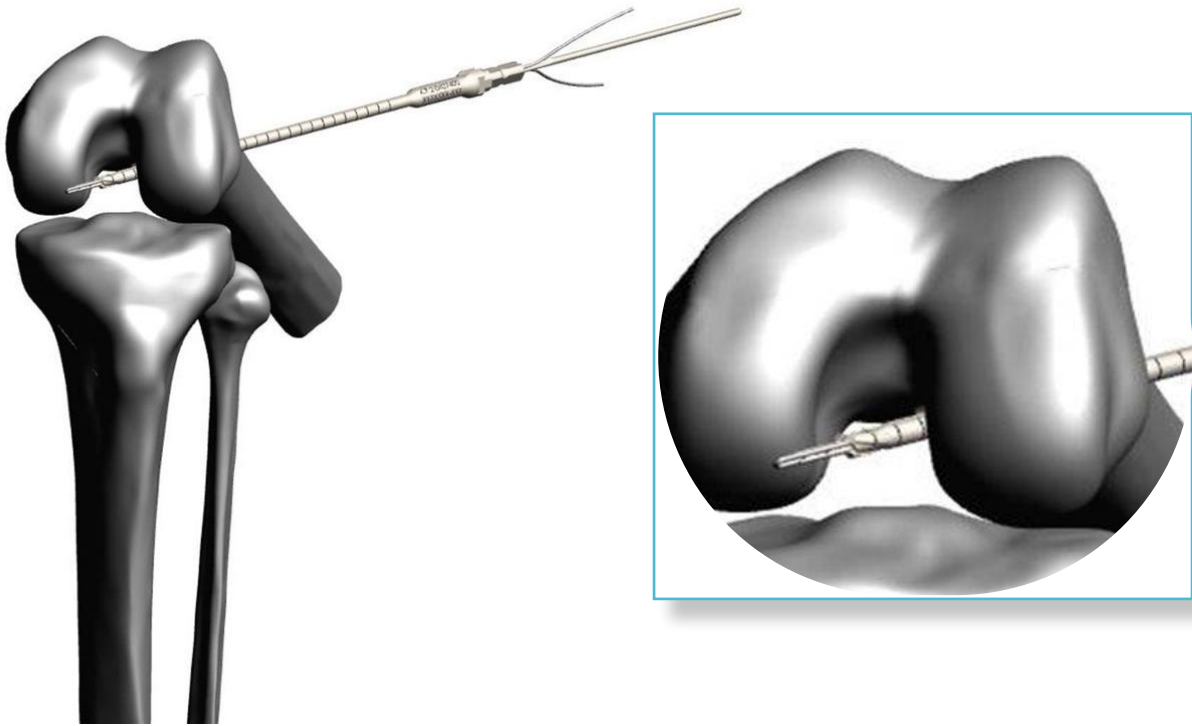
Remove the retro drill blade with a hammer



NOTE

Do not hold the reamer or hold it with pliers. The blade could cause a hand injury.

7 Suture loop passing



Load the wire on the fork of the wire inserter.

Pass the wire inserter and the wire through the retro drill reamer. The wire loop exit in the joint.

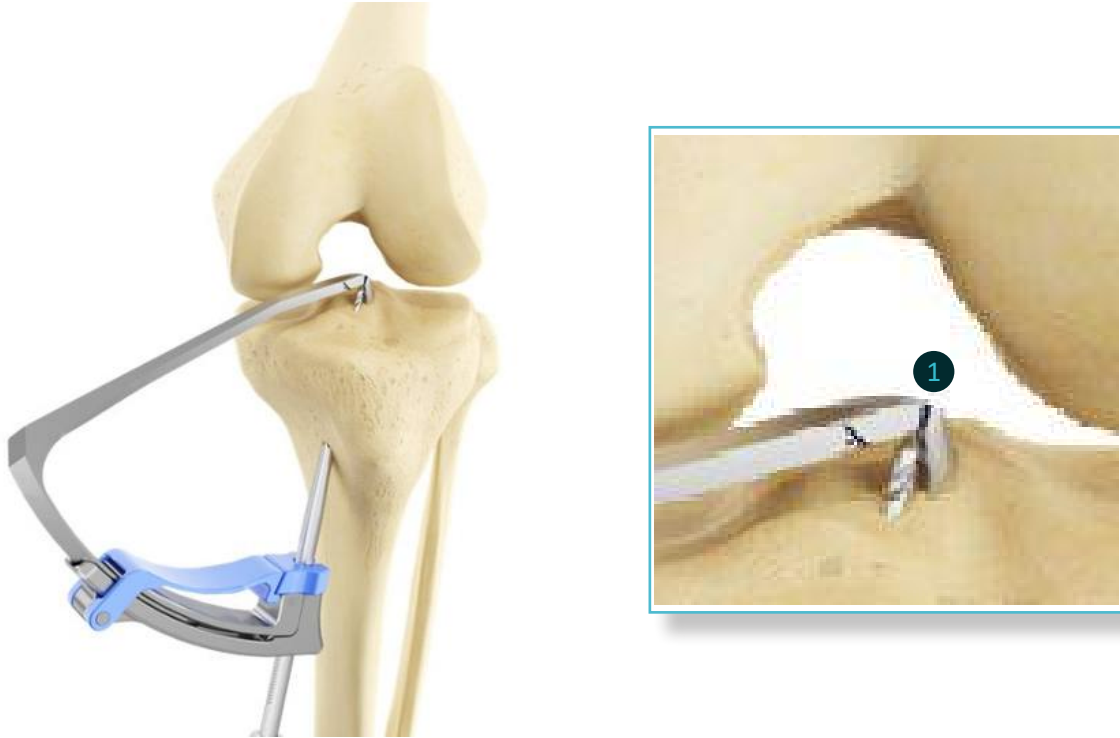
Retrieve the loop through the medial portal with a pliers.

Remove the retro drill reamer.

NOTE

Use a different colour suture than the one used on the tibial side.

8 Tibial socket placement



Assemble the tibial guide.

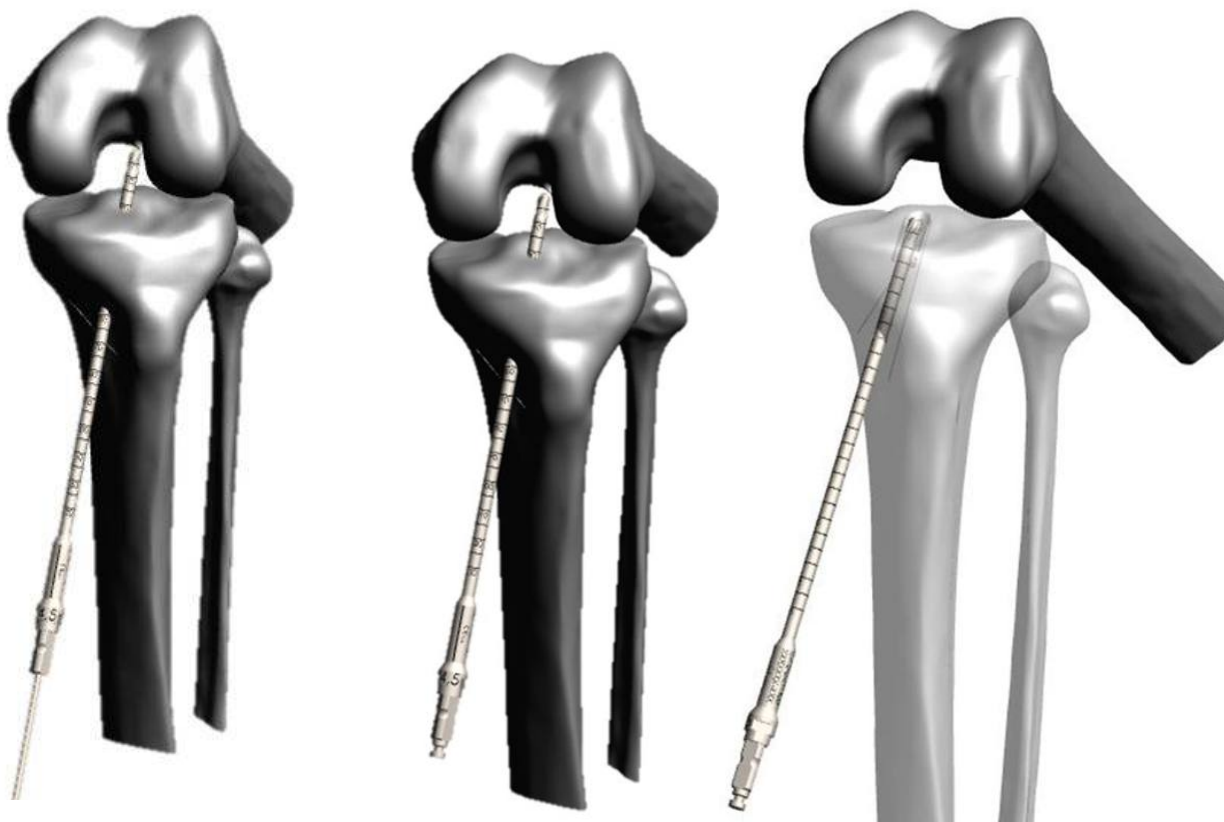
Insert the tibial guide through the medial portal. Then, place the tip of the modular tibial aimer on the ACL footprint. The laser mark indicates the exit point of the wire pin guide.

Insert the tibial guide sleeve, flat surface facing upward until you hear a single « click » after the contact with the cortex.

Drill the wire pin guide through the modular tibial guide sleeve.

Check the wire pin guide position, remove the tibial guide from the joint.

9 Tibial socket drilling



Slide the retro drill reamer over the pin guide.

Drill a tunnel from outside to inside. The head of the retrodrill reamer has to exit from the bone to allow the retro drill blade to exit in intra articular.

Put the retro drill blade in the retro drill reamer. Position the retro drill blade at 2 hours (left knee) or 10 hours (right knee).

Impact the retro drill blade through the retro drill reamer with a hammer until the blade exits entirely from the tunnel. The blade must be in contact with the head of the retro drill reamer. Place the retro drill blade in contact with the cortex, then, note the graduation on the tibial side. **Push the blade back so that it can make a full turn without contacting the cortex.**

Place the power tool on the retro drill reamer. **Run the power tool before the blade makes contact with the cortex.**

Drill the tibial socket to the desired length.

NOTE

Once the head of the retro drill reamer is buried, the tunnel is 15mm.

10 Retrodrill blade removing



Put the retro drill reamer in the joint.

Place the retro drill blade in the same orientation as during impaction.

Place the extractor on the extraction area of the retro drill blade.

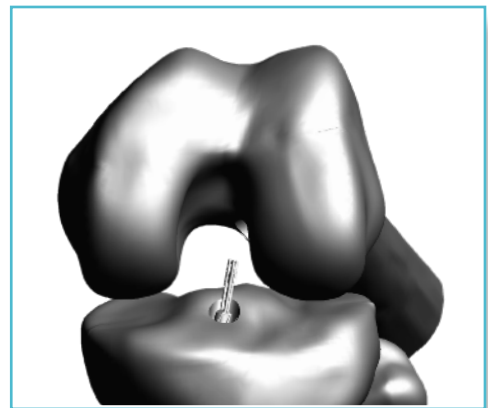
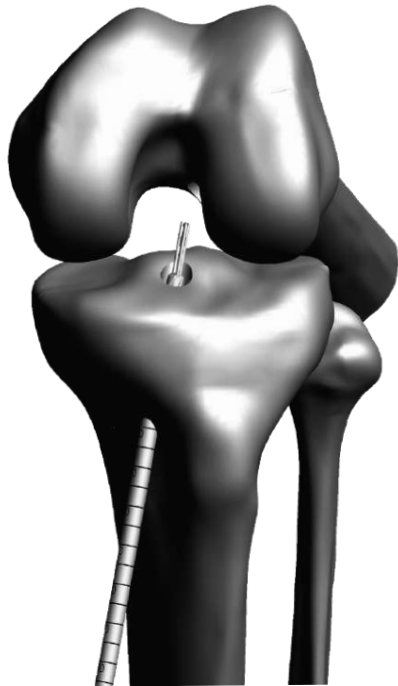
Remove the retro drill blade with a hammer.



NOTE

Do not hold the reamer or hold it with pliers. The blade could cause a hand injury.

11 Suture loop passing



Load the wire on the fork of the wire inserter.

Pass the wire inserter and the wire through the retro drill reamer. The wire loop exit in the joint.

Retrieve the loop through the medial portal with a pliers.

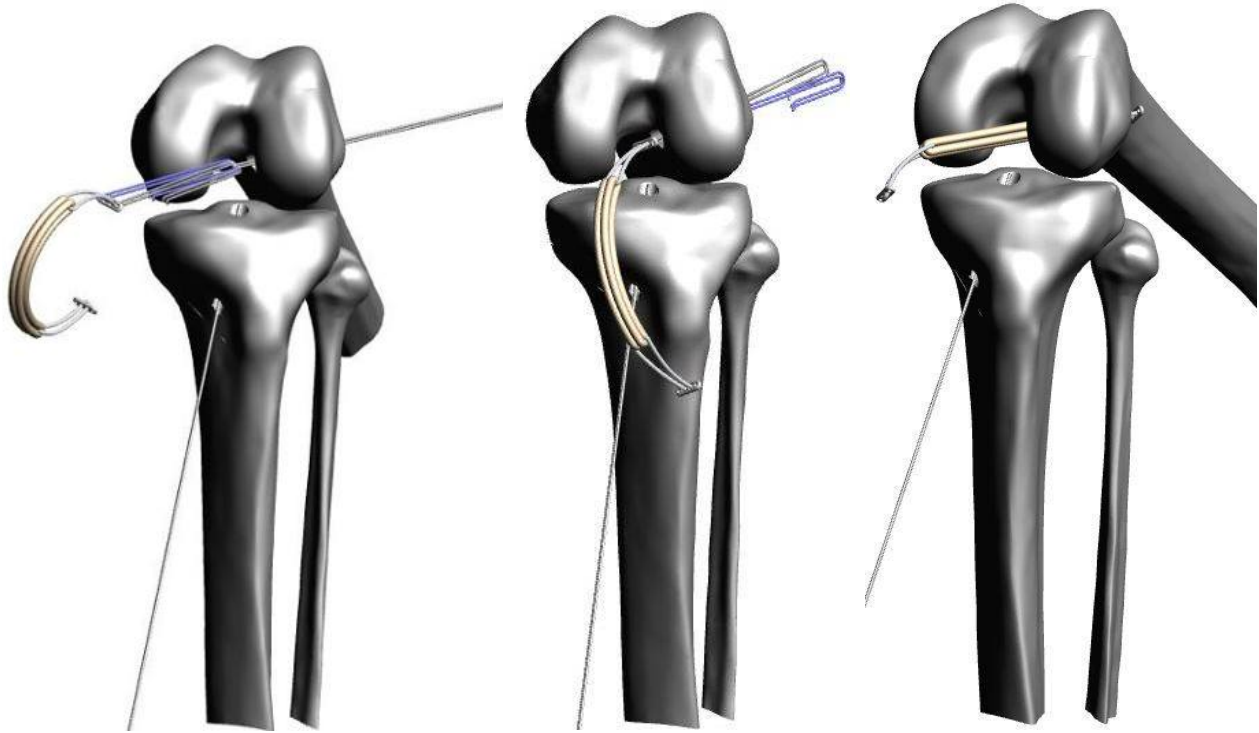
Remove the retro drill reamer.

NOTE

Use a different colour suture than the one used on the femoral side.

12 Graft positionning

Femoral graft positionning



Place the comete control traction wire and threads dedicated to the femoral fixation in the femoral suture loop.

Pull suture at the femoral level until the comete control threads and wires exit to the femoral side.

Pull comete control traction wires applying a tension on the white or the green wire (white wire for example). Do not force on the adjustable and locking thread.

When the titanium plate pass the distal cortex, pull the second traction wire (green wire for example).

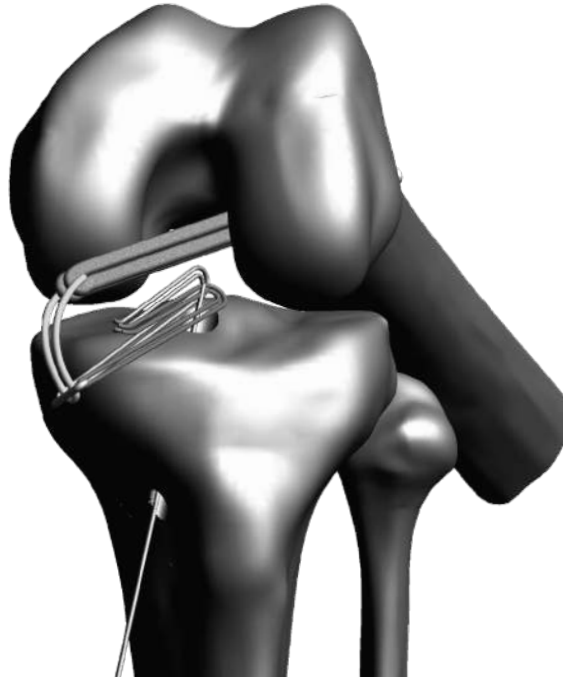
This action allow to put the plate perpendicular to the femoral cortex.



The plate must remain perpendicular to the cortex so that it cannot pass through the femoral tunnel. You could hold the titanium plate with pliers to ensure this.

12 Graft positionning

Tibial graft positionning



Place the comete control traction wire and threads dedicated to the tibial fixation in the tibial suture loop.

Pull suture at the tibial level until the comete control threads and wires exit to the tibial side.

Pull comete control traction wires applying a tension on the white or the green wire (white wire for example). Do not force on the adjustable and locking thread.

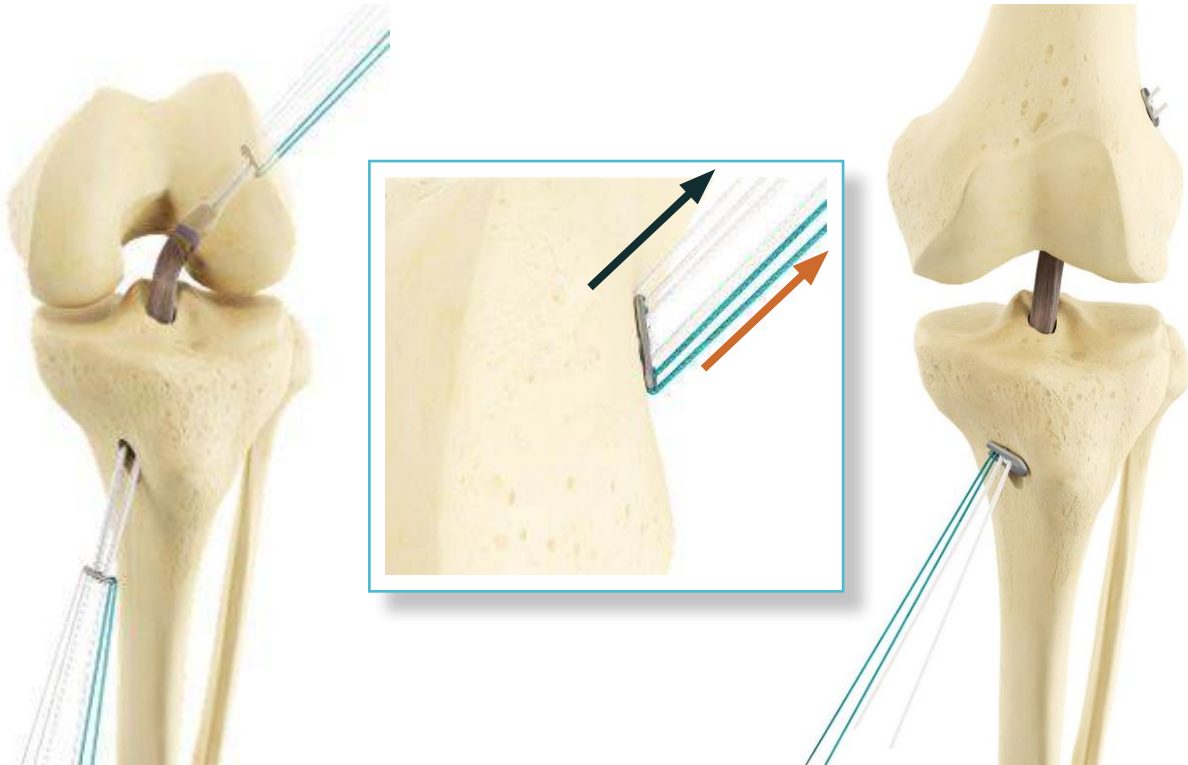
When the titanium plate pass the distal cortex, pull the second traction wire (green wire for example).

This action allow to put the plate perpendicular to the tibial cortex.



The plate must remain perpendicular to the cortex so that it cannot pass through the tibial tunnel. You could hold the titanium plate with pliers to ensure this.

13 Graft locking



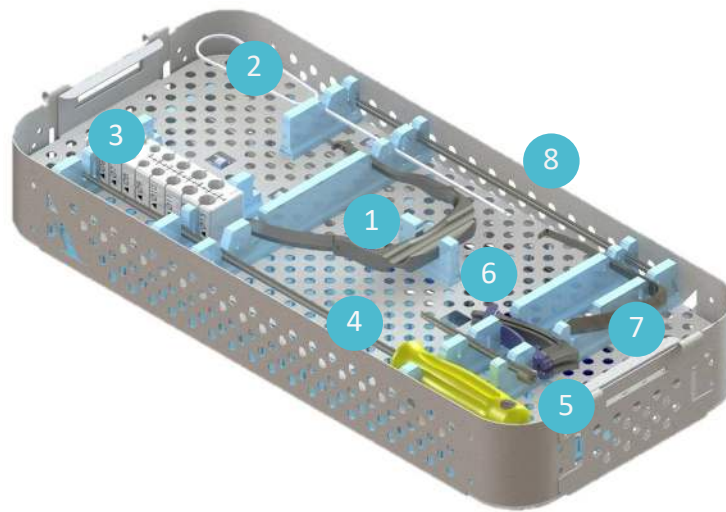
Adjust the graft tension by pulling the white and black threads at the tibial and femoral part. Do not force on the black threads until having the appropriate graft tension.

Lock the fixations (tibial and femoral) by pulling strongly on the locking thread (black) while maintaining tension on the adjustment thread (white).



Instrumentation

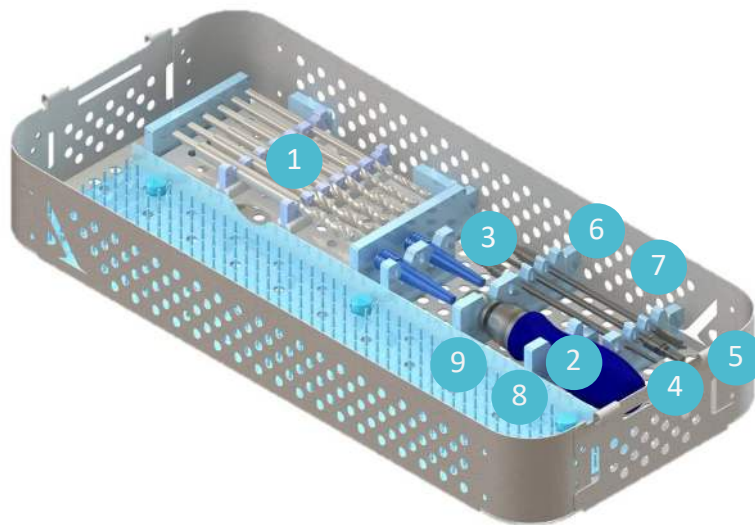
ACL outside-in instrumentation: High tray



Rep	Description	Reference	Qty
1	Femoral slide AM 7mm	2-0405800	1
2	Wire inserter	2-0408200	1
3	Graft sizer	2-0401800	1
4	Open stripper Ø 5mm	2-0405505	1
5	Modular tibial guide sleeve	2-0404900	1
6	Modular guide body/handle	2-0404800	1
7	Modular tibial aimer	2-0405000	1
8	Wire pin guide Ø2.4mm Lg 300mm	2-0405600	1

Instrumentation

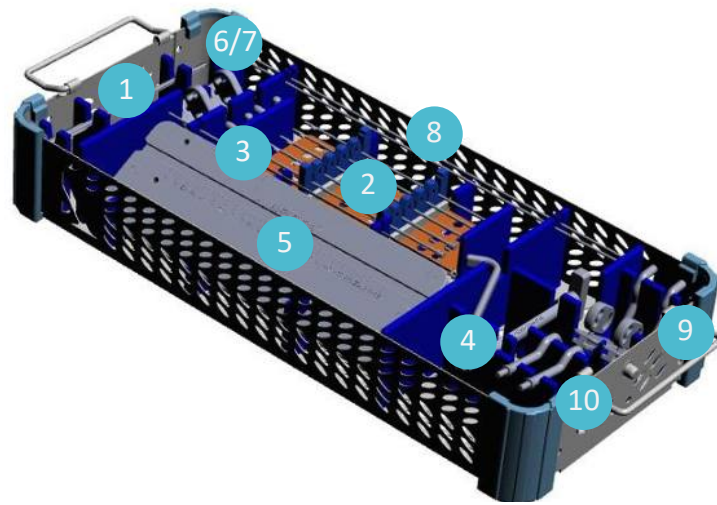
ACL outside-in instrumentation: Low tray



Rep	Description	Reference	Qty
1	Canulated drill Ø 6mm	2-0402906	1
	Canulated drill Ø 7mm	2-0402907	1
	Canulated drill Ø 8mm	2-0402908	1
	Canulated drill Ø 9mm	2-0402909	1
	Canulated drill Ø 10mm	2-0402910	1
	Canulated drill Ø 11mm	2-0402911	1
2	Ratcheting handle	2-0406400	1
3	Shank screwdriver ECLIPSE Ø7-12 mm Trinkle	2-0409300	1
OU			
4	Shank screwdriver ECLIPSE BCP / PROFIL	2-0406200	1
5	Shank starter ECLIPSE BCP / PROFIL	2-0406300	1
7	Screw guidewire Ø 1.1 mm length 240 mm	2-0405700	1

Instrumentation

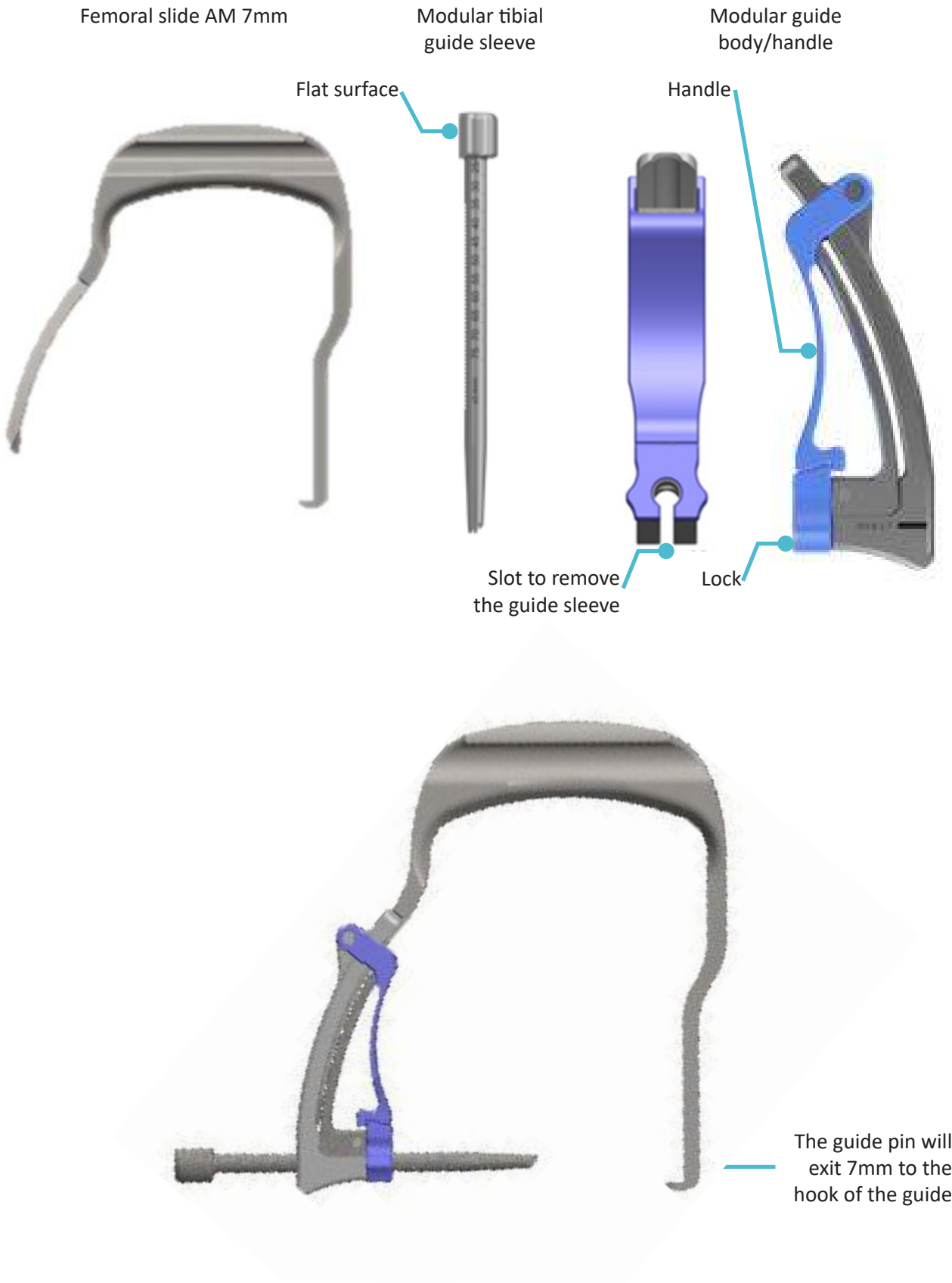
All-inside optional instrumentation



Rep	Description	Reference	Qty
1	Retro drilling reamer	2-0407400	1
	Retro drilling blade Ø 6mm	2-0407320	
	Retro drilling blade Ø 6,5mm	2-0407325	
	Retro drilling blade Ø 7mm	2-0407330	
	Retro drilling blade Ø 7,5mm	2-0407335	
	Retro drilling blade Ø 8mm	2-0407340	
2	Retro drilling blade Ø 8,5mm	2-0407345	1
	Retro drilling blade Ø 9mm	2-0407350	
	Retro drilling blade Ø 9,5mm	2-0407355	
	Retro drilling blade Ø 10mm	2-0407360	
	Retro drilling blade Ø 10,5mm	2-0407365	
	Retro drilling blade Ø 11mm	2-0407370	
3	Wire inserter	2-0408200	1
4	Specific pin extractor	8-0202700	1
5	Graft station	2-0407700	1
6	Adjustable support	2-0407800	2
Or			
7	Support for graft station	2-0409400	2
8	Trocard eyelet pin Ø 2.4 Lg 400mm	2-0409000	1
9	Adjustable support +50mm	2-0407900	2
10	Fixed support	2-0408100	2

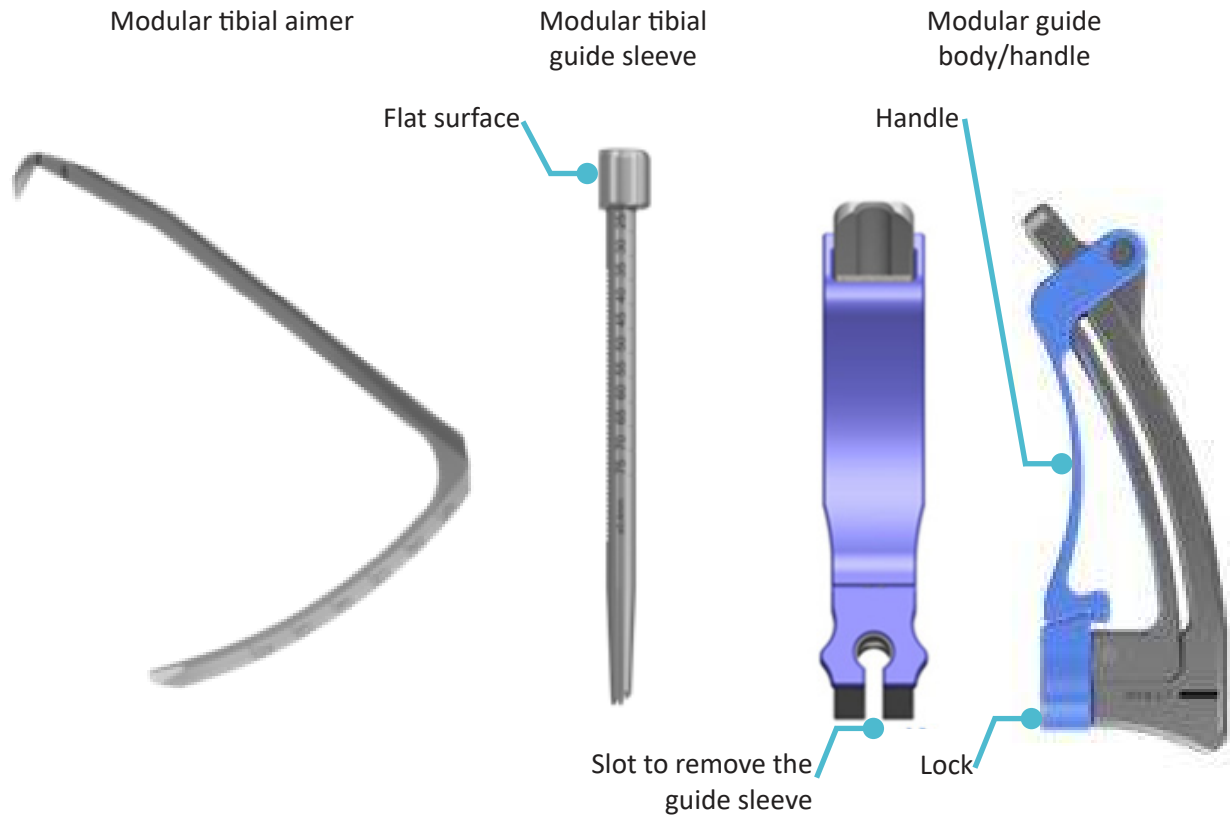
Appendix A

Femoral Outside-In guide



Appendix B

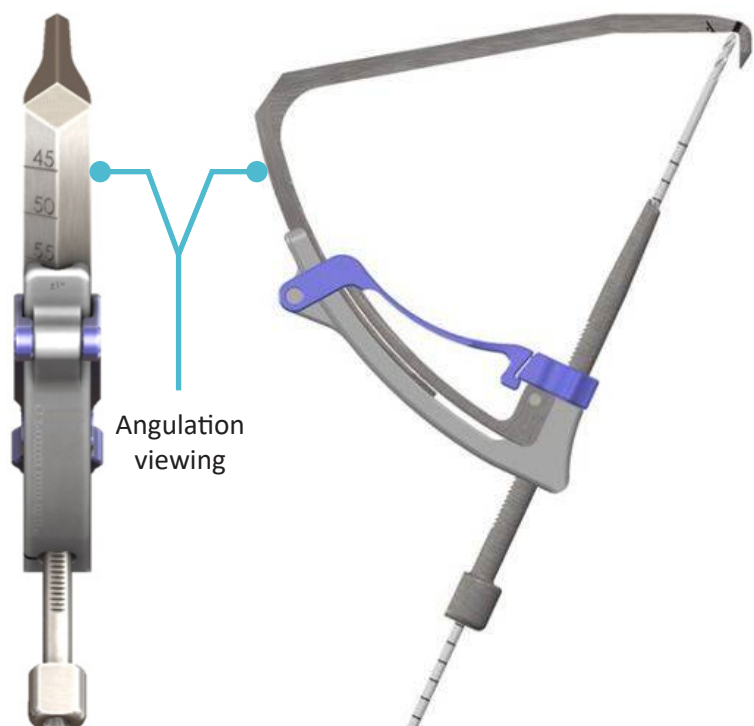
Modular tibial guide



Angulation 45° to 70°.

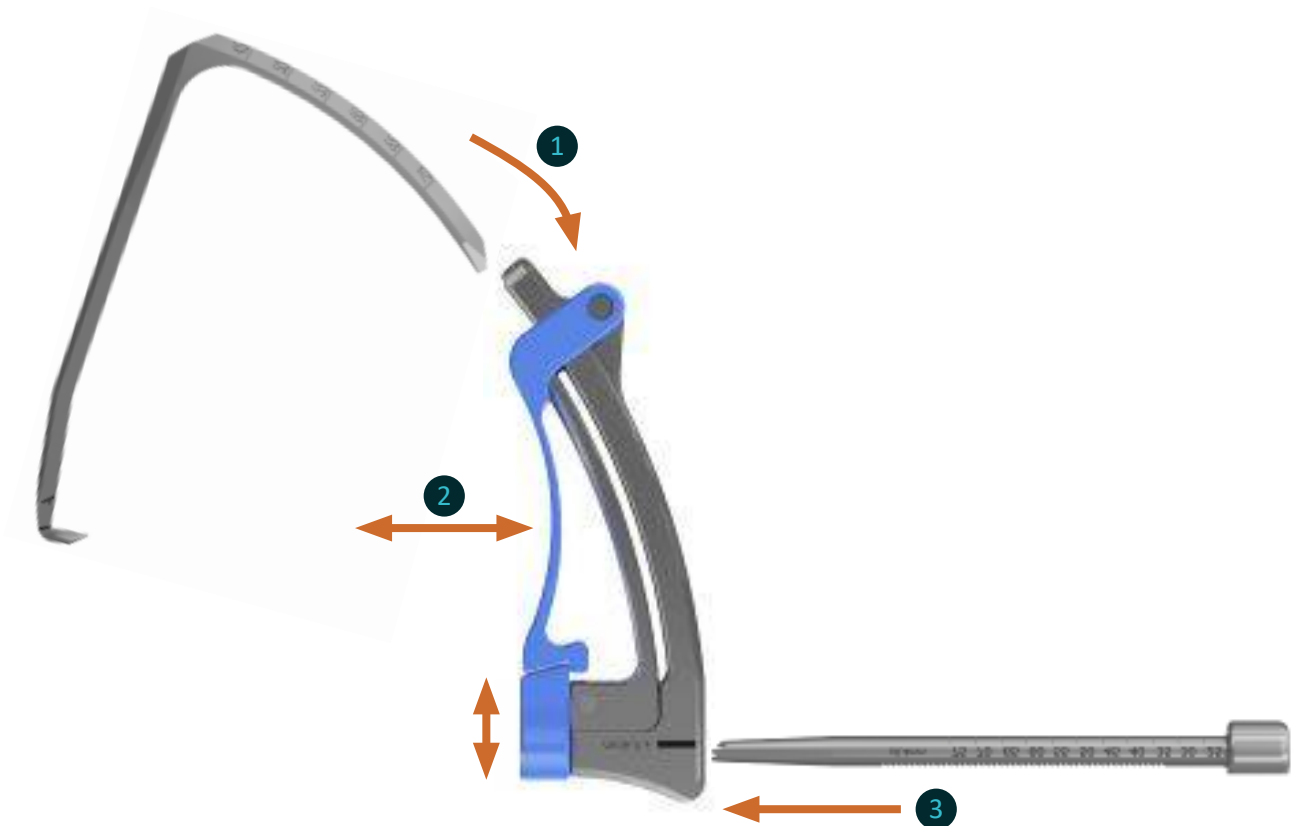
The pin will exit in the bend of the guide.

The laser mark indicate the exit point of the pin guide.



Appendix C

Modular tibial guide: Assembly



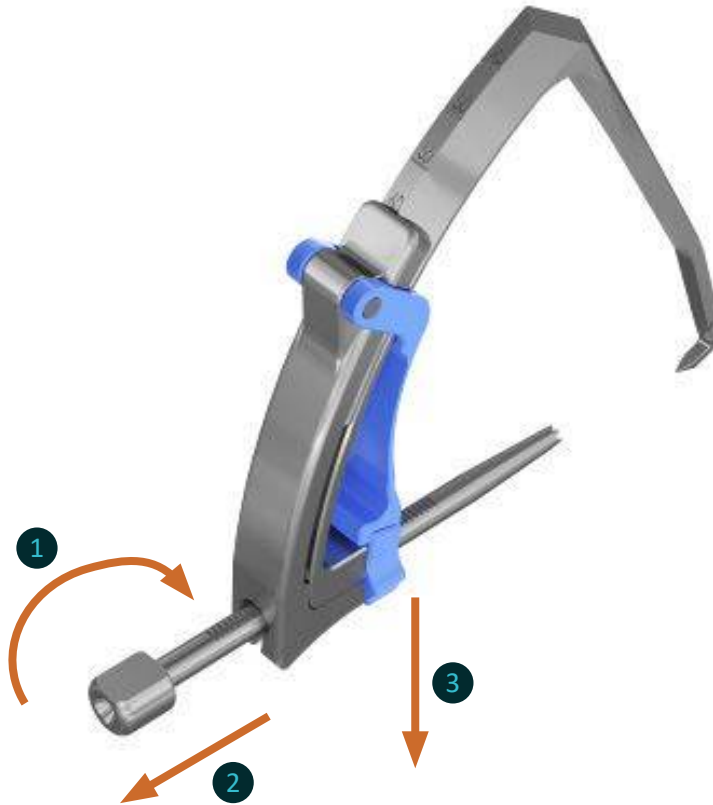
- Insert the modular aimer into the modular guide handle to select angulation (1).
- Lock the guide (modular tibial aimer + modular guide handle) by pulling the blue handle towards the guide handle (2).

Working : Move the lock down press the blue handle and move the lock up to block the modular tibial guide sleeve.

- Insert the modular tibial guide sleeve into the modular guide handle, flat surface facing upware (3).
- The modular tibial guide sleeve cannot be inserted if the modular guide handle and aimer are not locked correctly. If this occurs, remove the aimer from the guide handle. Reassemble the handle and aimer, then reinsert the guide sleeve.

Appendix D

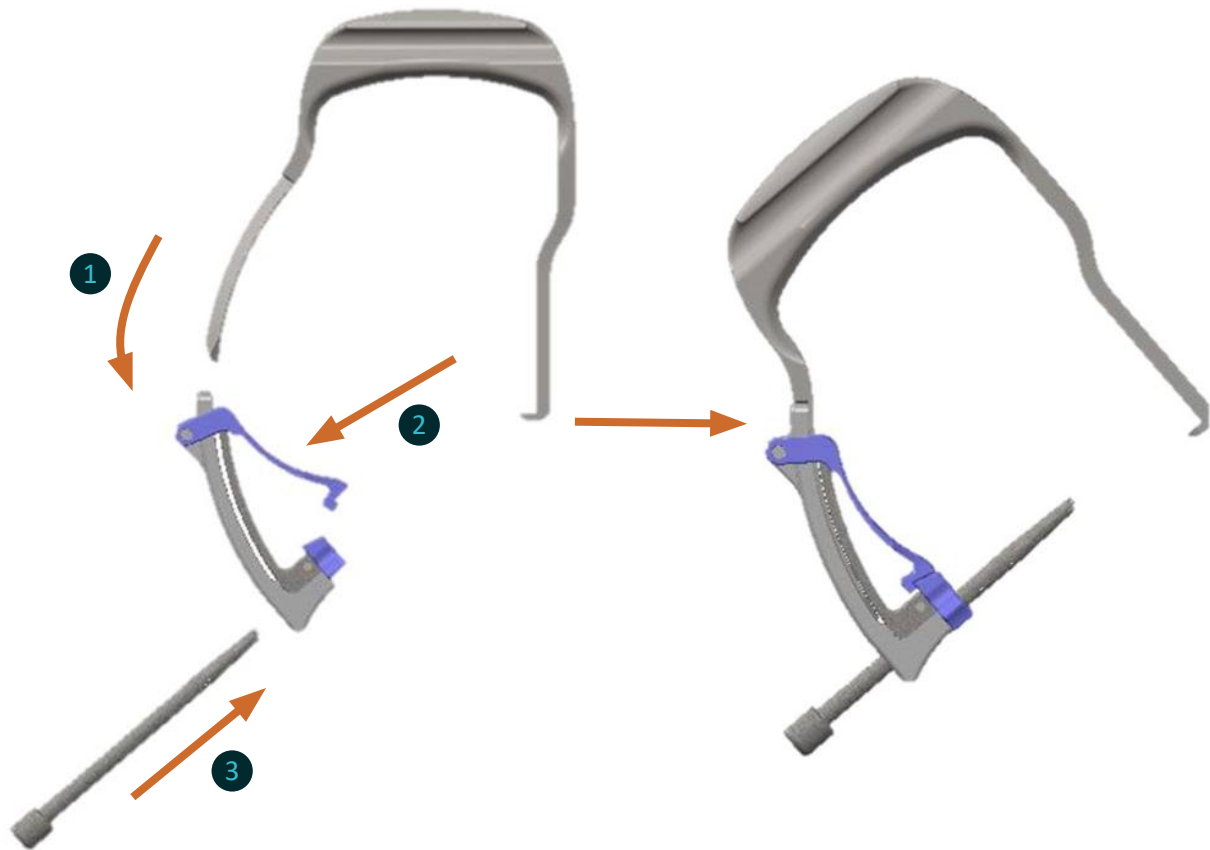
Tibial guide: Modification of the angulation



- Turn the guide sleeve a quarter turn (1).
- Remove the modular tibial guide sleeve (2).
- Unlock the tibial guide by pulling the lock downwards. This action releases the lock and the tibial guide sleeve (3).
- Change the angulation of the guide.
- Lock the guide then place the modular tibial aimer flat surface facing upware.

Appendix E

Out-In femoral guide : Assembly



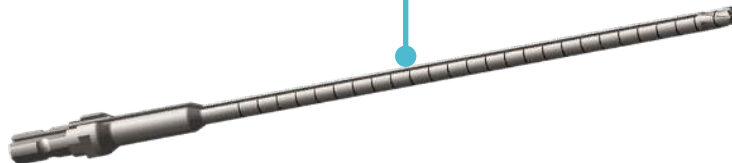
- Insert the femoral aimer AM 7mm into the modular guide handle at 90°.
- Lock the guide (modular slide AM 7mm + modular guide handle) by pulling the blue handle towards the guide handle.
- Slide the guide sleeve through the guide, flat part facing upwards.

Appendix F

Retro drill reamer

2.4 mm canulation
4.5 mm diameter

Slot dedicated to the
retrodrilling blade



Retro drill blade

Size and half size
6 to 11mm diameter



Retro drill reamer with retro drill blade

Stop and extraction area

Distance from blade to
tip => 15 mm



Appendix G

Adjustable support

Match the mark of an adjustable support to the 0 of the graft station.

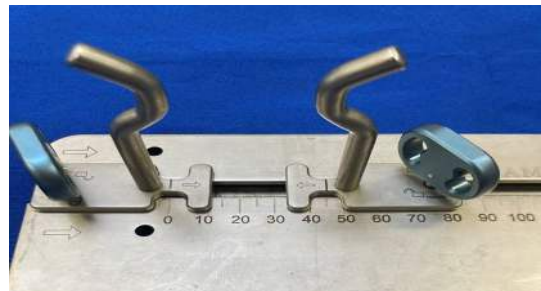
Match the mark of the other adjustable support to the graft length minus 10 mm. For a 55 mm graft, place the support at 45 mm.

Pass the comete Control loop against a hook of the adjustable supports and the ACLip loop against the hook of the other adjustable support

Preparing the graft

Pass the semitendinosus through each loop and around the hooks to obtain a four-bundle graft. Secure the graft by suturing each end of the graft.

Do not suture the comete control loop.

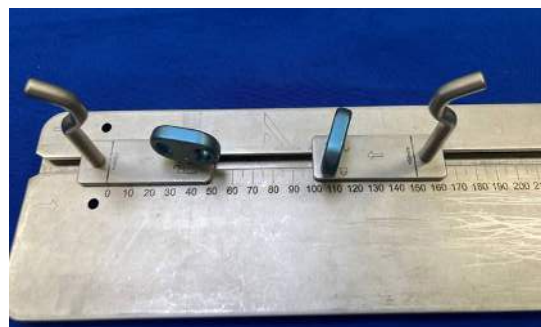


Adjustable support + 50 mm

Match the mark of an adjustable support + 50 mm to the 0 of the graft station.

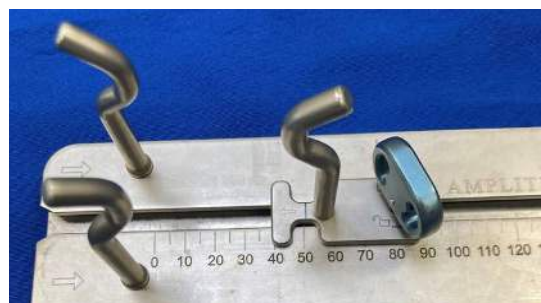
Match the mark of the other adjustable support + 50 mm to the graft length minus 10 mm.

The purpose of this support is to prepare a longer graft.



Fixed support

The fixed supports permit to prepare a graft with two strands





Products availability may vary depending on countries. Please check availability with your local representative.

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