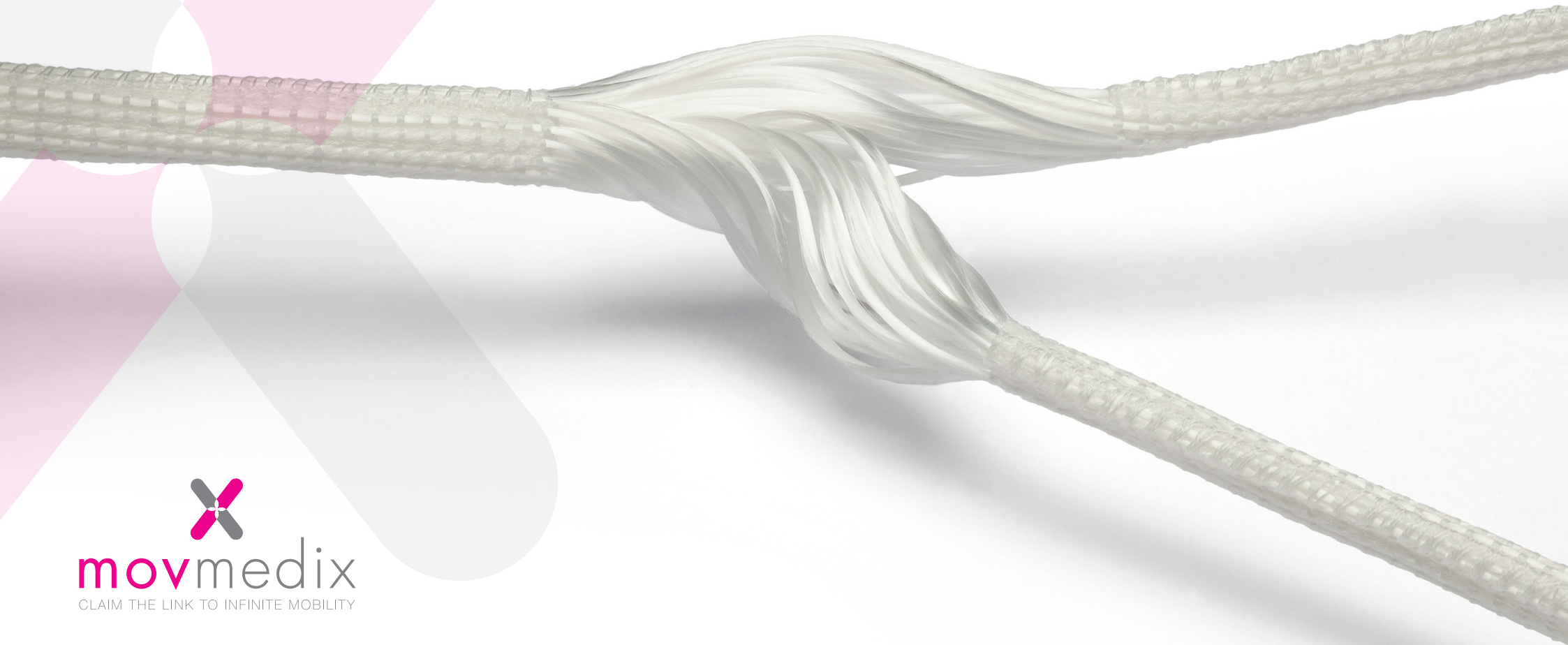


LARS<sup>x</sup><sub>TM</sub>

PLC

Posterolateral Corner Reconstruction  
Surgical Technique







# LARS™ PLC

Stability / Versatility / Recovery

The next generation in soft tissue internal fixation

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## Operative Set-Up

With the patient lying supine and the knee flexed to 90°, a skin incision is made from Gerdy's tubercle to the lateral epicondyle, then in-line with the ITB to approximately 6-8cm proximal to the joint line. The incision may be made in the anterior third of the lateral thigh to allow access to the LCL origin.

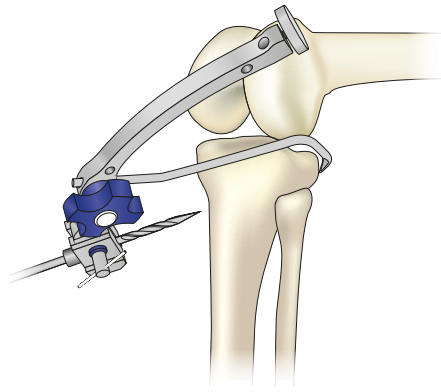
Using blunt dissection, identify the common peroneal nerve to prevent accidental damage:

- Usually 2cm distal to the fibular head, or
- Just posterior to the biceps femoris musculo-tendinous junction.

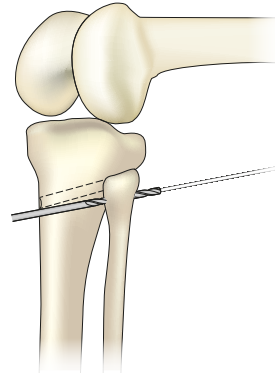
A loop of tape is passed around it to allow continued identification and isolation to avoid to apply traction on the nerve.

The posterior tibia is accessed via the triangle between the biceps femoris tendon, common peroneal nerve, and the lateral head of gastrocnemius. Subperiosteally the lateral head of gastrocnemius and soleus muscles are separated from the posterior tibia, between the posterior head of the fibula and the PCL tibial insertion.

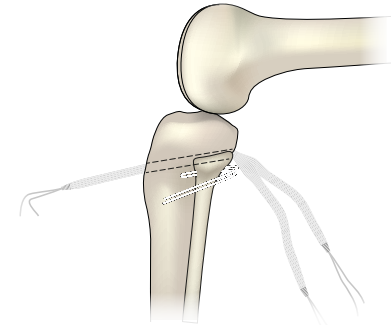
## Surgical Technique Overview



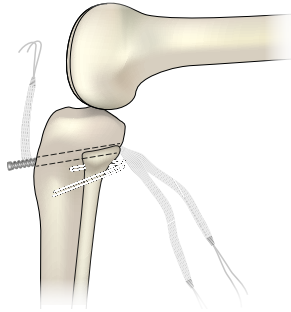
a. Preparation of the tibial tunnel



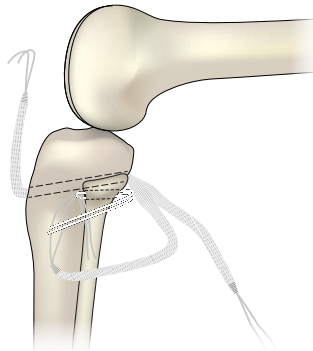
b. Preparation of the fibular tunnel



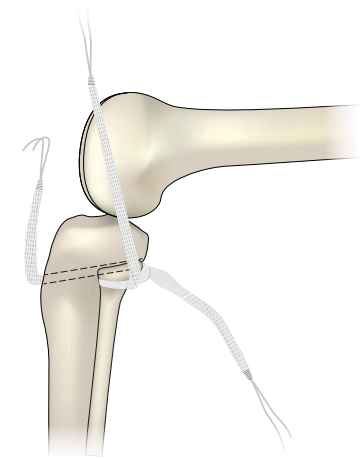
c. Insertion of the LARS™ through the tibial tunnel



d. Fixation of the LARS™ into the tibial tunnel

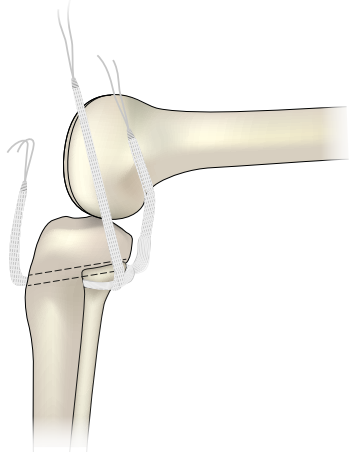


e. Insertion of the LARS™ through the fibular tunnel

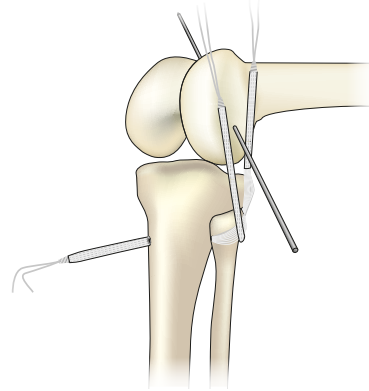


f. Reconstruction of the LCL

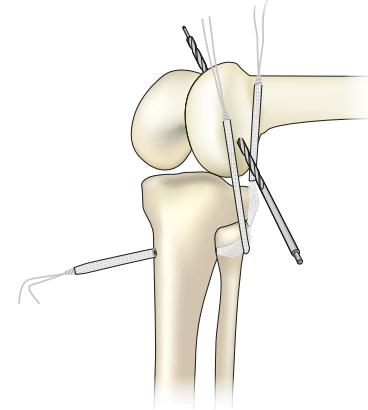
## Surgical Technique Overview



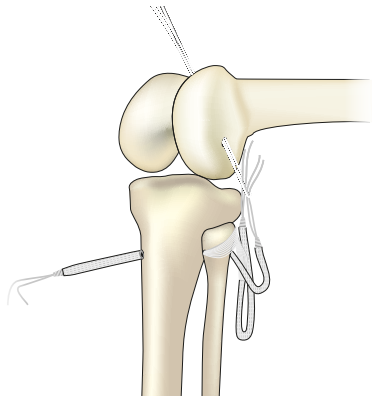
**g.** Reconstruction of the popliteus tendon



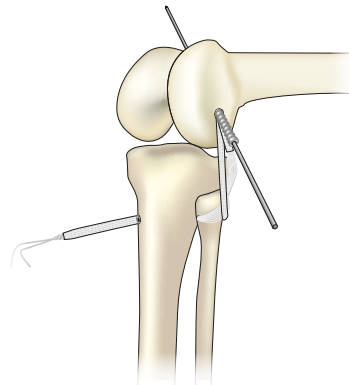
**h.** Identification of the femoral insertion point



**i.** Preparation of the femoral tunnel

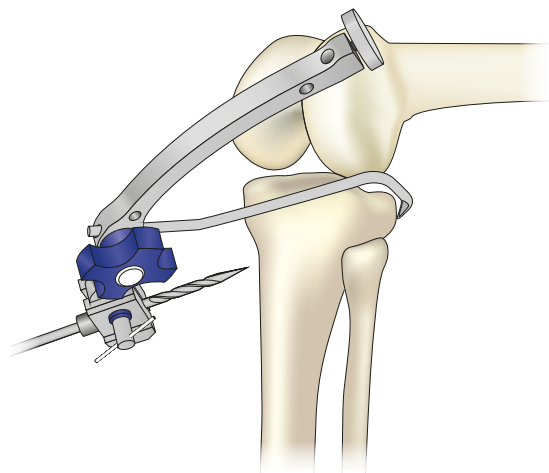


**j.** Insertion of the LARS™ through the femoral tunnel



**k.** Fixation of the LARS™ into the femoral tunnel

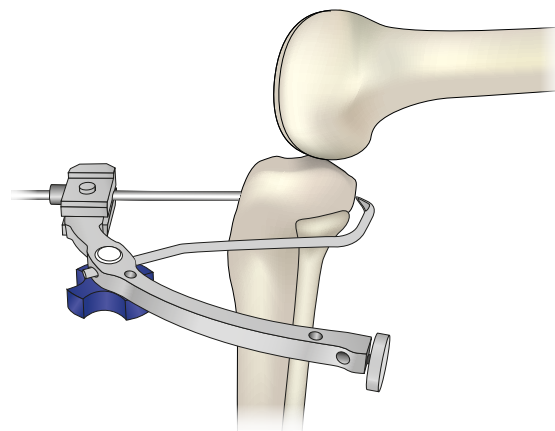
## Surgical Technique



### Step 1. Preparation of the tibial tunnel

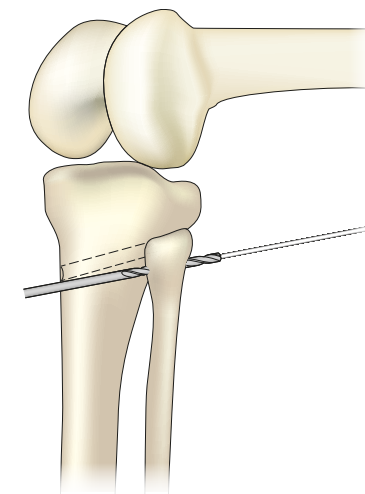
The anterior entry point for the tibial tunnel is located on the medial side of the tibia, distally to the entry point of an ACL reconstruction tibial tunnel. The LARS™ PLC target device is assembled with the flat spade end hook. Before positioning the target device it has to be ensured the sharp tip, 7.5mm drill stops against the hook.

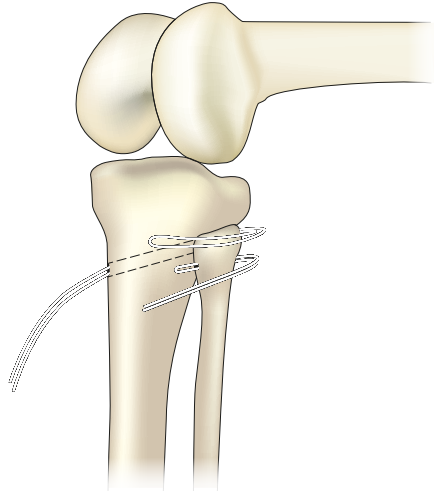
The hook is located 3cm inferiorly to the posterior tibial plateau and 1cm medially to the posterior fibular head. The tibial tunnel is drilled through the drilling guide with the non-cannulated sharp tip 7.5mm drill bit. The drill is removed and the tunnel preparation is completed using the 7.5mm cannulated drill.



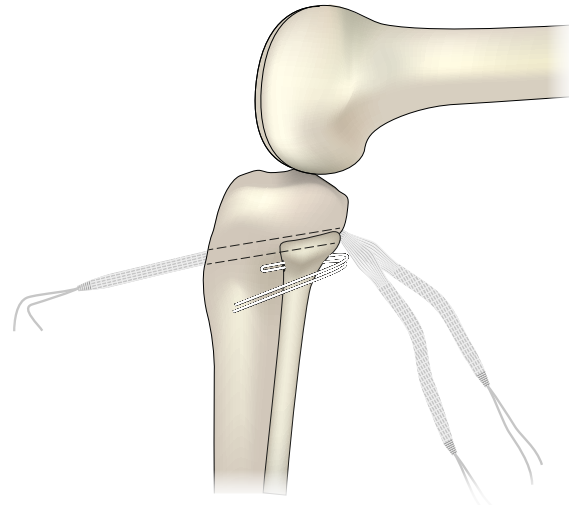
### Step 2. Preparation of the fibular tunnel

A sharp tip K-wire is drilled through the fibula in the widest portion of the fibular head from anterolateral to posteromedial, and exiting at the insertion of the popliteofibular ligament (PFL). The tunnel, of a length of approximately 25mm, is completed by over-drilling with a 5 or 6mm cannulated drill.



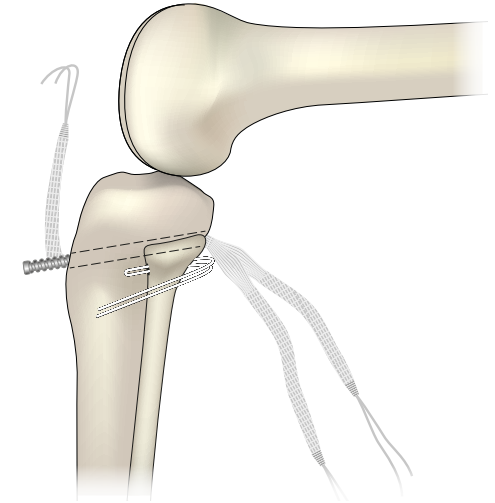


A flexible wire loop is passed through the fibula from anterior to posterior using the curved wire loop passer cannula.  
A second flexible wire loop is pulled back through the fibula so that the looped end exits the anterior fibula by using the first wire loop inserted into the tunnel.



**Step 3.**  
Insertion of the LARS™ through the tibial tunnel

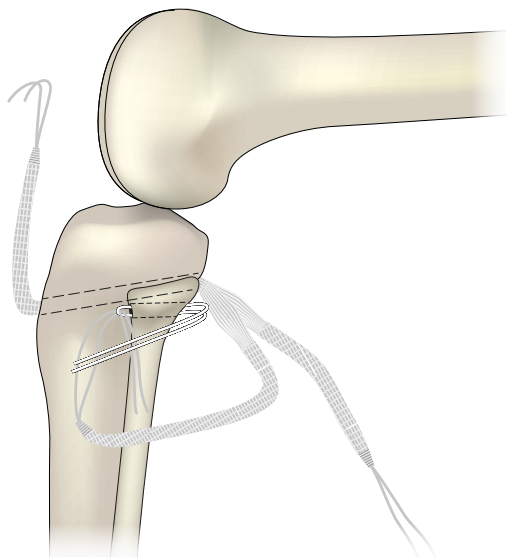
The traction wire of the thicker limb of the LARS™ ligament is passed through the wire loop and pulled through the tibia from posterior to anterior. The free fibre section of the LARS™ may not enter the tibial tunnel to prevent fraying, and 1 or 2 mm of the woven section is placed outside the tunnel.



**Step 4.**  
Fixation of the LARS™ into the tibial tunnel

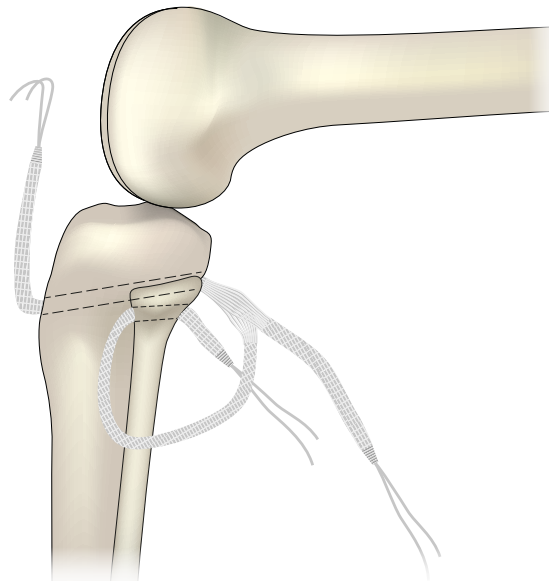
LARS™ is secured into the tunnel using a LARS™ screw inserted anterior to posterior. The screw head may sit flush with the anterior cortex to guarantee cortical fixation.





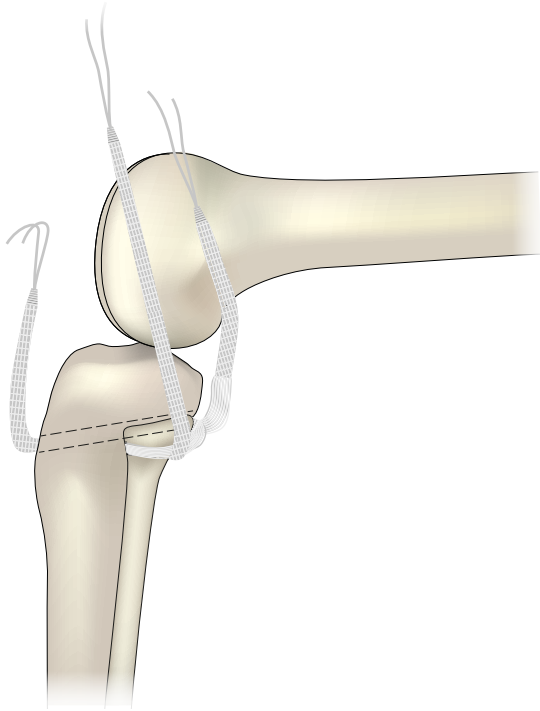
*Step 5.*  
Insertion of the LARS™ through the fibular tunnel

One of the thinner limbs of the LARS™ is brought from the posterior tibia around the lateral side of the fibula, it is pulled back through the fibular tunnel from anterior to posterior using the flexible wire loop which was positioned earlier.



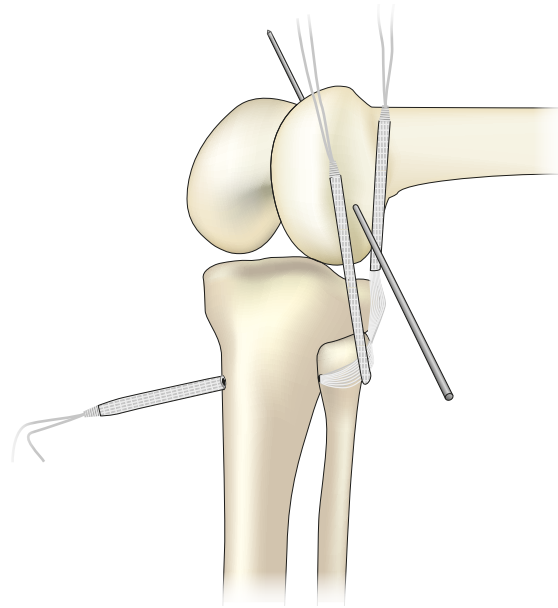
*Step 6.*  
Reconstruction of the LCL

The LARS™ limb is then passed from the posterior fibula, underneath the iliotibial band (ITB) up to the lateral epicondyle.



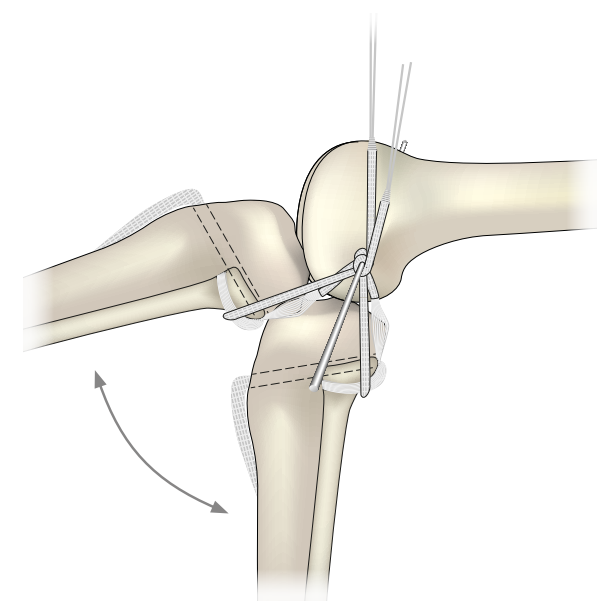
**Step 7.**  
Reconstruction of the popliteus tendon

The second thin LARS™ limb is retrieved from the posterior tibial tunnel exited and passed under the ITB/ musculo-tendinous junction directly up to the lateral epicondyle.

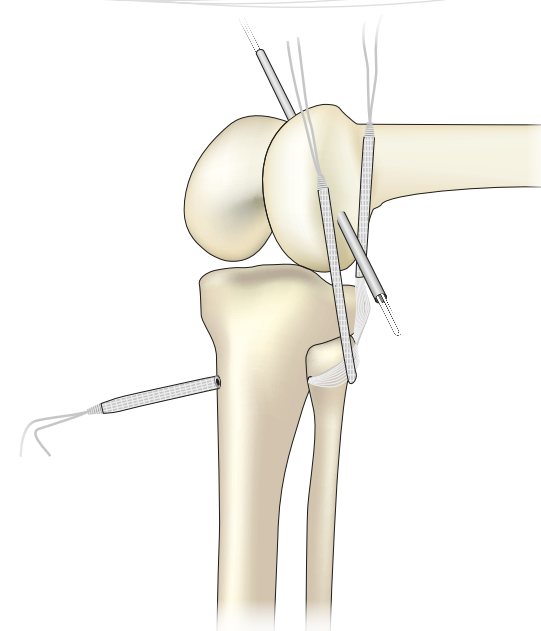
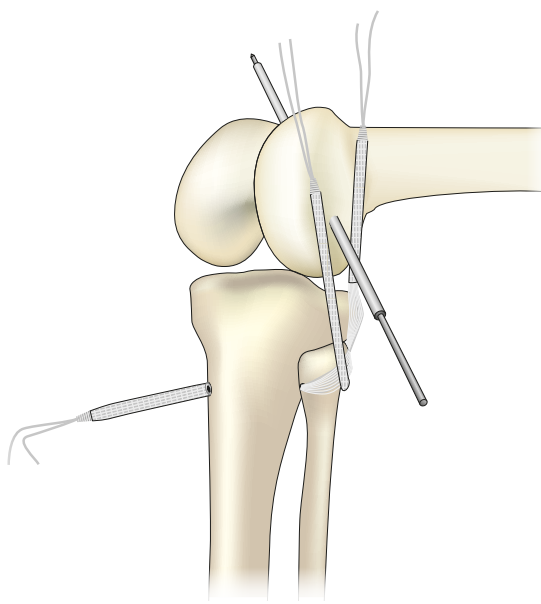
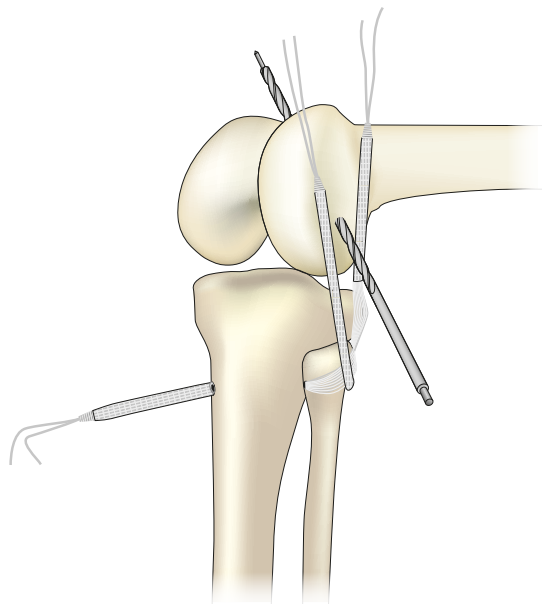


**Step 8.**  
Placement of the femoral tunnel

The insertion point of the femoral tunnel is identified on the lateral epicondyle. The iliotibial band (ITB) is splitted in line with its fibres to expose the lateral epicondyle. A C-arm may be used to identify the femoral tunnel position. A sharp tipped, 2mm K-wire is drilled through the femur, lateral to medial; the drill is entered in the femoral epicondyle, aiming anterior, medial and proximal to reduce the risk of impingement with the trajectory of other tunnels that may be required for reconstructing the ACL, and to prevent from damaging the MCL.



Once the K-wire is correctly positioned, the isometry is checked by wrapping each of the thinner LARS™ limbs over the K-wire and flexing/extending the knee through full RoM. There may be minimal change in tension of the LARS™.



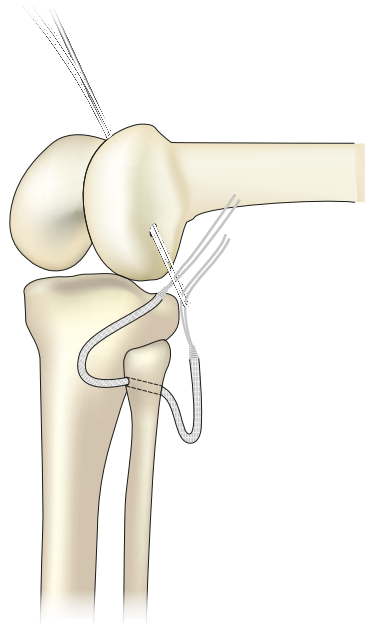
**Step 9.**  
**Preparation of the femoral tunnel**

The preparation of the femoral tunnel is completed by over-drilling with a 7.5mm cannulated drill bit to breach both lateral and medial cortex.

The drill is removed, while the K-wire is left in place, and the long narrow tube is inserted over the K-wire. A flexible wire loop is passed through the tube so that the looped end exits the lateral end of the tunnel.

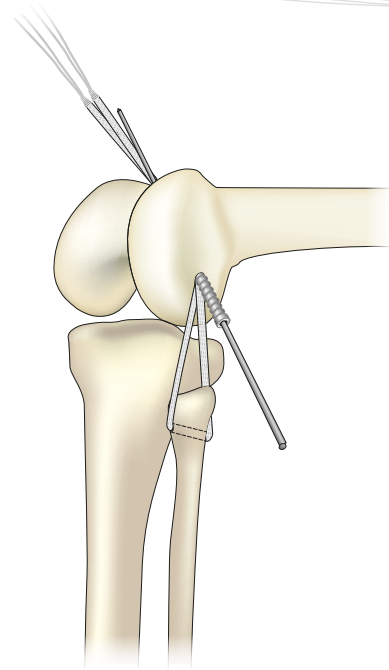
The sharp K-wire is placed with a blunt threaded screw guidewire; the tube is removed, while both the wire loop and guidewire are kept in place. The guidewire may be inserted into the femoral tunnel after the LARS™ implant has been passed through the femur.

## Appendix A: Double-Bundle Technique



### *Step 10.* Insertion of the LARS™ through the femoral tunnel

The traction wire of both free limbs of the LARS™ are inserted in the wire loop and passed through the femoral tunnel by pulling the wire loop, from lateral to medial, while making sure that the screw guidewire remains in place.



### *Step 11.* Fixation of the LARS™ into the femoral tunnel

Each limb of the LARS™ is individually tensioned and the full RoM of the knee is checked. The LARS™ may not be over-tensioned to avoid limiting the RoM. The implant tension is adjusted to mimic the contralateral knee and considering the knee has a degree of natural varus laxity at 30° and 60° of flexion. The knee is positioned in full extension and neutral rotation to secure the limbs of the implant into the femoral tunnel using a LARS™ screw inserted over the blunt guidewire.

### Ordering information

The list of ligaments, fixations and instruments are available in the catalogue VEN/IN.03.



## Notes

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