Surgical Technique : LIGAFIX®

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Clinique de la Sauvegarde (Lyon)

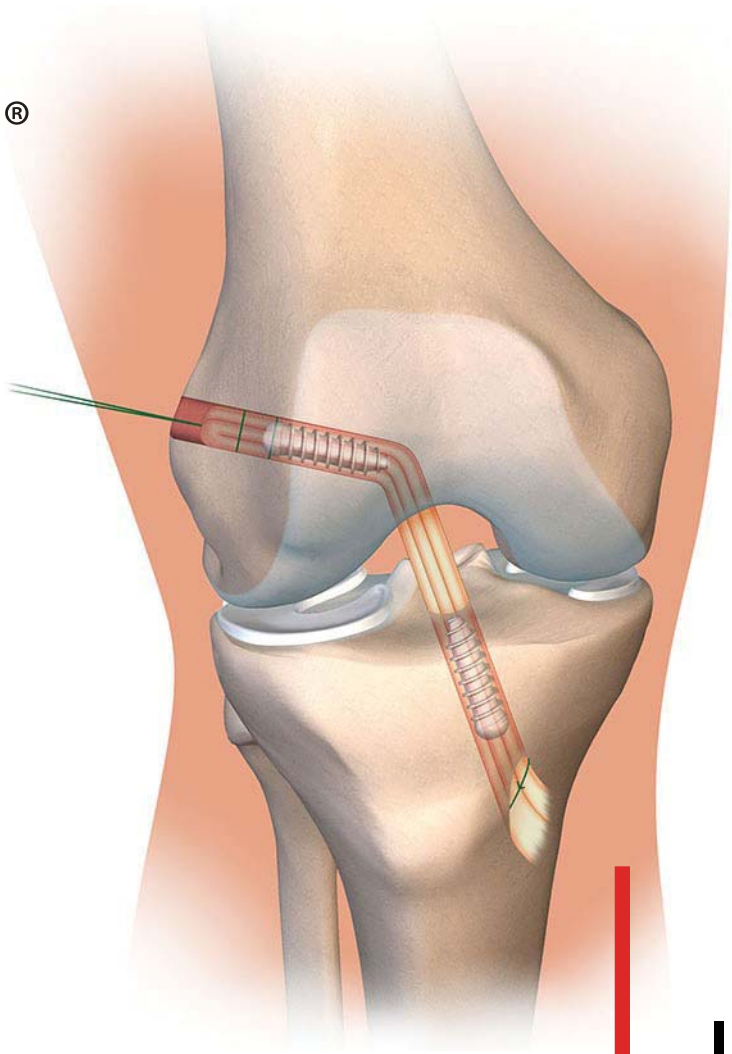
ACL hamstring graft

Open Tunnels

Outside-In

LIGAFIX®

Ø6 to 11mm - Lg 20/35



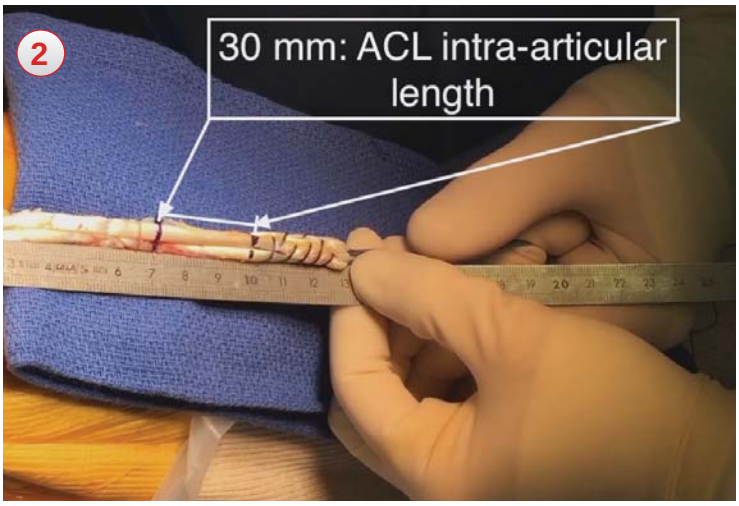
LIGAFIX®

Ø6 to 11mm - Lg 20/35

1- Harvest the tendon

Harvest the graft (semitendinosus and gracilis tendons) with an open stripper by following the usual technique and by preserving the tibial insertion to obtain a pedicle graft; clean the tendons.

2 - Suture and gauge



The STG tendons are folded back to form a four strand graft. Measure the length of the graft with a ruler applied to the bone insertion; Optimal graft length is between 12 and 15 cm depending on the size of the patient.

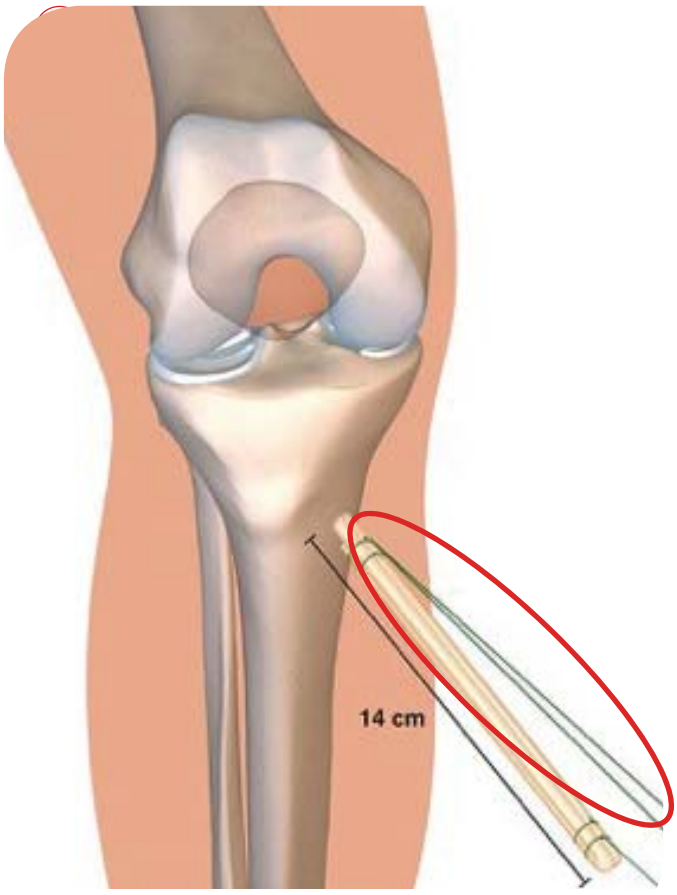
Make a few stitches in the proximal/distal part of the graft with absorbable suture material to give the graft a homogeneous shape.

Stitch up the proximal part of the graft over 3 cm with two caliber 2.0 absorbable sutures that will be used for graft passage and femoral tensioning.

Gauge the graft and use a dermographic pen to make the following marks : a 30 mm intra-articular mark, and 30 mm from each extremity.

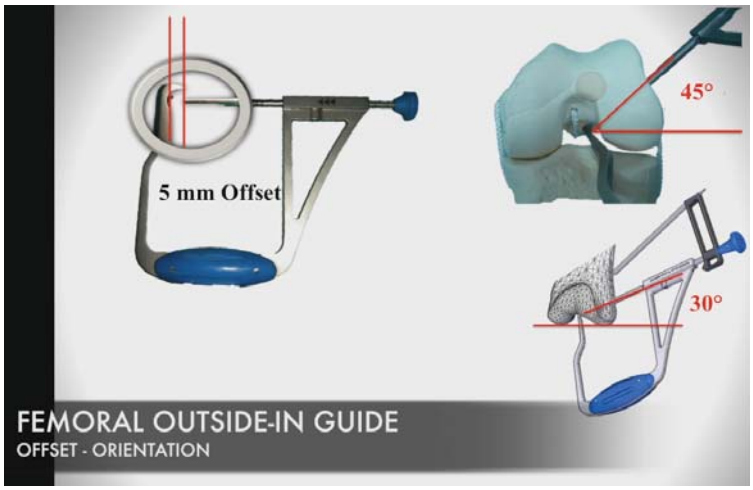
The graft is calibrated after preparation, the size of the tunnels must match the size of the graft.

3 – Place the distal traction thread



Pass an absorbable caliber 2-0 suture close to the distal insertion point to for final tensioning of the graft (this suture will be removed at the end of surgery).

4 – Position the pins



Place the femoral aiming device with the hook on the edge of the lateral condyle in an anatomical position (remaining ACL), with a coronal tilt (theta angle) of 45 degrees, and a 30 degree proximal/ distal angle. Next, stabilize the guide.

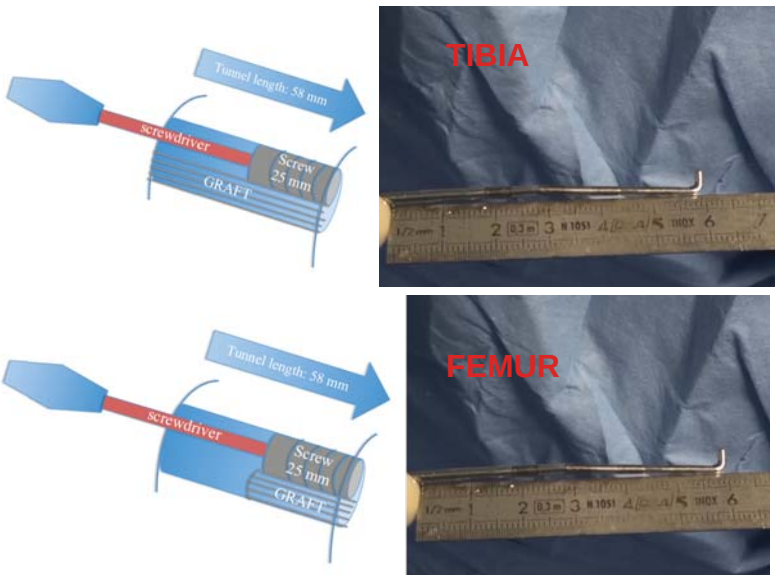
Make a 10-15 mm external incision up to the cortex, this incision is made proximally and anteriorly to the fibular collateral ligament (lateral collateral ligament).

Place the femoral pin.

Place the tibial aiming device at an angle of 55° to 65° so as to position the pin exactly in the middle of the ACL tibial insertion (anatomical).

Extend the knee to check for absence of conflict between the notch and tibial pin.

5 – Drill the tunnels

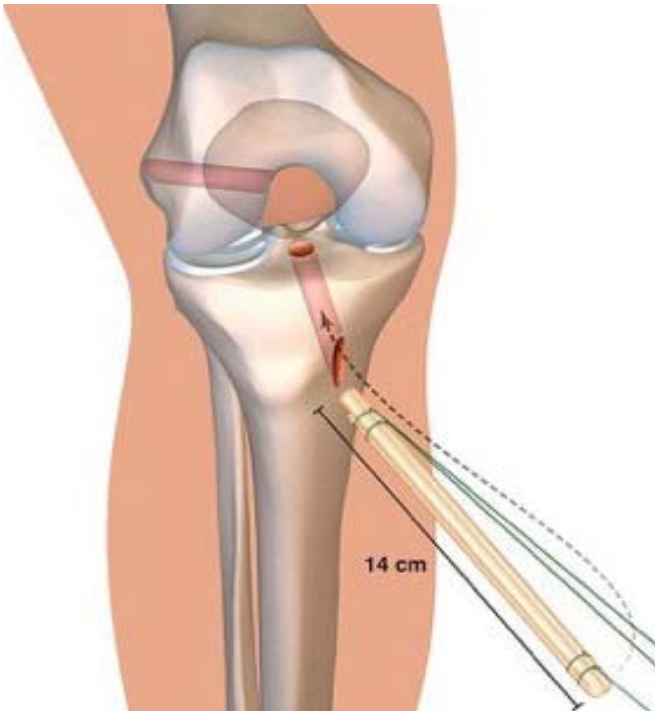


Drill the tibial tunnel at a diameter of 6 mm, reposition the pin for optimized tunnel orientation by fixing the pin in the femur, then drill to a diameter that best fits the graft.

Drill the femoral tunnel at a diameter of 6 mm, reposition the pin for optimized tunnel orientation by holding the pin with Kocher forceps, then drill to a diameter that best fits the graft.

Measure the length of the tibial and femoral tunnels.

7 – Graft passage and tensioning



Pass a shuttle suture through the tunnels then pass the graft, whose final position should correspond to the calibration marks.

Apply tension to the graft.

8 – Femoral fixation

Place a guide pin from the outside-in, in front of the graft, to guide a LIGAFIX® 30 screw, with a diameter equal to that of the tunnel.

Check under arthroscopy that it is properly positioned.

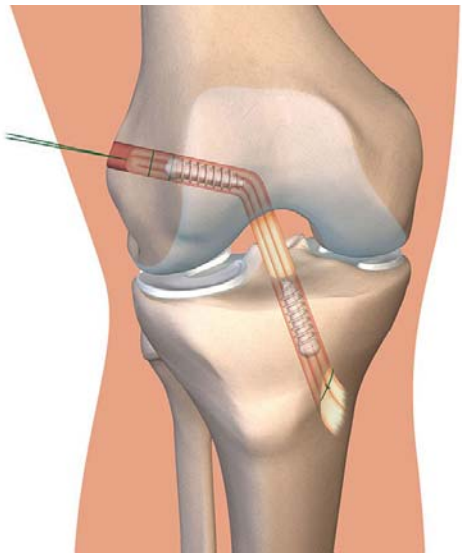
9 – Tibial fixation

Tension the distal traction suture, cycle the graft, and with the knee flexed to 10°, tension the graft by reducing the anterior tibial translation.
Position a guide pin in front of the graft and hold it firmly in place with Kocher forceps placed intra-articularly.

Drive a LIGAFIX® 60 screw with a diameter 1 mm greater than that of the tunnel, by screwing along the axis while maintaining continuous traction on the distal traction suture.

Every screw must be positioned in the tunnel with respect to the measured lengths so that the screw is as close as possible to the intra-articular surface of the tunnels without extending beyond.

10- Final inspection and cutting off the threads



Under arthroscopy, monitor graft tension, and check that the femoral and tibial screws are properly positioned.

Cut off the threads.

Courtesy of Dr. D.DEJOUR

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