



MCL/POL Reconstruction using Infinity-Lock™ 5 Tape Surgical Technique Manual



Introduction

This technique describes a method to stabilise both the superficial Medial Collateral Ligament (sMCL) and the deeper Posterior Oblique Ligament (POL) of the knee. It is used in both isolated MCL rupture and multi-ligament injury cases. Reconstructing the MCL with the **Infinity-Lock™** Tape allows a predictable return to activity¹. In an isolated MCL injury, this technique avoids the need for autograft and associated morbidity. In multi-ligament cases, this method preserves the hamstring tendons typically needed for ACL reconstruction. This technique uses three short 1-2cm incisions, with a single point of fixation on the femur, to minimise wound size.

Xiros would like to thank Mr Bobby Anand, Consultant Orthopaedic Surgeon, Croydon University Hospital, for his work in developing this technique.

Patient Selection

The technique is suitable for acute and chronic MCL rupture cases, including:

- Isolated grade 3 rupture, on the tibial side
- Isolated rupture on the Femoral side with POL or deep MCL (dMCL) involvement
- Multi-ligament injuries
- Isolated grade 3 rupture on the femoral side

Conservative treatment is generally recommended for grade 1 or 2 isolated rupture of the MCL on the femoral side. For grade 3 femoral-side rupture, the choice of conservative treatment or surgery should be considered on an individual case basis.

Cautions

The surgeon is responsible for determining if the patient has any structural or pathological condition of the bone or soft tissue that would be expected to impair healing or prevent secure fixation.

Potential Adverse Effects can include:

- Pain (This may resolve or require removal of an anchor, or an anchor and Tape)

Refer to the [IFU](#) for the full list of contraindications and potential adverse effects for the Infinity-Lock Tapes.

Implants

Supplied by Xiros:

Infinity-Lock™ 5, Order Code: 102-1098

Not supplied by Xiros:

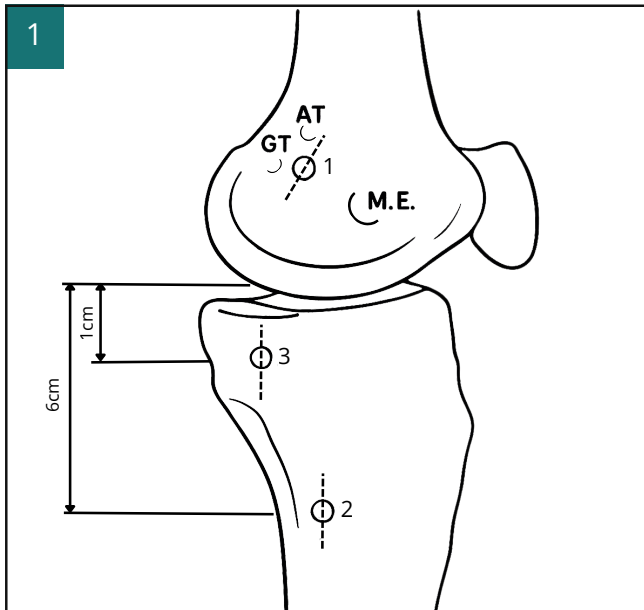
Knotless suture anchors with eyelet 25mm or 30mm length

Instrumentation

Not supplied by Xiros

- Basic orthopaedic set
- Power tool
- Guidewires (3)
- 4.5 mm cannulated drill
- Sutures for shuttling Tape

Surgical Technique



Preparation

Position the patient supine with the knee bent to 90 degrees.

Identify and mark key landmarks and the position of three small 1-2cm incisions (Figures 1.1, 1.2 and 1.3). The first, femoral, incision is at the medial epicondyle to the joint line. The second incision, for the superficial MCL (sMCL), is over the pes anserine bursa, approximately 6cm down from the joint line in the typical patient. This should be verified at the time of surgery and checked for isometry.

3rd incision: The landmark for the POL reconstruction is 1cm from the joint line and 1cm anterior from the back of the tibia

Figure 1: Medial side of the knee showing incisions and graft attachment points

(1) femoral attachment,

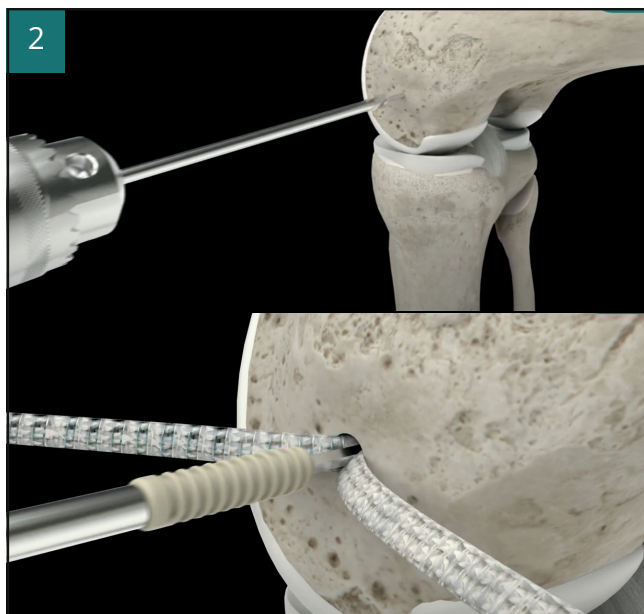
(2) sMCL insertion and

(3) POL insertion.

AT: Adductor Tubercle,

GT: Gastrocnemius Tubercle,

ME: Medial Epicondyle.



Femoral attachment

Make the 1-2cm femoral incision and dissect between layers 2 and 3, identify the medial epicondyle and the adductor tubercle (AT). The position for the 4.75 mm anchor is slightly proximal and posterior to the ME. Insert a guidewire at this point, 40-50mm deep.

Check that this is the correct point and over-drill using a 4.5 mm cannulated drill to 25-30mm deep for the anchor.

Unloop the Infinity-Lock 5 Tape and pass it through the eye of the anchor fixation device to the mid-point of the tape. Insert the 4.75 mm anchor into the bone, keeping some tension on the tape while driving the anchor home. Check that the anchor is well-fixed in place.

Wrap the Infinity-Lock 5 Tape in Vancomycin gauze to minimise skin contact while the rest of the procedure is carried out.

Surgical Technique



Prepare superficial MCL

Fix the sMCL before going on the POL. Make a 2cm incision, feeling down on to the bone.

Use forceps to develop a path between layers 2 and 3 from the femoral incision to the tibial incision, in order to shuttle one arm of the Infinity-Lock Tape through. It is important to get into the correct layer. This may require a little bit of force to penetrate to the tibial incision. With the forceps, pull a shuttling suture along the path, and with the suture, pass one arm of the Infinity-Lock Tape to the tibial incision.

Figure: Shuttle suture in place between tibial and femoral incisions, prior to shuttling one arm of the tape through the passage between layers 2 and 3



Fix the sMCL graft

Identify the fixation point, approximately 6cm from the joint line, over the sMCL at the pes bursa. Drill a guidewire 40-50mm into the bone at this point. It is important to check for isometry or near-isometry at this point. The graft can sometimes be slightly tighter in end extension (which is acceptable), but should not feel over-constrained in flexion. To check, wrap the graft around the guidewire and take the knee through a full range of motion and feel for any movement of the graft. The tension should remain the same from full extension through flexion.

Over-drill to 25-30 mm deep with the 4.5 mm cannulated drill. Mark the Tape where it reaches the guidewire for correct tension, then thread the Tape through the anchor, allowing for the depth of the anchor, so that the marked point on the graft is at the surface after fixing the anchor. At 30° of extension, insert the anchor. Remove any sutures and check that the fixation is solid.

Once in place, check the range of motion again before cutting the free end of the tape flush to the bone.

Surgical Technique



5

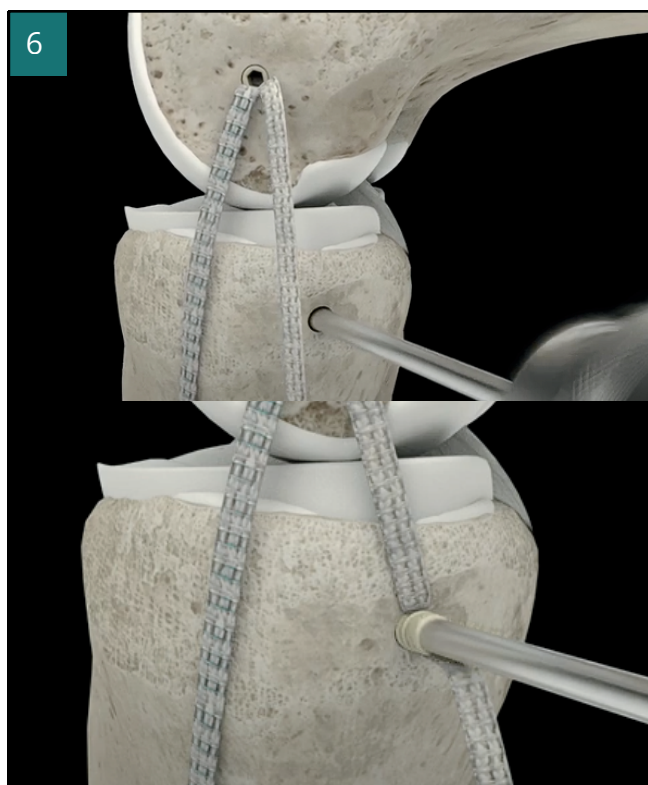
Prepare the POL

Confirm the insertion point for the POL, feeling for the landmarks and making sure to be at least 1cm from the joint line.

It is crucial to drill at the correct angle. Lift the hand slightly to ensure that you don't drill into the joint and bring the drill slightly posterior so as not to drill in too posterior a direction. Once you have made sure that the positioning is safe, drill a guidewire to 40-50 mm depth.

Using forceps, develop a passage between tissue layers 2 and 3, from the femoral incision to the tibial insertion. Shuttle the graft through the passage using the same method as before.

Now test the isometry for this arm. Wrap the graft around the guidewire and take the knee through a full range of motion and feel for any movement of the graft. The tension should remain the same from full extension through flexion.



6

POL fixation and check

Once you are confident that the isometry is correct, over-drill to 25-30 mm deep with the 4.5 mm cannulated drill. Mark the Tape insertion point as before and thread it through the anchor, again allowing for the depth of the anchor such that the marked point on the graft is at the surface after fixing. With the knee in 90° of flexion, fix the anchor in place and check the fixation is solid.

Make a final confirmatory test of stability and ROM. Once satisfied, cut the Tape tail flush and close the wounds.

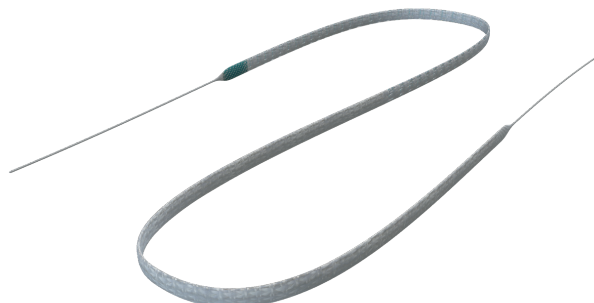
Post-operative Management

Post-surgery bracing is not needed. If bracing is opted for, it is recommended for a brief period of two weeks with restricted movement (0-60°) followed by resumption of a full range of movement.

Ordering Information

Implant

102-1098 Infinity-Lock™ 5 (5 x 400 mm)



References

1. Anand B. "Outcomes at 2–6 years of MCL reconstruction in isolated and multiple ligament knee injuries using the Infinity-Lock 5 mm synthetic tape." Presented at: BOSTAA 2024; 2024 Nov; London, UK.

Please refer to the Instructions for Use leaflet for essential information, including Use, Sterility, Indications, Contraindications, Warnings and Precautions, Potential Adverse Effects



Developed and manufactured by [Xiros™ Ltd](#)

Springfield House

Whitehouse Lane

Yeadon

Leeds LS19 7UE

UK

Tel. +44 (0) 113 238 7202

Fax. +44 (0) 113 238 7201

enquiries@xiros.co.uk

www.xiros.co.uk

Xiros Limited, Registered in England No.

1664824.

All rights reserved. © Xiros™ 2025.

Worldwide patents and patents pending.

Infinity-Lock and Xiros are trademarks of Xiros.

The information in this document is for educational purposes only. It is not intended to serve as comprehensive medical advice or a full description of the procedure. It is the responsibility of the operating surgeon to determine and utilise the appropriate products and techniques in accordance with their clinical experience and evaluation of each patient. Review and understand all product and safety information including indications for use, contraindications, effects, precautions and warnings.