Infinity-Lock™ 5 mm Medial Collateral Ligament (MCL) Reconstruction

Case Report: Consultant Orthopaedic Surgeon, UK

Case Introduction

Patient was a 40-year-old male engineer who was involved in an industrial accident and sustained an injury to his left knee in June 2020. Patient was initially treated conservatively in a hinged knee brace for eight weeks but went on to have recurrent symptomatic valgus instability of the knee. MRI scan showed disruption of both the superficial and deep MCL with a vertical peripheral tear in the posterior third of the medial meniscus (see Figure 1).

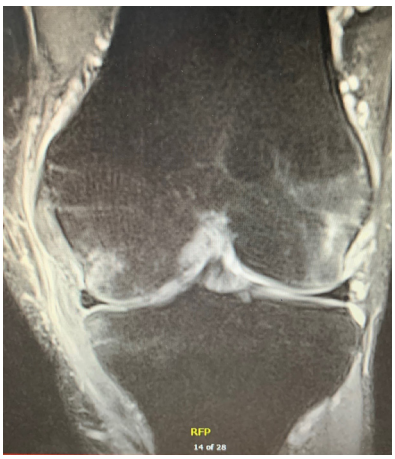

Figure 1 - T2 coronal MRI

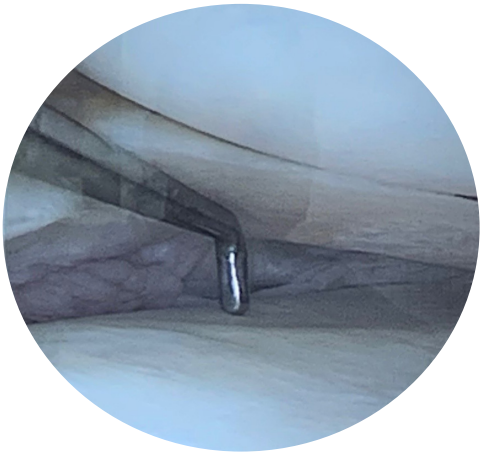

Figure 2 - Arthroscopic posteromedial drive through sign

Surgical Technique

Arthroscopy confirmed a posteromedial drive-through sign (see Figure 2). Examination under anaesthetic revealed grade 2 opening of the MCL in full extension and 10° flexion with anteromedial rotatory instability. Cruciate ligament intact. The medial meniscus was repaired arthroscopically with an all-inside meniscal suture device. An open plication and reconstruction were performed through a 10 cm medial incision between the medial epicondyle of the femur proximally to the insertion of the superficial MCL distally. The plication and advancement were performed using interrupted #2 Ethibond.

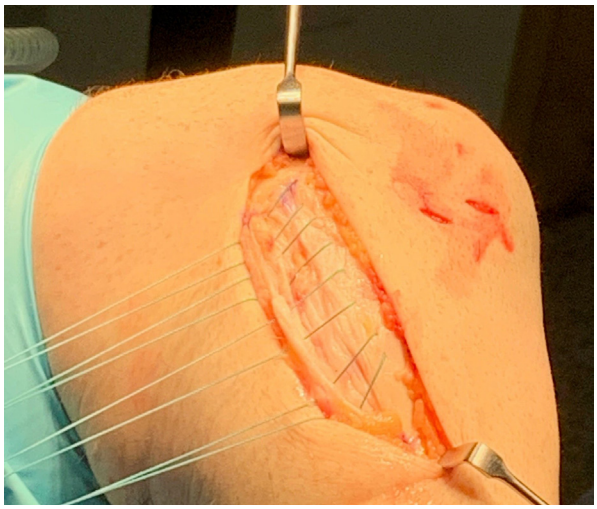

Figure 3 - Plication of MCL with #2 Ethibond suture

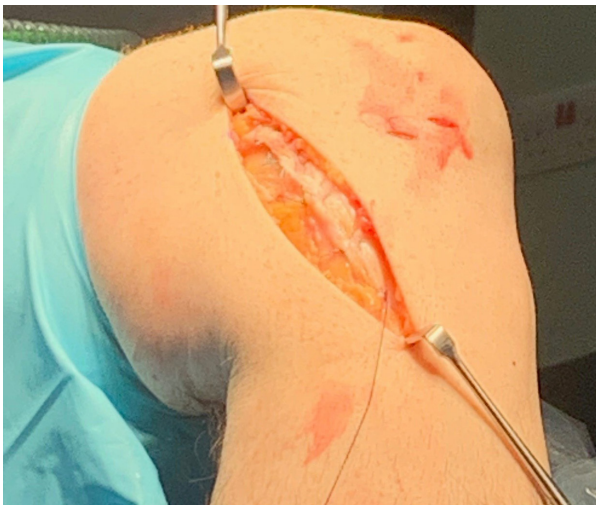

Figure 4 - Plication complete

The **Infinity-Lock** 5 mm was doubled over and the open weave end loop fixed to the anteromedial tibial face, at the insertion point of the superficial MCL with a 6 mm bone staple (see Figure 5).

A 6 mm tunnel was drilled at the femoral insertion of the MCL, at the medial epicondyle of the femur at the origin of the MCL. (*Note X-ray guidance can be used if preferred)*

Surgical Technique continued

The **Infinity-Lock** 5 mm was pulled through the femur with a passing suture to overlay the initial plication (see Figure 6).

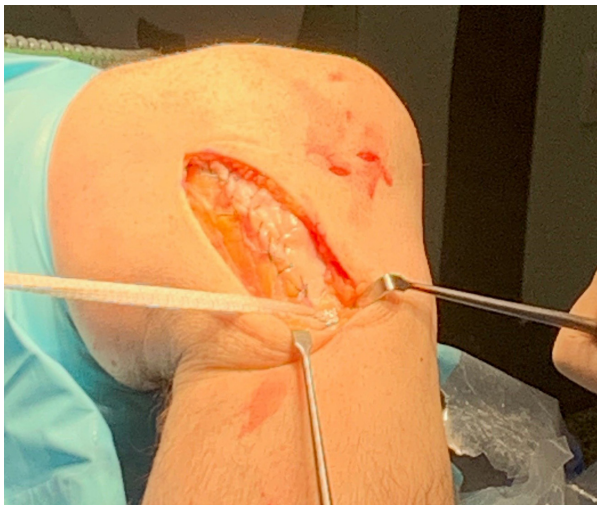

Figure 5 - **Infinity-Lock** 5 mm fixed to tibia with staple

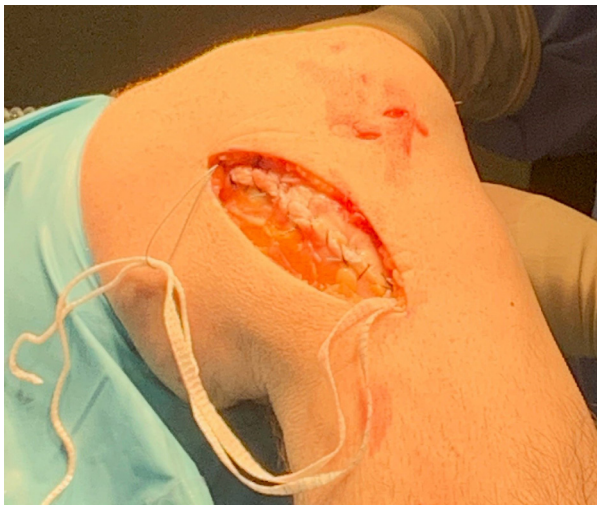

Figure 6 - Corded ends pulled through femur with passing suture

The **Infinity-Lock** 5 mm was tensioned with the knee in 30° flexion and neutral rotation and fixed in the femoral socket with a 7 mm x 25 mm PEEK Interference screw (see Figure 7).

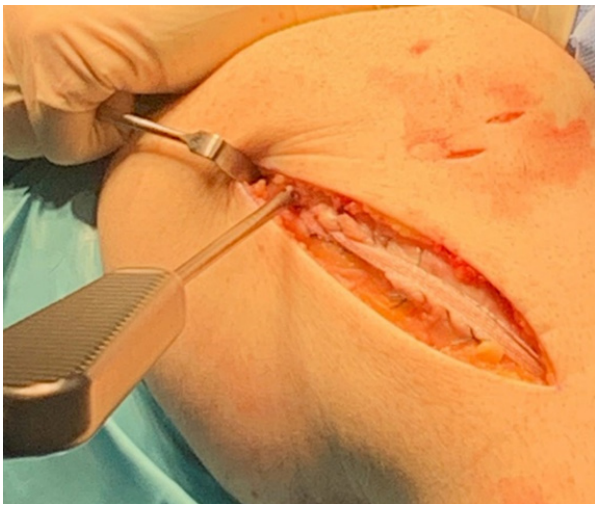

Figure 7 - Femoral screw insertion and fixation

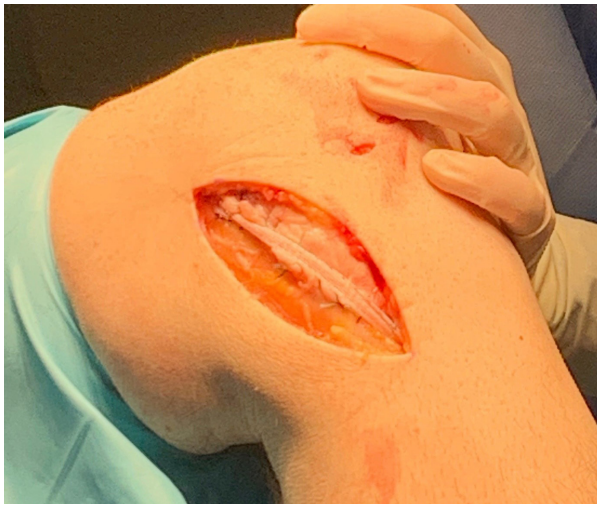

Figure 8 - **Infinity-Lock** 5 mm MCL reconstruction complete

Rehabilitation

Partial weight-bearing was advised for one week using crutches and patient was given a hinged knee brace 0 to 90° for six weeks and physiotherapy was arranged.

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