

# Knee Multi-Ligament Reconstruction

## Introduction

There are a number of ligaments that help provide stability to the knee.

The collateral ligaments provide stability by preventing the knee from bending sideways. These are the medial collateral ligament on the inner border of the knee and the lateral collateral ligament on the outer border and both are described as extra-articular as they lie outside the joint surfaces.

The anterior cruciate ligament (ACL) and the posterior cruciate ligament (PCL) are two ligaments that cross over each other within the joint surfaces (intra-articular) and provide stability by preventing the tibia from sliding too far forwards or backwards in relation to the femur.

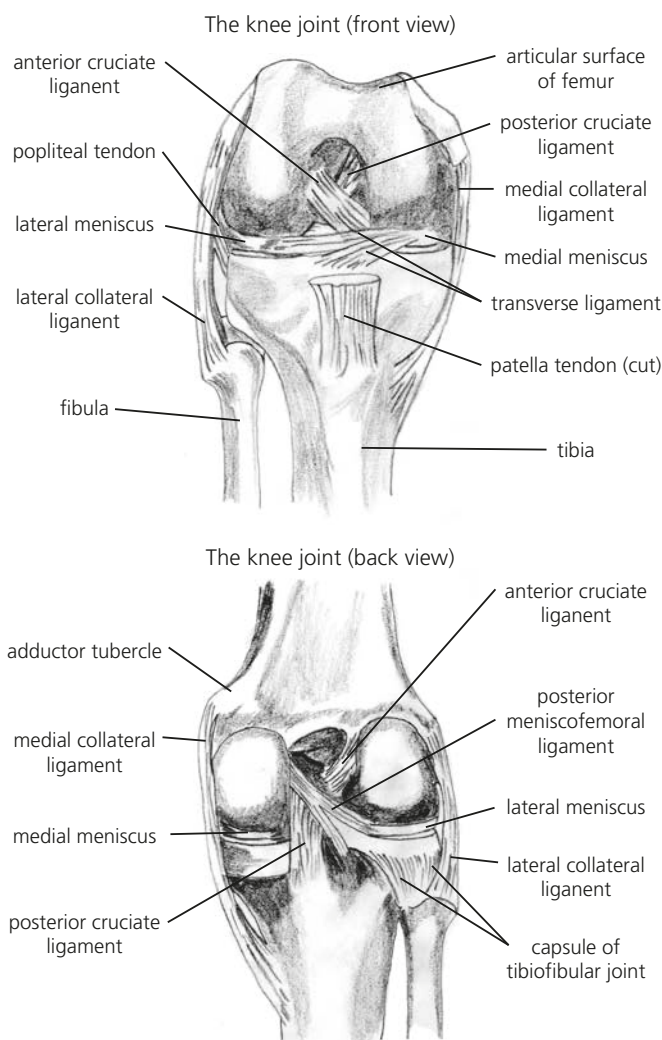
A multi-ligament injury to the knee may occur with a high velocity impact or torsional load to the leg, typically during rugby, football or skiing.

The ligaments need to be repaired / reconstructed to return stability to the knee. This is normally done in two stages.

## 1st stage – Collateral ligament repairs

The medial collateral and/or the lateral collateral ligaments are repaired first as these are extra-articular and can be accessed to provide initial stability and to allow healing to commence whilst the rest of the knee calms down and swelling reduces.

A period of approximately 8 weeks is allowed to regain 0-120° range of movement and to improve muscle action around the knee. **It is vital that this range of movement is achieved, otherwise the 2nd stage of the reconstruction can not proceed.**



## 2nd stage - Anterior cruciate ligament and/or - Posterior cruciate ligament

This second operation is normally done by keyhole surgery under a general anaesthetic with a nerve block. A number of small incisions are made around the knee to allow access. Remnants of the damaged ACL and/or PCL are trimmed. A new ligament is then created by harvesting tendon from your hamstring muscles which is formed into a strong graft and secured in place of the damaged ligaments.

### Possible complications

- **Failure** – The graft may fail or rupture. However, the operation has a 95% chance of success.
- **Infection** – Less than 1% risk of infection, which would normally respond to antibiotics.
- **Thrombosis** – All operations carry the risk of thrombosis (blood clots). Please advise your surgeon if you have ever had blood clots before or are on medication which puts you at risk. Should your calf become very swollen or painful, or you become breathless, then please contact the hospital immediately or attend the emergency department.
- **Pain** – Most post-operative pain settles within 2-3 days and continues to improve over a few weeks and should be controlled with simple analgesics.

### Rehabilitation

Each operation may be slightly different, so it is important to follow your surgeon's instructions should they be different from the guidelines below regarding the use of a brace and how much weight to put through your leg.

The guidelines are split into 1st and 2nd stage operations.

YOUR SPECIFIC INSTRUCTIONS ARE:- .....

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### 1st stage – extra-articular – collateral ligaments

#### Precautions

- No driving

#### Weight Bearing

- Partial weight bearing (up to 50% of your weight) for 3 weeks using 2 x elbow crutches
- Then full weight bearing as able

#### Bracing

- You will be fitted with a brace which should remain on at all times except for when working on knee range of movement exercise and for personal hygiene
- Brace locked in extension x 2 weeks
- Then a COMBINED INSTABILITY BRACE at 2 weeks ....0-90°

#### Monitor

- For signs of infection (increased swelling, temperature or redness)
- Calf swelling and tenderness, reduced knee extension, catching, locking, increased swelling after activity/therapy

#### Immediate post-op exercise

These will be taught to you by a physiotherapist prior to your discharge home from hospital

- Static quads
- Straight leg raise

- Patella mobilisations
- Ankle range of movement

## Exercise Phase from week 2

- Static quads
- Straight leg raise
- Passive range of movement – **to regain 0-120° by week 8 for 2nd stage to proceed**
- Active/assisted flexion - extension slides

## 2nd stage – Intra-articular – Cruciate Ligament Reconstruction

- **If both cruciates then rehabilitate as follows**
- **If ACL only or PCL only then follow your physiotherapist's advice**

### Precautions

- **NO OPEN CHAIN QUADRICEPS OR HAMSTRINGS EXERCISES UNTIL 3 MONTHS**
- No driving until 6 weeks

### Weight Bearing

- Partial weight bearing (up to 50% of your weight) for 3 weeks using 2 x elbow crutches
- Then full weight bearing as able (aim FWB by 6 weeks)

### Bracing

- You will be fitted with a brace which should remain on at all times except for when working on knee range of movement exercise or for personal hygiene.
- Brace locked in extension x 2 weeks
- Your physiotherapist will adjust your brace in accordance with your surgeon's instructions :-

- Then hinged brace at 2 weeks ..... 0-30°
- 4 weeks ..... 0-60°
- 6 weeks ..... 0-90°
- 8 weeks ..... wean off brace completely

### Monitor

- For signs of infection (increased swelling, temperature or redness)
- Calf swelling and tenderness, reduced knee extension, feeling of instability, catching, locking, increased swelling after activity/therapy.

### Immediate post-op exercise

These will be taught to you by a physiotherapist prior to your discharge home from hospital

- Static quads
- Elevation
- Patella mobilisations
- Ankle range of movement

You should have regular pain control as arranged by your surgeon or G.P. Please rest with your leg elevated and your knee supported. An ice pack may be used to help control swelling.

You will be referred to your local physiotherapy services to progress your exercise programme and rehabilitation.

The Trust cannot accept any responsibility for the accuracy of the information given if the leaflet is not used by RD&E staff undertaking procedures at the RD&E hospitals.

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