

POSTERIOR CRUCIATE LIGAMENT

INTRODUCTION

There are four major ligaments in the knee. Two of them (the collateral ligaments) are situated on either side of the knee just beneath the skin. The two cruciate ligaments are situated inside the knee. The one in front is called the anterior cruciate ligament (ACL) and the one at the back the posterior cruciate ligament (PCL).

The PCL is the strongest ligament in your knee. The primary function of this ligament is to prevent the lower leg moving backwards in relation to the upper leg, especially in the flexed position.

The instability due to a torn PCL usually does not cause severe functional restrictions. There are sport stars competing at international level with a torn PCL. The long-term effect of this instability remains unclear. It does however lead to abnormal loads on the knee, mainly affecting the inner half of the knee and the joint behind the kneecap. In cases where the instability is severe or if it is combined with other ligament injuries we will consider doing a reconstruction of the ligament.

Reconstruction of the PCL is generally slightly less successful than that of an ACL. Even in a successful reconstruction there is usually still some residual laxity. This residual laxity is especially noticeable with the knee in a flexed position.

PRE-OPERATIVELY

As with all surgery there is a small possibility of complications. Potential problems include infection, thrombosis and damage to a blood vessel or nerve. Loss of range of motion and some residual laxity are also possible.

THE OPERATION

We may use your own tissue (quadriceps tendon, patella tendon or hamstring) or donor tendon (so-called allograft) to reconstruct the ligament. The major part of the operation is done with the aid of an arthroscope, resulting in minimal damage to surrounding tissue. The knee will be in a brace post-operatively. Hospital stay is approximately 2 days. Depending on the nature of your job, you can expect to be off work for between 2 - 6 weeks. Your first follow-up visit should be approximately 4 weeks after surgery.

REHABILITATION

It is important to understand that both healing and rehabilitation have to occur in the post-operative period. We believe that healing of the reconstructed ligament takes precedence and that intensive rehabilitation should not commence before 3 to 4 months after the surgery. Guidelines concerning post-operative management and rehabilitation will be provided by both ourselves and the physiotherapist. It is important that you follow this carefully.

THE REHABILITATION PROGRAMME CONSISTS OF 4 PHASES

Phase 1 (0 - 6 weeks postoperative)

The ligament is busy healing. The knee is kept in a brace limiting knee flexion. You can walk bearing full weight on the leg. Once a day while lying prone the knee is passively flexed to 110°. The principle is to passively flex your knee without contracting your hamstring muscles. The hamstring muscles put excessive stress on the freshly repaired ligament and might damage it. For this exercise you need help from someone. Lie on your stomach with the operated leg flat on the bed. Ask your assistant to slowly bend your knee with the one hand while pushing down on the calf just below the knee joint with the other hand. Repeat the exercise 10 times. Isometric quadriceps exercises are also of the utmost importance at this stage.



Phase 2 (6 - 14 weeks postoperative)

The ligament is healed but not strong. The brace is removed and intensive quadriceps and calf muscle rehabilitation exercises are started. Knee flexion is still passive and no hamstring exercises are allowed. You can swim and do some gym exercises.

Phase 3 (14 - 28 weeks postoperative)

Continue with the rehabilitation. A lot of attention should still be paid to quadriceps strengthening, but progressive hamstring strengthening commences. Start agility exercises at approximately 22 weeks.

Phase 4 (After 28 weeks)

Depending on muscle strength and agility you can start with your chosen sport. Healing of ligaments is a slow process and it takes at least 18 months. You can expect progressive improvement in your knee function and general playing ability for at least 18 months after the operation.