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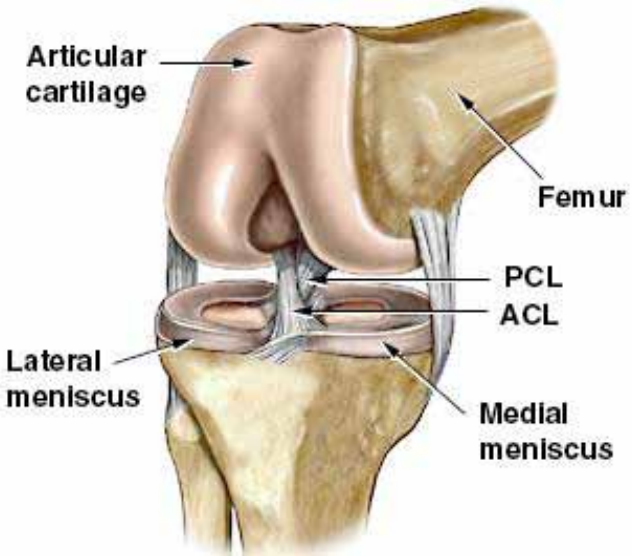
ORTHOSPORTS

ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

The anterior cruciate ligament is one of the major stabilising ligaments in the knee. When it is torn the knee often becomes unstable because the ligament does not heal. The knee gives way more often over time and the other structures around the knee stretch out. Since the knee 'dislocates' when the ligament ruptures there is often damage to other structures in the knee (such as bone, joint lining cartilage or meniscus) at the same time. These may also need to be addressed at the time of surgery.



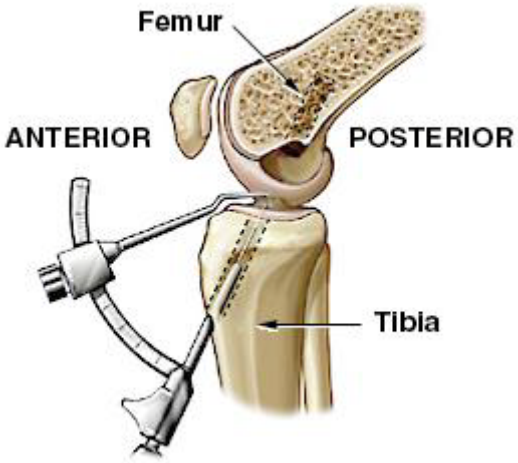
While **it is generally recommended that you have surgery if you wish to get back to sports which involve running and pivoting**, it is not absolutely necessary to have this ligament reconstructed. There is some evidence to indicate that going through life without this ligament may lead to arthritis of the knee. Occasionally knees can be unstable during activities of daily living and it is recommended to have surgery if this is the case. **Ongoing instability or abnormal movement in the knee can cause more damage within the knee leading to further meniscal tears and arthritis in the long term.**

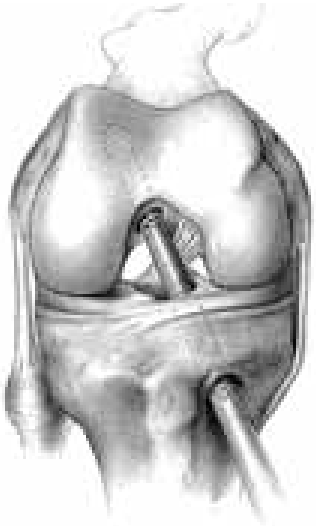
If you do not elect to have surgery it is strongly advised that you give up sports which involve side stepping or pivoting. **In general this surgery is very successful and while it does not give you a normal knee, it does stop the knee from repetitively dislocating and makes it feel stable.**

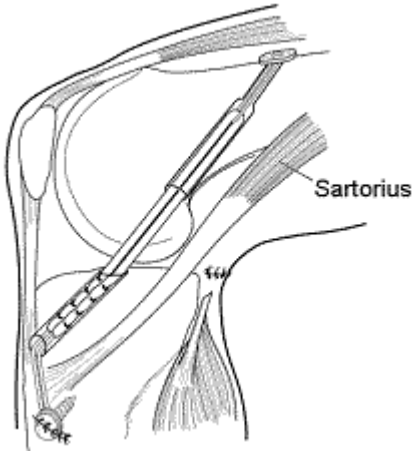
SURGERY

The operation involves replacing the torn cruciate ligament with either the hamstring tendons or patella tendon from the same leg. The graft choice is made on a patient by patient basis.

Usually the surgery involves taking the hamstring tendons through a small incision just below the knee and fashioning them into a graft which takes the place of the cruciate ligament. Tunnels are then drilled through the tibia and femur (the two bones making up the knee joint) and the graft is passed through this tunnel. The graft is then fixed at each end to allow it to heal to the bone.
The surgery is done with the aid of a fiberoptic camera using a few small incisions. Any other problems such as meniscal tears or damage to the joint lining are dealt with at the same time and rarely require a second or third larger incision to be made.







Following the surgery you will have a drain in the knee, which is removed the next day. Crutches are used until adequate muscle control is achieved (this varies from a few days to a few weeks). Most patients go home the day following surgery and start exercises to bend the knee immediately. A physiotherapist will ensure that you are safe on your crutches prior to your discharge from the hospital.

POST OPERATIVE

After the surgery I will see you and discuss the operation with you. On discharge from hospital you will be given pain killers which I would encourage you to use. Should you require extra tablets, either let my office know, or see your family doctor. You will have a "see through" dressing over the wound made out of a substance called "duoderm". This is a waterproof dressing that allows you to shower without compromising the sterility of the wound. You will notice under the dressing there will be a white material that looks like pus. This is the perspiration of your skin reacting with the medication in the dressing and is nothing to worry about. The dressing should not be changed and you should wear

the compressive wrap at all times to help reduce the swelling. You may shower but should not bath or swim until I say that you can. For the first 3-7 days ice packs should be used as much as possible to reduce swelling (for about 30 minutes each time). You can walk around but should rest as much as possible for the first week or two. Elevate your leg when sitting.

When I see you in the office about 10 days after the surgery I will remove the stitches and fully explain the surgery to you with the aid of a model and/or pictures taken during the surgery.

When to contact me before I have removed your stitches:

- Fever above 38 degrees Celsius.
- Increased pain unrelieved with pain medications.
- Increased redness around the incision.
- Increased swelling at the incision.
- Numbness or tingling in the leg.
- Change in colour and temperature of the leg.
- Reduction in motion ability.
- Drainage or odour from the incision.
- Any significant concerns you have.

REHABILITATION

Physiotherapy is an important part of the treatment and is recommended to start as early as possible. The early aim is to regain range of motion, reduce swelling and achieve full weight bearing.

The remaining rehabilitation will be supervised by a physiotherapist and will involve activities such as stationary bike riding, swimming, proprioceptive exercises and muscle strengthening exercises. Jogging can generally begin at around 3 or 4 months and sport between 6 and 8 months, depending on your progress. It is important for the nerves in the knee to give feedback to the brain in order to activate muscles in the correct sequence. This can take 6 or 9 months to happen.

COMPLICATIONS

Despite advances in surgical technique and the utmost care being taken during surgery, complications can still occur. It is very important for patients undergoing this operation to understand the reasons for the procedure and to have a major role in making an informed choice to proceed with surgery rather than non surgical treatment.

Anaesthetic

Any anaesthetic involves some risk but these are statistically small. These should be discussed with your anaesthetist prior to surgery and include but are not limited to nausea, sore throat, damage to teeth, pneumonia, drug reactions, awareness under anaesthetic or, very very rarely, death.

Surgical Complications

Specific complications include but are not limited to:

Infection - This occurs in approximately 1 in 500 cases. The operation is done in a sterile environment and minimally invasive techniques involving the arthroscope makes infection unlikely. However, despite these precautions, infection can still occur. Treatment involves either oral or intravenous (through a drip) antibiotics and may involve further operations to wash out the joint. Consequences of infection include joint stiffness and joint surface destruction. Chronic bone or distant organ infection is extremely unlikely but remains a possibility.

Joint Stiffness - Scar tissue can form in the knee after surgery. This can limit joint movement. This is a rare complication. Treatment depends on the degree of joint stiffness. Sometimes a slight lack in the ability to straighten the knee can be tolerated by the patient. Treatment for lack of motion can involve extensive physiotherapy and occasionally further surgical procedures to remove the scar tissue. These procedures are not always successful in restoring full motion to the knee. Full range of motion can not always be guaranteed. If the stiffness is significant you may be worse off than if you had an unstable knee.

Bleeding - Small amounts of bleeding in the joint are normal. Large amounts of bleeding can occur in patients with bleeding disorders or those taking anti-inflammatory medications. These should be ceased two weeks prior to surgery. Excessive bleeding can require aspiration of the knee or occasionally repeat surgery.

Graft Rupture or Stretching - This occurs in up to 10% of patients that return to their previous level of sports. If it does occur the graft might be able to be redone using the tendons from the other leg.

Damage to Nerves or Vessels - There are small nerves under the skin which cannot be avoided and cutting then can lead to areas of numbness in the skin which generally reduce in size with time and don't cause any functional disability. Occasionally damage to more important structures can occur especially with meniscal suturing. This can lead to more significant areas of numbness and muscle weakness below the knee but is extremely rare.

Hardware Problems - The graft is fixed into place with various devices into the bone. These can occasionally cause irritation to surrounding structures and require removal.

Donor Site Problems - You can get some pain in the region of the hamstrings at the back of the knee but this is usually temporary. Occasionally the hamstring tendons are not satisfactory and the patella tendon needs to be taken, this is an intraoperative decision. If the patellar tendon is harvested the particular problem can be pain at the front of the knee, especially with kneeling.

Reflex Sympathetic Dystrophy - This is a rare condition, the mechanism of which is not fully understood. It involves an overactivity of the nerves in the leg causing unexplained and excessive pain.

Deep Venous Thrombosis - Clots in the leg which may require medical management in the form of injections or tablets. Very rarely these can travel to the lungs (pulmonary embolus) which can be very dangerous.

Compartment Syndrome - An extremely rate condition which is due to excessive swelling in the knee cutting off the circulation to the muscles. This requires an emergency fasciotomy operation to relieve the pressure and restore blood supply.

Ongoing Pain - This can be unpredictable but is more common in knees with damage to other structures. Arthroscopy can not reverse any damage to the articular surface (arthritis). If unexplained pain does occur then another arthroscopy may occasionally be recommended

If you are on Anti inflammatory tablets or Aspirin, please check with your GP and if he or she says it is safe, stop the tablets 10 days prior to surgery.

CONCLUSION

In general this procedure is very successful but complications can occur with any surgical procedure. Other rare or unexpected complications can occur. This is an elective procedure and as the patient you need to make an informed decision on whether or not to proceed with surgery. If after reading this handout you have any questions, especially about the potential complications, please ring the office, leave a message for me and I will call you back to answer your questions.