INTEGRITY ORTHOPEDICS

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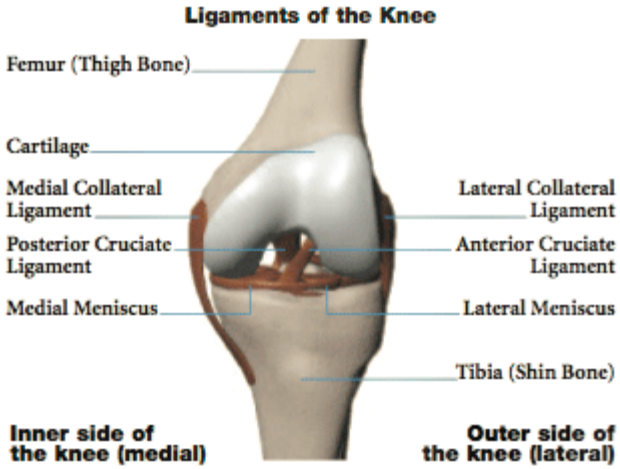
SURGERY INFORMATION ON

ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION



Timing of reconstruction

Often patients, especially if sports oriented, are keen to proceed with reconstructive surgery immediately after injury. They feel this will lead to earlier return of function. Unfortunately this is not so. The best results of surgery are gained after full rehabilitation of the knee prior to surgery, so as to regain a full range of motion, especially straightening, and good quadriceps strength. This will minimize the potential risk of post-operative stiffness. The optimum time from injury (or arthroscopy) to reconstructive surgery is 4 – 6 weeks. This time may be longer if other structures are damaged. In this time it is important to understand that although the swelling decreases and movement returns in this period, the ligament will not heal, the knee is unstable and at risk of further damage if high risk sports involving pivoting are attempted

The day of surgery

You will come in on the day of your surgery having fasted (i.e. no food or liquids) from midnight the night before until your surgical time. Nursing staff will assess you, explain post-operative procedures and measure you for crutches. You will also be requested to complete some questionnaires relating both to your general health as well as your knee. Your surgeon will examine your knee to ensure it is ready for surgery. He/she will also mark the leg to be operated on. This is also your chance to ask any last minute questions. The anesthetist will visit you to explain the anesthetic and post-operative pain control.

The immediate period after surgery

You will wake up from the anesthetic in the recovery area of the operating room. The knee will be in a tight bandage and you will have a blue "Cryocuff" sleeve on top. The Cryocuff contains ice-cold water and helps control swelling of the knee in the early post-operative period. In this early phase you will continue with the exercise you were taught in the office. These exercises are vitally important for the best possible results. You are advised to continue using the Cryocuff at home until you return to clinic approximately 10-14 days after surgery for removal of any sutures or clips. You are referred to start outpatient physiotherapy at this time. In this initial 10-day period after surgery it is quite common to experience bruising and swelling in the calf, the front of the shin or inner thigh from the site of your hamstring graft. This can appear quite alarming but it is not serious. You may also experience some numbness over the front of the shin or around the scar; this is normal and sensation will usually return over a period of time. Please do not sleep with a pillow behind your knee, as the knee can heal in this position and be difficult to fully straighten.

Rehabilitation and physiotherapy

Physiotherapy is vitally important if there is to be a successful outcome of the ACL reconstruction. It takes a great deal of effort, commitment and time. If you do not feel you can commit yourself fully, it is probably best not to undergo the operation, as you will have less favorable results. In general, a brief outline of stages and goals after the reconstruction are;

Protected movement for weeks 1-6

Gym activities and swimming for weeks 6-12

Light jogging and golf at 3-4 months

Non-contact sports training at 6 months

Full return to contact sports at 9 months

It is crucial that prior to an ACL reconstruction the knee is fully rehabilitated. There should be no significant effusion (swelling of the knee), the muscle tone should be good and there should be a full range of movement including full hyperextension and flexion. Stage 1 (0-2 weeks)The main objective in the initial two week period after surgery is to reduce swelling, regain muscle control, restore a normal walking pattern and regain the ability to extend and flex the knee. Use of a Cryocuff for cold compression is very useful and beneficial. Aim to achieve short regular period of exercises ("little and often") rather than exercise in one period only during the day. You will walk with crutches initially, gradually increasing weight bearing on the knee and trying to walk without a limp. It is crucially important to be able to fully extend and lock your knee as soon as possible. This helps the quadriceps muscles reduce swelling, as well as enabling a normal walking pattern. Exercises include Static contractions of the quadriceps, gentle bending, as well as hamstring and calf stretches. Stage 2 (2-6 weeks) Now the aim is to stop using crutches, gain confidence and strengthen the knee whilst restoring full movement, especially extension. You can use a static bicycle with no resistance, continue quadriceps strengthening and hamstring curls with no resistance. Stage 3 (6-12 weeks) Up to now the knee has only been bent, straightened and the swelling reduced. The graft fixation has now begun to occur biologically and is thus a little stronger than in the initial six weeks. You will now be able to progress to proprioceptive training, to help improve balance and co-ordination. Proprioception effectively means co-ordination. At this stage the exercises will include "wobble boards" and the "mini-tramplet". At the gym you can swim, use a static bicycle and the leg press. At the same time progressive quadriceps and hamstring strengthening will continue. Stage 4 (3-6 months) you can continue in the gym, gradually stepping up intensity. Continue with proprioception and agility skills i.e. hopping in several directions. Start light jogging on a treadmill when sufficient strength and control of the knee has been achieved. Return to golf starting with the driving range at about 4 months after the reconstruction. Stage 5 (6-9 months) Return to sport specific training in a non-contact fashion. Use the 3 months to increase your level of fitness and be in good condition to compete when you are able to return to full sports after 9 months. Stage 6 (9-24 months)Although you should safely be able to return to contact sport activities at 9 months after your reconstruction, it is important to continue with the exercises as outlined above, especially the proprioceptive work. Many professional sports persons note that although they can return to sport at 9 months, they do not feel fully rehabilitated until 24 months have passed as they "learn to use the knee" again. A question often asked by patients is why they have to wait 9 months before returning to contact sport when professional sports persons return at about 5-6 months. The answer is that the professionals, quite reasonably, are taking a risk, as they need to return to their sport as soon as possible for financial or other reasons. Most orthopedic surgeons would agree that it is safest to wait approximately 9 months before returning to contact sport to minimize the risk of re-rupture of the graft, which does not "mature" sufficiently until approximately the 9 month mark. If sport is not your livelihood it is probably wise to wait until 9 months to minimize the risk of a further rupture and starting from day one again. Naturally the above is only a guide. It is advised you are supervised through your rehabilitation by a Physiotherapist. If you have any other questions relating to your surgery, progress or rehabilitation please contacts Dr. Weber.

<u>Possible risks and complications</u> There is no surgical procedure that is free from complications. ACL reconstruction, especially recently, has a very good record of safety and success but complications can occur. Such complications can include;

1. Stiffness of the knee. Then knee may have difficulty gaining full extension or flexion. This is minimized by early physiotherapy and in addition a great deal of effort on the part of the patient. Sometimes it may be necessary to manipulate the knee under anesthetic or carry out an arthroscopy to break down adhesions if the knee does become stiff.

2. Persistent pain over the front of the knee. There may be persistent numbness on the inner aspect of the leg, or the front of the leg, and rarely an area develops tiny 'shocks' when lightly touched.

3. Persistent swelling of the knee.

4. Deep venous thrombosis (DVT) or 'blood clots in the veins'. Every attempt is made to minimize this complication, although Coumadin is not given routinely.

5. Infection of the knee. This is rare but extremely serious complication. Antibiotics are given during and shortly after the operation to minimize the risk.

6. Failure of the graft. The knee may start to give way again. This may occur within a short time of operation or after a considerable period. The 5 year success rate in preventing instability is approximately 90% (this figure has increased considerably in recent years).

Please contact the office if you are at all concerned that there is a problem. In particular, act immediately if you develop a fever, severe pain or significant wound problems.

Conclusion: I hope that this has been of use to you. You will have been recommended surgery only if the potential benefits of the operation outweigh the risks. If you have any questions relating to this please feel free to write any questions down, and we can go through them.