

Rehabilitation after your Anterior Cruciate Ligament Reconstruction

Introduction

Rehabilitation of your knee is a very important part of your reconstructive surgery. It is known in animal studies that many months must elapse before the graft material has been incorporated into your body. It is thought that this may take up to nine months or so. Consequently a prolonged period of rehabilitation is often necessary. It is also known from clinical studies that early aggressive rehabilitation gives the best short and long term results and it is our aim to incorporate this into our post-operative protocol. Several of the complications of anterior cruciate reconstruction such as post-operative stiffness and pain around the knee cap can be reduced by the early rehab program.

Immediately after your surgery your knee may be bandaged and may also be placed in a splint holding the knee into extension. Early extension of the knee is important to avoid post-operative contractures and flexion deformities. Walking with a fixed flexion deformity is tiring and is not ideal for knee function. The splint is not designed to “hold the knee together” and can be removed for bathing or during rest periods at home. The splint is normally left for a two week period and during this time you are generally requested not to weight-bear and to use the crutches provided. Any movement of the knee whilst the splint has been removed is acceptable and dropping and dangling the leg over the side of the bed during this first two weeks is to be encouraged. Likewise straight leg raising both in the splint and out of the splint is also to be encouraged since control of the leg is important in order to use the crutches successfully. Keep the leg elevated when resting with pillows under the heel to allow the leg to relax into full extension. You will generally be discharged from hospital at or before day three and asked to return to see your surgeon at approximately day 10-14. At this time you will enter the rehabilitation program “proper” with your physiotherapist.

Goals 0 – 2 Weeks

- Gain Full Extension
- Allow wound healing
- Quad control
- Minimise swelling
- 90° flexion

2 Weeks – 10 Weeks

- Maintain full extension
- Increase flexion to full
- Biking, swimming

During this period, active and passive flexion and extension of the knee will be encouraged. Hamstring strength and control will also be instituted. Quadriceps strength will also be improved emphasising co-contraction with the hamstrings.

During this period the effusion, swelling and post-operative pain should diminish and you will be allowed to fully weight-bear according to comfort. By four weeks there should be close to full extension with approximately 130° of flexion. A stationary bicycle can be safely used.

10 Weeks to 26 Weeks

- Maintain motion
- Increase strength and agility

During this phase function should be virtually normalised and the maximum range of motion achieved. Total leg strength needs to be improved with concentration on quadriceps and hamstring drill. Endurance exercises will also be started. A supplementary weight program may be added. During this stage gait should be virtually normal and proprioception emphasised. These exercises can be sport specific concentrating on both strength and agility. Jogging in a straight line is allowed when quad strength is about 70% normal. Changing directions when running is allowed at about 26 weeks.

Beyond 26 Weeks

It is not known in humans when the anterior cruciate graft is at its maximum strength though from animal experiments it would suggest that this occurs at about nine months following surgery. It is generally preferred that return to sport, particularly contact sport, is postponed until this time. In order to return to sport you need strength close to the other side (>80%) and full range of movement, no effusion, good stability and successful completion of the running program. Depending on your progress your physiotherapist will discharge you from active physiotherapy though you will be left with a list of exercises to perform at your own pace at home. Should you not be progressing at approximately the rate suggested in this print-out you should speak to your physiotherapist and surgeon.