

Anterior Cruciate Ligament Reconstruction

Information for Patients



What is an ACL?

The anterior cruciate ligament (ACL) is one of the 4 main ligaments of the knee. Ligaments are one of the tissues that hold bones together. The ACL is a tough band of tissue joining the thigh bone to the shin bone at the knee joint. It runs diagonally through the inside of the knee and its main role is to:

Stabilise the knee joint and prevent it from giving way

How is it Injured?

ACL injuries are most common during sports such as rugby, football, skiing, tennis, and squash. It is one of the most common types of knee injuries accounting for approximately 50% or more of all knee injuries.

Common mechanisms of injury include:

- Landing incorrectly from a jump
- Stopping suddenly
- Changing direction suddenly
- Having a collision, such as during a football or rugby tackle

How is an ACL injury treated?

This will depend on how badly the ACL is injured and how it will affect your lifestyle, e.g. job, sports. Not all people who injure their ACL will require surgery. Many people return to normal with non-operative management following a rehabilitation exercise programme. The exercise programme will strengthen your thigh muscles in particular, as well as your other leg and core muscles to protect the knee. These exercises are *essential* whether you have surgery or not.

However, you may need surgery if:

- Your knee keeps giving way after completing the rehabilitation course
- You have difficulties getting back to a high level of sport or returning to a physical job due to your knee giving way

Committing to Your Rehabilitation

Prior to considering ACL reconstruction surgery, it is important to note that physiotherapy is the **most important part of your rehabilitation** and it begins immediately after your surgery.

Your physiotherapist will guide you on how to protect your new ACL graft and avoid excessive stresses on it. It is **YOUR** responsibility to start these exercises immediately following your surgery until discharge. Having an ACL reconstruction surgery is a big decision

to make and includes the commitment to your rehabilitation which will take at least **9-12 months** in order to fully return to high impact sport.

Once assessed, it will be up to your own physiotherapist how frequently you will be seen. Everyone will be different based on their own individual needs and progress. You will be asked to attend physiotherapy appointments regularly as well as carry out your exercise programme at least 3 x weekly in your own time. If you plan to return to any type of sport, having access to a gym or lower limb gym equipment will be essential to successful rehabilitation.

Whether your goal is to return to sport or not, rehabilitation is still the most important part of a successful recovery after ACL reconstruction.

Recovery does not end once you've had the surgery and it is important that prior to going ahead with this operation, you understand the importance of rehabilitation and the commitment to it in the long term

“I have been listed for ACL reconstruction surgery, what happens next?”

Preadmission clinic

You will be seen in a Preadmission Clinic at the Royal Infirmary of Edinburgh approximately one week before your operation. A pre-operative assessment will be carried out by nurses and often the surgeon and/or anaesthetist will see you at this appointment. This is a good opportunity to ask any further questions about the surgery, risks of surgery, or questions about recovery after surgery.

The Anaesthetic

ACL reconstruction surgery can be performed using a general anaesthetic - which means you'll be completely unconscious during the procedure; or a spinal anaesthetic - where anaesthetic is injected into your spine so you're conscious but unable to feel pain. The anaesthetist will discuss the procedure with you and will recommend which type of anaesthetic to use.

The surgery usually takes about 1 to 1.5 hours and is done in our Day Surgery Unit where you will usually be discharged the same day.

Surgical Technique

A number of methods can be used to reconstruct an anterior cruciate ligament (ACL). The most common method is to use a tendon from elsewhere in your body

to replace the ACL. Your surgeon will discuss the best option with you.

The most commonly used tissues are the hamstring tendons and the patella tendon. Both have been found to be equally successful.

The surgeon will make 3 incisions around your knee to allow them to harvest the graft, look inside your knee and carry out the reconstruction.

Once the graft tissue has been secured, your surgeon will test that it is strong enough to hold your knee together. They will also check that your knee has full range of motion and that the graft keeps your knee stable when it's bent or moved.

Once the surgeon is satisfied with the position of the graft and stability of your knee, they will stitch up your incisions and apply dressings.

What happens on the day of surgery?

On the day of surgery, you will be asked to fast from midnight the night before or at least several hours prior to your operation. This means no eating or drinking prior to your operation as often anaesthetics are safer if your stomach is empty.

You will be taken to theatre on a hospital bed where you will meet with the anaesthetist and the surgeon. After your operation, you will wake up in either recovery or in

the Day Surgery Unit. At this point, one of the nurses will be checking your observations regularly (these include things such as heart rate, blood pressure, temperature, blood oxygen levels, etc) and they will offer you something to eat. It is very important that you eat and drink something after your operation and prior to getting out of bed to prevent any feelings of sickness or light-headedness.

Physiotherapy Assessment

Once you are awake and have had something to eat and drink, a physiotherapist will come to assess you. The physiotherapist will go through your exercises, give you advice on key post-operative care, give you crutches to aid your mobility and show you how to use these on a set of stairs, if you have them at home. The physiotherapist will also fill out a referral form for you to receive ongoing physiotherapy.

You will be then be contacted by your local physiotherapy service to attend your initial appointment. This appointment usually takes place between 7-10 days post-operatively.

Discharge

Once you have passed your physiotherapy assessment, the nurses will discuss your medication with you and your post-operative wound care. You will also need to pass urine and have this measured by the nursing staff in order to ensure your bladder is working properly after the anaesthetic. Once the nurses are happy, they will give you your medication and any other post-op information you may require. You will then be discharged home. It is essential that someone physically comes to collect you from the ward after your surgery so please make any necessary arrangements prior to your operation.

Possible Problems/Complications after ACLR

- **Infection:** the risk of infection is small (less than 1 in 1000); you may be given an antibiotic after your operation to prevent infection developing
- **Blood Clot:** the risk of a blood clot forming and causing problems is very low (about 1 in 1,000); if you're thought to be at risk, you may be given medication to prevent blood clots forming
- **Knee swelling:** some people experience ongoing swelling of the knee joint

- **Knee pain:** Affects almost 2 in 10 people who have ACL surgery and is more likely to occur when the patella tendon is used as graft tissue; you may have pain behind the kneecap or when kneeling down or crouching
- **Knee weakness and stiffness:** some people experience long-term weakness or knee stiffness
- **Newly grafted ligament may fail:** small chance (less than 1 in 10) that the new graft could fail and your knee will still be unstable

“I’ve been discharged home, now what?”

You may feel a bit tired and sick after the anaesthetic and may experience a bit of post-op pain, all of which is normal. This will settle over the next few hours. It is important to stay hydrated and follow the advice below.

Wound care, stitches/staples

Wash your hands. Remove the bandage after 48 hours

If you have stitches or staples, your practice nurse will remove these in 7-10 days time.

Key Advice Post-op

- Regular pain relief
- Regular use of ice packs/frozen peas (20mins on/ 20mins off). Ensure you protect your skin with use of a towel or pillow case
- Proper gait with use of crutches - this helps prevent you limping
- Maintain a balance between doing your exercises, resting, and staying mobile with your crutches

Exercises

These exercises should be started immediately after your operation and continued at home 3x a day until you receive your outpatient physiotherapy appointment



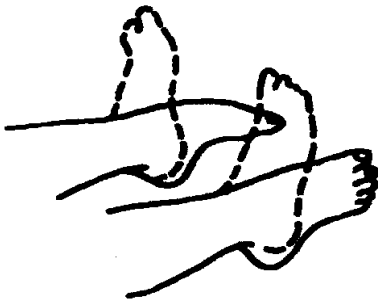
1. Heel Slides

Lie on your back. Slide your heel towards your buttock then slowly straighten it back out. Repeat 10 times. 3 sets.



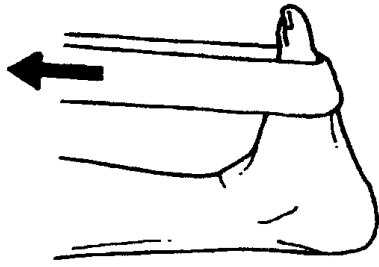
2. Static Quads

Lie on your back. Pull your toes up towards you and press the back of your knee down into the bed, tightening the muscle on the front of your thigh. Hold this for 5 seconds. Repeat 10 times. 3 sets.



3. Ankle Pumps

Pump your ankles up towards you then point them away from you. Repeat this motion 30 times.



4. Calf stretch

Use something stiff like a bath towel or dressing gown strap. Put this around the top part of your foot and pull the towel up towards you until you feel a gentle stretch in your calf muscle. Hold for 30 seconds.



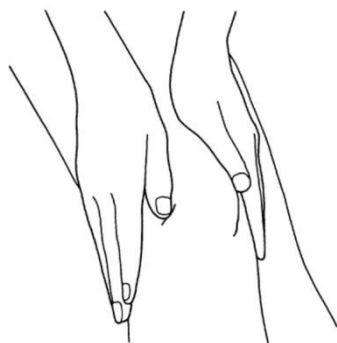
5. Straight Leg Raise

Lie on your back with your operated leg straight and other leg bent. Tighten the thigh muscle of your operated leg and slowly lift your leg off the bed. Hold for 5 seconds, then slowly lower your leg and relax. Repeat this 10 times. 3 sets.



6. *Static Glutes*

Lie on your back. Squeeze your buttocks firmly together. Hold for 10 seconds. Repeat 10 times. 3 sets.



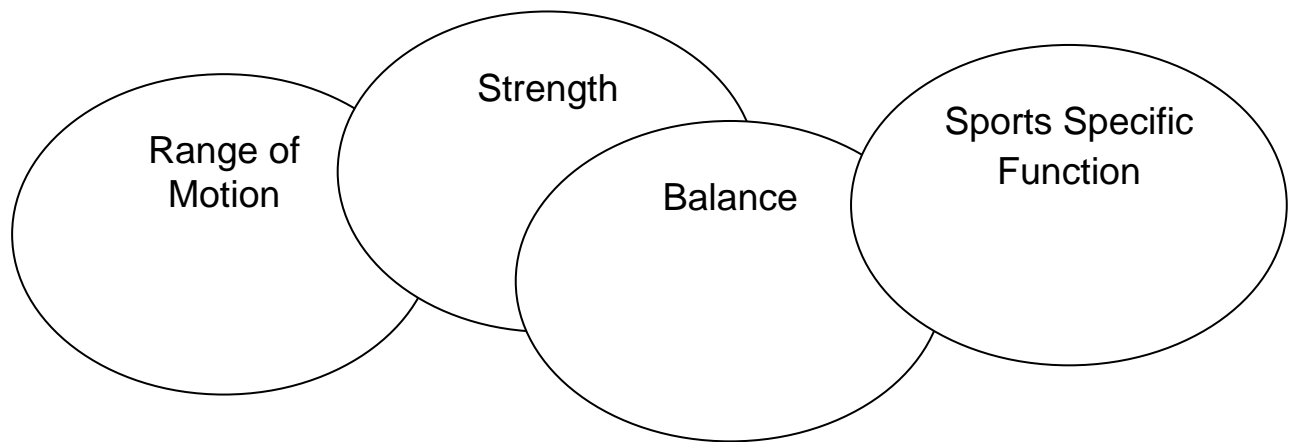
7. *Patella Mobilisations* (operated leg)

Only start these at Day 5 Post-op

Lie with your leg straight. Gently move your knee cap side to side a few times

Aims of Rehabilitation

The main aims of rehabilitation are to improve



Return to Activity/ Approximate timescales

Driving

You can return to driving if you are able to react in an emergency situation, carry out an emergency stop, and you have checked with your insurance company.

Please note that the timescales below are estimates and will be guided by how strong your leg muscles are. Your physiotherapist will be able to guide you further.

Activity/Sport	Approx. Timescales
Static Cycling /Stepper/ Cross trainer	1 month
Swimming	2-3 months
Treadmill running	3 months
Cycling/outdoor running	4 months
Golf	4 months
Racquet sports	6-9 months
Contact sports	9-12 months
Skiing	9-12 months

Useful Contacts

Day Surgery Unit – 0131 242 3166
(8am to 5pm, Monday to Friday)

Out of Hours – 0131 536 1000
(page/bleep 1591)

Physiotherapy Departments

**IF YOU HAVE NOT RECEIVED A PHYSIOTHERAPY
APPOINTMENT FOR APPROX 7-10 DAYS POST OP,
PLEASE CONTACT:**

RIE – 0131 242 1940

WGH – 0131 537 1288

LTC – 0131 536 6370

SHJ – 01506 522063

ELCH – 01620 642920

OTHER.....