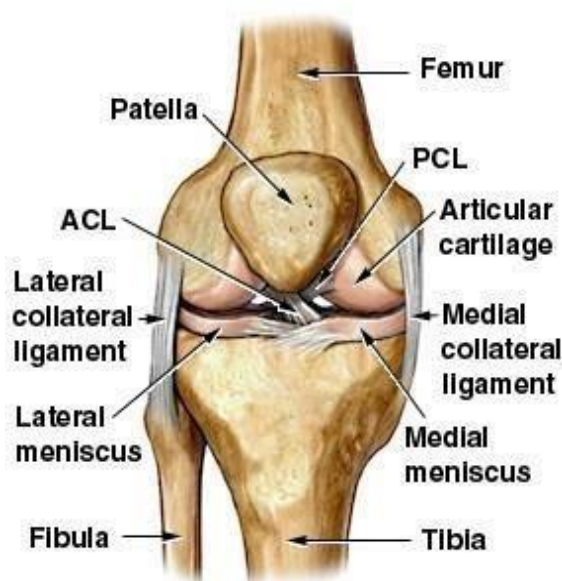


Physiotherapy after ACL reconstruction

Information for patients

This leaflet is a general guide to rehabilitation after surgery to reconstruct your anterior cruciate ligament (ACL). It gives you advice and information to help you get the best results from your surgery. It is a guide only and your physiotherapy may vary depending on your individual needs.

What is an anterior cruciate ligament (ACL)?



It is one of four main ligaments in your knee. The ACL joins your femur (thigh bone) to your tibia (shin bone) at the knee joint and runs diagonally through the inside of your knee, giving your knee joint stability. It helps to control your knee movement when you twist, move faster or slow down and also helps with balance and co-ordination.

It can be reconstructed by removing what remains of the torn ligament and replacing it with a tendon, such as the tendon from the hamstring muscle at the back of your thigh or the middle third of the patella tendon, which runs from the kneecap to the top of the shin bone.

Ligaments are the 'ropes' which give your knee joint extra control and prevent too much movement. They are supported by the muscles in your thigh, which provide most of the power to move your knee and

help the ligaments to keep the joint stable. This is why strengthening the muscles around your knee after your surgery is important.

The aims of the surgery

- 1) To improve the stability of your knee, to prevent it from giving way
- 2) To help your knee to return to full function, including sporting activities.

What happens during the surgery?

To take the graft, a small cut is made on the front of your knee (depending on the type of graft used). The graft is then passed through the knee joint, via tunnels drilled in the tibia and femur,

and secured to these bones. During the surgery, two or more small incisions will be made, to allow accurate positioning of the graft. These incisions will be closed using stitches and steri-strips.

When can you go home?

This is a day case procedure, which means you should not need to stay in hospital overnight. Once the anaesthetic wears off and you regain sensation in your legs, you will be allowed to start walking as advised by your physiotherapist.

You will be able to go home when:

- you have recovered from the anaesthetic
- you have a good understanding of the exercises listed in this booklet
- you can walk with the crutches safely
- everyone in the medical team looking after you is happy with your progress

Advice for immediately after your operation

Protect your new ACL

Use crutches: Your physiotherapist will give you elbow crutches to walk with. Stop using these when you can walk without a limp and can put weight through your leg with your knee locked straight.

Lock your knee straight: To avoid stretching your graft, it is also important to lock your knee straight whenever you lift your leg. If you cannot lock your knee straight when lifting your leg, that is, lift it without bending your knee, you should use your hands to assist until you are able to do so.

Using a brace: The surgeon may want you to wear a brace following your surgery to protect your graft further. However, your physiotherapist will teach you how to apply and take off the brace if this has been requested by your surgeon.

Driving

You should not drive until you have achieved good muscle control and you are not using crutches. This can be up to six weeks post-surgery. It is up to you when you decide to drive, but you must be able to do an emergency stop and have full control of the vehicle. You may want to start with short journeys first, to ensure safety. You should also inform your insurance company.

Returning to work

This will depend on the nature of your work and how difficult it is to get to your work. If you have a physical job, you may be able to return to lighter duties with minimal walking at 4 to 6 weeks. It may take up to three months to return to more physically active jobs. You may want to contact your occupational health team to discuss phased returns and consider modified duties.

If you require a fitness for work certificate, your GP or your doctor will be able to provide this.

Control your pain

Take your pain medication: You should expect a moderate amount of pain after surgery. Make sure you keep taking the pain relief medication prescribed by your ward doctor when you are

discharged home. It is important to control your pain well so you can do your exercises and be able to walk regularly throughout the day.

Use an ice pack: It can help to apply an ice pack to your knee for 15 to 20 minutes every two hours to reduce swelling and ease any pain. Before using it, make sure you have full feeling in your leg and knee and no numbness. Do not put the ice pack directly on your skin; wrap it in a damp tea towel or pillowcase before using it. It is important that you check your skin before, during and after you use an ice pack to make sure you do not have any unexpected reactions. If you have any concerns, please seek medical advice.

Reduce swelling

It is normal to have swelling in your knee after an ACL reconstruction which can take a little while to ease completely. You may also notice some swelling in your ankle. You can ease swelling by:

- putting your leg up so your ankle is higher than your hip – try resting your lower leg (not your knee) on pillows or a stool
- using an ice pack, as described under 'Control your pain' (above)

If you have severe pain or excessive swelling in your knee or calf, contact your GP or attend A&E as this may be an indication of a blood clot.

Straighten your knee

It is important that you fully straighten your knee as soon as possible, so do not put a pillow or similar support underneath it when resting. Do not try to over-straighten (hyperextend) your knee because this may put too much strain on your graft.

Importance of rehabilitation

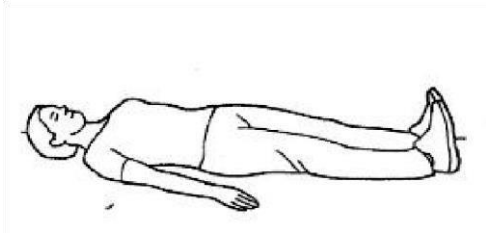
To get the best results from your surgery, it is very important you follow the rehabilitation instructions and exercises in this leaflet. They will help you to achieve your desired level of strength, co-ordination and balance. They are also essential for day-to-day activities, such as going up and down stairs.

Your physiotherapist will discuss your personal goals with you and tailor your rehabilitation to help you achieve them. It is essential that you follow your physiotherapist's advice and only do the exercises and activities that they recommend. **The responsibility for doing the exercises is yours**, but please discuss any difficulties or worries you have about them with your physiotherapist.

Physiotherapy rehabilitation after an ACL reconstruction takes several months, so it is important that you commit to your physiotherapy programme.

Exercises

1. Quadriceps (thigh) squeezes



Lie or sit with your legs straight out in front of you. Tighten your thigh muscle (quadriceps) and push your operated knee firmly against the bed.

At the same time, pull your toes towards you.

Hold for seconds. Repeat times.

2. Gluteal (bottom) squeezes

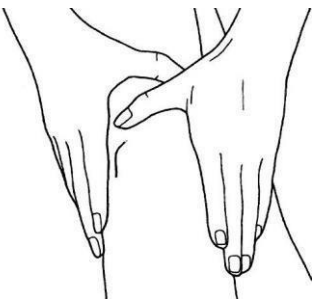


Lie on your back.

Squeeze your buttocks firmly together.

Hold this position for seconds, then relax. Repeattimes.

3. Patella mobilisations

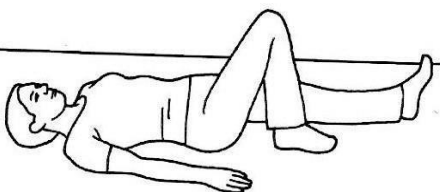


Sit with your legs relaxed straight out in front of you and your back well supported.

Push your operated kneecap to the left and hold it for five seconds. Then push your kneecap to the right and hold it there for five seconds. Glide your kneecap up and hold for five seconds and then glide your kneecap down and hold for five seconds.

Repeat times.

4. Heel slides

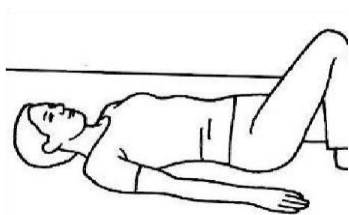


Lie or sit with your legs straight out in front of you.

Slowly slide your heel towards you to bend your operated knee to 90 degrees.

Repeat times.

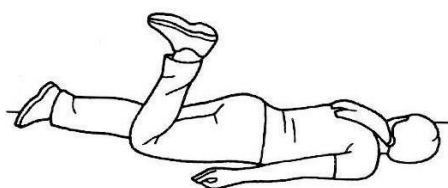
5. Co-contraction of quadriceps and hamstrings



Lie or sit with your legs straight out in front of you. Bend your operated knee. Push your heel down into the bed and at the same time pull your heel back towards you. Your foot should not actually move. Hold for seconds.

Slowly repeat times.

6. Prone knee bends

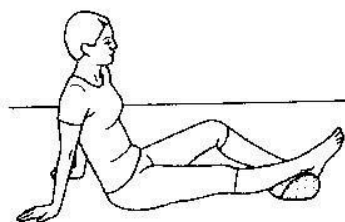


Lie on your stomach.

Slowly lift your foot up to bend your operated knee to 90 degrees (right angle).

Repeat times.

7. Knee hangs



Lying or sitting up, place a roll of towel or cushion under your ankle with your knee straight. Leave your knee unsupported to let your leg straighten fully. Keep your leg in this position for up to 15 minutes or for as long as you are able. Repeat this every few hours.

If you are struggling to straighten your knee then you could do exercise number one to encourage your knee to straighten further.

Walking after your surgery:

Your physiotherapist will give you crutches and teach you how to walk safely with them. Some people are fully weight bearing (FWB) straight away and some are partial weight bearing (PWB). Your consultant will decide whether you are FWB or PWB.

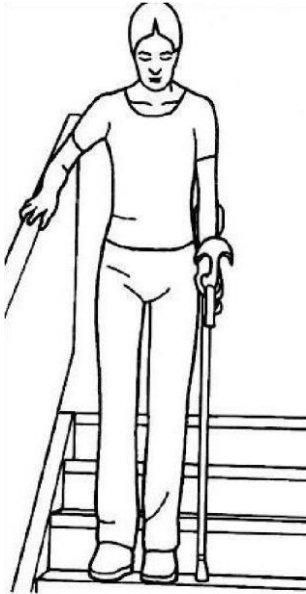
- FWB means that your leg can carry 100% of your body weight and you use crutches for support as necessary.
- PWB means walking with only 50% of your weight on your operated leg, so you must always walk with your crutches.

Fully weight bearing ☐

Partial weight bearing ☐ for.....weeks

Completing stairs after your surgery

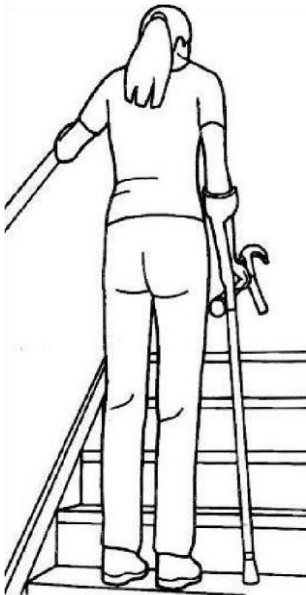
This explains how to go up and down stairs using crutches until your physiotherapist advises that you can progress.



Walking down stairs

Stand close to the stairs. Hold onto the handrail with one hand and the crutch(es) with the other.

First put your crutch one step down, then take a step with your operated leg. Next, step down with your non operated leg onto the same step as your operated leg. Always do one step at a time.



Walking up stairs

Stand close to the stairs.

Hold onto the handrail with one hand and your crutch(es) with the other.

First step up with your non-operated leg, then your operated leg, and then bring your crutch up on the step. Always go one step at a time.

Ongoing physiotherapy

We will refer you for ongoing physiotherapy at your local hospital. Your physiotherapist will tell you about this and give you the contact details before you go home after surgery. When you see the physiotherapist at your local hospital, they will progress your exercises. Keep doing the exercises shown until you see them.

Follow-up plan and rehabilitation goals

These are a guide only because everyone progresses at different rates. Your physiotherapist will give you individual guidance.

Weeks 0 to 2:

- 0 to 100° range of movement
- gain fully straight knee
- be able to straight leg raise
- ease swelling
- progress to walking without crutches
- continue with the exercises as shown on your own.

Weeks 2 to 6:

- 0 to 120° range of movement
- use exercise bike once 100° flexion achieved
- begin balance training
- you will see a physiotherapist and be referred to the ACL class which you will attend once a week
- continue with your exercises at home or in the gym

Weeks 6 to 12:

- 0 to 135° range of movement
- continue with strength and balance training

Weeks 12 to 16:

- 0 to 140° range of movement
- begin jogging on a treadmill
- begin double leg jumps and progress to single jumps and hops

Weeks 16 to 20:

- able to hop and jump with good control
- progress jumping/bounding exercises
- begin agility exercises

Weeks 20 to 24:

- progress agility exercises
- high level balance and dynamic jumping exercises

Month 6 onwards:

- quadriceps and hamstring strength to 90+% of opposite leg
- return to full sporting activity at 12 to 24 months

Do not start doing sport until your ACL has reached its greatest strength, which is usually 12 to 24 months after your ACL reconstruction surgery. It is important you liaise with your consultant or physiotherapist before returning to sport.

Who can I contact with queries and concerns?

If at any time during your rehabilitation you have difficulty following the advice or exercises in this leaflet, or if you have any more questions, please contact the Orthopaedic Physiotherapy Team and ask to speak to one of our physiotherapists.

Orpington Hospital

Tel: 01689 866255, Monday to Sunday, 8am to 4.30pm

King's College Hospital

Tel: 020 3299 2368 or 020 3299 8220, Monday to Friday, 8.30am to 4.30pm (except bank holidays)

Sharing your information

We have teamed up with Guy's and St Thomas' Hospitals in a partnership known as King's Health Partners Academic Health Sciences Centre. We are working together to give our patients the best possible care, so you might find we invite you for appointments at Guy's or St Thomas'. To make sure everyone you meet always has the most up-to-date information about your health, we may share information about you between the hospitals.

Care provided by students

We provide clinical training where our students get practical experience by treating patients. Please tell your doctor or nurse if you do not want students to be involved in your care. Your treatment will not be affected by your decision.

PALS

The Patient Advice and Liaison Service (PALS) is a service that offers support, information and assistance to patients, relatives and visitors. They can also provide help and advice if you have a concern or complaint that staff have not been able to resolve for you. They can also pass on praise or thanks to our teams.

PALS at King's College Hospital, Denmark Hill, London SE5 9RS

Tel: 020 3299 3601

Email: kch-tr.palsdh@nhs.net

PALS at Princess Royal University Hospital, Farnborough Common, Orpington, Kent BR6 8ND

Tel: 01689 863252

Email: kch-tr.palspruh@nhs.net

If you would like the information in this leaflet in a different language or format, please contact our Communications and Interpreting telephone line on 020 3299 4826 or email kch-tr.accessibility@nhs.net