OS04 ACL Reconstruction

What is the anterior cruciate ligament?
The anterior cruciate ligament (ACL) is one of the important ligaments that stabilise your knee joint (see figure 1). If you have torn (ruptured) this ligament, your knee can collapse or ‘give way’ when making twisting or turning movements. This may interfere with sports or even everyday activities.

How does an ACL rupture happen?
An ACL rupture happens as a result of a twisting injury to the knee. The common causes are football and skiing injuries. At first, the knee fills with blood and can be swollen and painful. However, this settles with time. You can injure other parts of your knee at the same time, such as tearing a cartilage (meniscus) or damaging the joint surface. Some people with an ACL rupture get back good function in their knee with the help of exercises and physiotherapy. If your knee continues to give way, your surgeon may recommend ACL reconstruction.

What are the benefits of surgery?
If your ACL reconstruction is successful, your knee should not give way any more. This will allow you to be more active and return to some or all of your sporting activities.

Are there any alternatives to surgery?
Your physiotherapist can give you exercises to strengthen and improve the co-ordination of the quadriceps and hamstring muscles in your thigh. This can often stop your knee giving way during everyday activities. Wearing a knee brace can sometimes help if your knee only gives way during sports activities. However, a brace is often too bulky and awkward to wear all the time.
What will happen if I decide not to have the operation?

Unless you are a high-level athlete, there is a 4 out of 5 chance that your knee will recover to near normal without surgery. High-level athletes do not usually do well without surgery. If your knee continues to give way, you can get a torn cartilage (risk: 1 in 30). This usually needs an operation to remove or repair the torn piece of cartilage.

What does the operation involve?

A variety of anaesthetic techniques are possible. Your anaesthetist will discuss the options with you and will recommend the best form of anaesthesia for you. The operation usually takes between an hour and an hour and a half. Your surgeon will make one or more cuts on the front and sides of your knee. Some surgeons perform the operation by arthroscopy (‘keyhole’ surgery), using a camera to see inside the knee. Your surgeon will replace the ACL with a piece of suitable tissue (a graft) from elsewhere in the body. They will usually use part of your patellar tendon (which runs from the lower end of the knee cap to the top of the shinbone) or your hamstring tendons. Your surgeon will discuss the options with you. The top and bottom ends of the replacement ligament are fixed with special screws or anchors into ‘tunnels’ drilled in the bone. At the end of the operation, your surgeon will close the skin with stitches or clips.

What should I do about my medication?

You should continue your normal medication unless you are told otherwise. Let your surgeon know if you are on warfarin or clopidogrel. Follow your surgeon’s advice about stopping this medication before the operation.

What can I do to help make the operation a success?

• Lifestyle changes

If you smoke, try to stop smoking now. Stopping smoking several weeks or more before an operation may reduce your chances of getting complications and will improve your long-term health. For help and advice on stopping smoking, go to www.gosmokefree.co.uk. You have a higher chance of developing complications if you are overweight. For advice on maintaining a healthy weight, go to www.eatwell.gov.uk.

• Exercise

Regular exercise can reduce the risk of heart disease and other medical conditions, improve how your lungs work, boost your immune system, help you to control your weight and improve your mood. Exercise should help to prepare you for the operation, help with your recovery and improve your long-term health. For information on how exercise can help you, go to www.eidoactive.co.uk. Before you start exercising, you should ask a member of the healthcare team or your GP for advice.

What complications can happen?

The healthcare team will try to make your operation as safe as possible. However, complications can happen. Some of these can be serious and can even cause death. You should ask your doctor if there is anything you do not understand. Any numbers which relate to risk are from studies of people who have had this operation. Your doctor may be able to tell you if the risk of a complication is higher or lower for you. The complications fall into three categories.

1. Complications of anaesthesia
2. General complications of any operation
3. Specific complications of this operation
1 Complications of anaesthesia
Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

2 General complications of any operation
• Pain, which happens with every operation. The healthcare team will try to reduce your pain. They will give you medication to control the pain and it is important that you take it as you are told so you can move about as advised.
• Bleeding during or after surgery. If you get a lot of blood in your knee afterwards (called a haemarthrosis), it will be swollen and painful. You may need another operation to wash the blood out.
• Infection in the surgical wound (risk: 1 in 35). This usually settles with antibiotics but may occasionally need another operation.
• Unsightly scarring of the skin.
• Blood clots in the legs (deep-vein thrombosis) (risk: 1 in 500), which can occasionally move through the bloodstream to the lungs (pulmonary embolus), making it difficult for you to breathe (risk: 1 in 2,000). You may be given treatment to reduce the risk of blood clots.
• Difficulty passing urine. You may need a catheter (tube) in your bladder for a day or two.

3 Specific complications of this operation
• Break of the kneecap (patella) during or after surgery (risk: 1 in 100). This can only happen if your surgeon uses a patellar tendon graft. The bone where the graft is taken from becomes weaker. If your kneecap breaks, you may need further surgery.
• Damage to nerves around the knee, leading to numbness or weakness in the leg or foot (risk: 1 in 300). This sometimes improves but can be permanent.
• Infection in the knee joint (risk: 1 in 700). If this happens, you will usually need another operation to wash out the knee and a long course of antibiotics. Infection can cause permanent damage.
• Discomfort in the front of the knee, around the scar and the screw that holds the lower end of the graft (risk: 1 in 3). This is usually not too troublesome but it can make kneeling difficult.
• Loss of knee movement, preventing full bending (risk: 1 in 50) or straightening (risk: 1 in 7). This usually improves with physiotherapy but can occasionally need further surgery.
• Recurrent giving way of the knee, which may result from failure of the ligament graft by gradual stretching or a further sports injury (risk: 1 in 10).
• Severe pain, stiffness and loss of use of the knee (Complex Regional Pain Syndrome). This is rare and the cause is not known. If this happens, you may need further treatment including painkillers and physiotherapy. The knee can take months or years to get better.

How soon will I recover?
• In hospital
After the operation you will be transferred to the recovery area and then to the ward. You will usually have an x-ray to check the position of the ligament graft. At first your knee will be quite swollen and it takes hard work to get it to bend.
You should be able to go home the same day or the day after. However, your doctor may recommend that you stay a little longer.
If you are worried about anything, in hospital or at home, ask a member of the healthcare team. They should be able to reassure you or identify and treat any complications.
• Returning to normal activities

Your surgeon may want you to wear a knee brace for a few weeks after the operation. Once your knee is settling down you will need to start intensive physiotherapy treatment which may continue for as long as six months. Your surgeon, physiotherapist and occupational therapist will tell you when you can return to normal activities. It is important to follow the instructions they give you during your rehabilitation. In particular, you should not return to sport until you are told that it is safe.

Regular exercise should help you to return to normal activities as soon as possible. Before you start exercising, you should ask a member of the healthcare team or your GP for advice.

Do not drive until you are confident about controlling your vehicle and always check with your doctor and insurance company first.

• The future

Most people make a good recovery after an ACL reconstruction but this takes hard work. It is unlikely that your knee will ever be quite as good as it was before the original injury. Mild stiffness is fairly common within the first year or two after surgery but is not usually troublesome.

Summary

If your knee continually gives way after an ACL rupture, reconstruction offers the chance of improving the stability of your knee in everyday life and in sporting activities. You may be able to return to a level of sport that otherwise would not be possible.

Surgery is usually safe and effective. However, complications can happen. You need to know about them to help you make an informed decision about surgery. Knowing about them will also help to detect and treat any problems early.

Further information

• NHS smoking helpline on 0800 169 0 169 and at www.gosmokefree.co.uk
• www.eatwell.gov.uk – for advice on maintaining a healthy weight
• www.eidoactive.co.uk – for information on how exercise can help you
• www.aboutmyhealth.org - for support and information you can trust
• American Academy of Orthopaedic Surgeons at www.aaos.org
• Arthritis Research Campaign on 0870 850 500 and at www.arc.org.uk
• Reflex Sympathetic Dystrophy and Complex Regional Pain Syndrome UK at www.rsd-crps.co.uk
• NHS Direct on 0845 46 47 (0845 606 46 47 - textphone)
• www.eidohealthcare.com

Acknowledgements

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Local information
You can get information locally from the Patient Advice and Liaison Service (PALS) on 02380 798 498 or email PALS@suht.swest.nhs.uk.
You can also contact:

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