

## OS04 ACL Reconstruction

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## What is the anterior cruciate ligament?

The anterior cruciate ligament (ACL) is one of the important ligaments that stabilise your knee. If you have torn (ruptured) this ligament, your knee can collapse or 'give way' when making twisting or turning movements (see figure 1). This may interfere with sports or even everyday activities. Your surgeon has recommended an ACL reconstruction to replace the torn ligament. However, it is your decision to go ahead with the operation or not. This document will give you information about the benefits and risks to help you to make an informed decision. If you have any questions that this document does not answer, ask your surgeon or the healthcare team.

## How does an ACL rupture happen?

An ACL rupture happens as a result of a twisting injury to your knee. The common causes are football and skiing injuries. At first, your knee fills with blood and can be swollen and painful but 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?

Your knee should not give way any more. This will allow you to be more active and you may be able to return to some of or all your sporting activities.

## Are there any alternatives to surgery?

The physiotherapist can give you exercises to strengthen and improve the co-ordination of the quadriceps and hamstring muscles in your thigh. This can often prevent your knee from giving way during everyday activities.

Wearing a knee brace can sometimes help if your knee only gives way while you are playing sports. However, a brace is often too bulky and awkward to wear all the time.

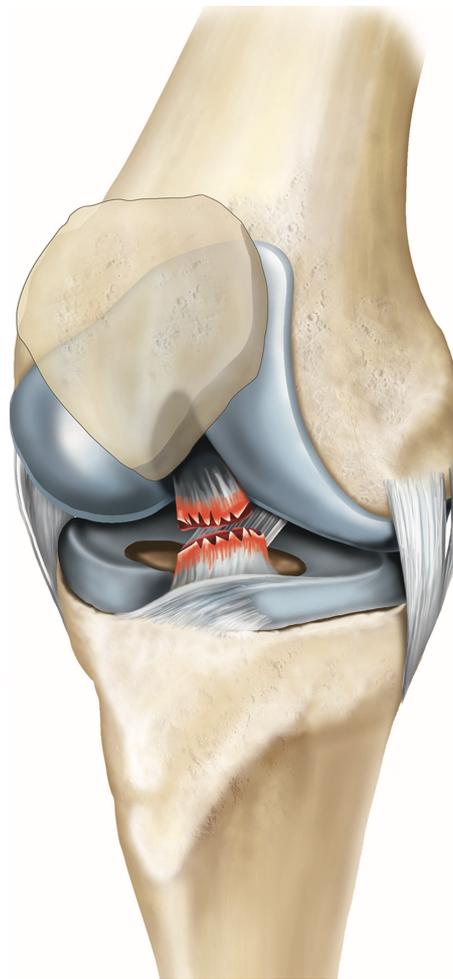


Figure 1  
A torn ACL

## 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). You will usually need another operation to remove or repair the torn piece of cartilage.

## What does the operation involve?

The healthcare team will carry out a number of checks to make sure you have the operation you came in for and on the correct side. You can help by confirming to your surgeon and the healthcare team your name and the operation you are having.

Various anaesthetic techniques are possible. Your anaesthetist will discuss the options with you and recommend the best form of anaesthesia for you. You may also have injections of local anaesthetic to help with the pain after the operation.

You may be given antibiotics during the operation to reduce the risk of infection. The operation usually takes an hour to 90 minutes.

Your surgeon will make one or more cuts around your knee. Most surgeons perform the operation by an arthroscopy (keyhole surgery), using a camera to see inside your knee.

Your surgeon will replace the ACL with a piece of suitable tissue (a graft) from another area of your body. They will usually use one of your hamstring tendons. There are other options, and your surgeon can discuss these with you.

The top and bottom ends of the replacement ligament are fixed with special screws or anchors into holes drilled in the bone (see figure 2).

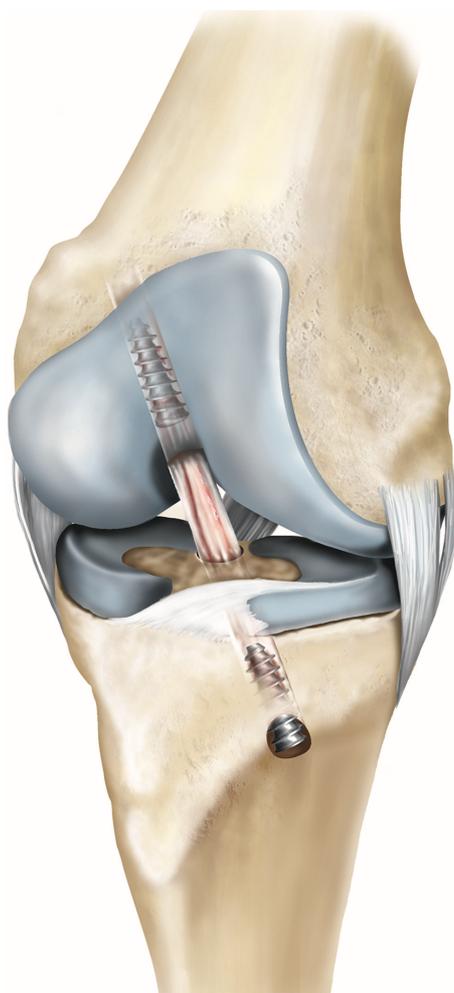


Figure 2

An ACL reconstruction using a graft

Your surgeon will close your skin with stitches or clips.

### **What should I do about my medication?**

Let your doctor know about all the medication you take and follow their advice. This includes all blood-thinning medication as well as herbal and complementary remedies, dietary supplements, and medication you can buy over the counter.

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

If you smoke, stopping smoking several weeks or more before the operation may reduce your risk of developing complications and will improve your long-term health.

Try to maintain a healthy weight. You have a higher risk of developing complications if you are overweight.

Regular exercise should help to prepare you for the operation, help you to recover and improve your long-term health. Before you start exercising, ask the healthcare team or your GP for advice.

You can reduce your risk of infection in a surgical wound.

- In the week before the operation, do not shave or wax the area where a cut is likely to be made.
- Try to have a bath or shower either the day before or on the day of the operation.
- Keep warm around the time of the operation. Let the healthcare team know if you feel cold.

### **What complications can happen?**

The healthcare team will try to make the operation as safe as possible but 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.

#### **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. The healthcare team 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 the operation. If you get a lot of blood in your knee (called a haemarthrosis), it will be swollen and painful (risk: 1 in 25). You may need another operation to wash the blood out.
- Infection of the surgical site (wound) (risk: 1 in 135). It is usually safe to shower after two days but you should check with the healthcare team. Keep your wound dry and covered. Let the healthcare team know if you get a high temperature, notice pus in your wound, or if your wound becomes red, sore or painful. An infection usually settles with antibiotics but you may need another operation.
- Unsightly scarring of your skin.
- Blood clot in your leg (deep-vein thrombosis – DVT) (risk: 1 in 350). This can cause pain, swelling or redness in your leg, or the veins near the surface of your leg to appear larger than normal. The healthcare team will assess your risk. They will encourage you to get out of bed soon after the operation and may give you injections, medication, or inflatable boots or special stockings to wear. Let the healthcare team know straightaway if you think you might have a DVT.
- Blood clot in your lung (pulmonary embolus), if a blood clot moves through your bloodstream to your lungs (risk: 1 in 550). If you become short of breath, feel pain in your chest or upper back, or if you cough up blood, let the healthcare team know straightaway. If you are at home, call an ambulance or go immediately to your nearest Emergency department.
- Difficulty passing urine. You may need a catheter (tube) in your bladder for one to two days.

### 3 Specific complications of this operation

- Break of your kneecap (patella) during or after the operation (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 another operation.
- Damage to nerves around your knee, leading to weakness, numbness or pain in your leg or foot (risk: 1 in 300). This usually gets better but may be permanent.
- Infection in your knee (risk: 1 in 400). You will usually need another operation to wash out your knee and a long course of antibiotics. Infection can cause permanent damage.

- Discomfort in the front of your knee, around the scar and the screw that holds the lower end of the graft (risk: 1 in 3). This is not usually too troublesome but it can make it difficult for you to kneel.
- Loss of knee movement, preventing full bending (risk: 1 in 50) or straightening (risk: 1 in 7). This usually improves with physiotherapy but you may need another operation.
- Your knee keeps giving way, if the ligament graft fails caused by it gradually stretching or a further sports injury (risk: 1 in 10).
- Severe pain, stiffness and loss of use of your knee (complex regional pain syndrome). The cause is not known. You may need further treatment including painkillers and physiotherapy. Your knee can take months or years to improve.

### 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 swollen and it takes hard work to get it to bend.

Keep your wound dry for four to five days, and use a waterproof dressing when you have a bath or shower. The healthcare team will tell you if you need to have any stitches or clips removed, or dressings changed.

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 do go home the same day, a responsible adult should take you home in a car or taxi and stay with you for at least 24 hours. Be near a telephone in case of an emergency.

If you are worried about anything, in hospital or at home, contact the healthcare team. They should be able to reassure you or identify and treat any complications.

#### • Returning to normal activities

Do not drive, operate machinery or do any potentially dangerous activities (this includes cooking) for at least 24 hours and not until you have fully recovered feeling, movement and co-ordination. If you had a general anaesthetic or sedation, you should also not sign legal documents or drink alcohol for at least 24 hours.

To reduce the risk of a blood clot, make sure you follow carefully the instructions of the healthcare team if you have been given medication or need to wear special stockings. Your surgeon may want you to wear a knee brace for a few weeks. Once your knee is settling down you will need to start intensive physiotherapy treatment, which may continue for as long as six months.

The healthcare team 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, do not return to sports until you are told that it is safe to do so.

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

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

#### • 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 as good as it was before the original injury. Mild stiffness is common within a year or two 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 but complications can happen. You need to know about them to help you to make an informed decision about surgery. Knowing about them will also help to detect and treat any problems early.

**Keep this information leaflet. Use it to help you if you need to talk to a healthcare professional.**

#### Acknowledgements

Author: Mr Stephen Milner DM FRCS (Tr. & Orth.)  
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