

# ACL reconstruction

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## Why this operation has been suggested

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Dr Kieran Hirpara, an orthopaedic surgeon at Mater Private Hospital Rockhampton, matches the treatment to your specific knee injury. Patients are generally referred to our clinic by their GP; if a physiotherapist has suggested you see us, you will still need a referral from your GP in order to be eligible for the Medicare rebate. At your appointment we take a history, examine your knee and arrange scans if they are needed. Scans such as an MRI are good at confirming a torn anterior cruciate ligament, the strap of tissue inside the knee that stops the shin bone sliding too far forward.

The anterior cruciate ligament cannot heal itself, so a reconstruction rebuilds it with a new piece of tendon. We usually offer this operation to people who are young or active, or whose knee gives way. Treatment is tailored to your age, activity level, how unstable your knee feels and any other injuries. Many people first try physiotherapy to restore movement and build thigh muscle strength, and surgery follows when that has not given enough improvement. The aim is a knee that feels steady, so you can move and stay active without it giving way.

## Before the operation

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In the weeks before surgery you will work with a physiotherapist to straighten and bend the knee fully and build up the thigh muscles. Doing this first makes recovery after the operation smoother. You will also have scans to help plan the operation, such as an X-ray or MRI. On the day, stop eating seven hours beforehand; we ask for a little longer than the standard six hours so your surgery can be brought forward if the list runs early. Your surgeon will tell you which medicines to pause. Arrange for someone to drive you home, and bring a list of your current medications. Wear loose, comfortable clothing. If you have other medical conditions, you may need blood tests or a review with the anaesthetist.

## On the day

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You arrive at the hospital's surgical admissions unit, where you are checked in and prepared for theatre. You will meet the anaesthetist, the doctor who puts you to sleep and keeps you comfortable during the operation. This

operation is done under general anaesthetic. A regional nerve block is sometimes added for post-operative pain relief; the anaesthetist will discuss this with you on the day.

You are then taken into the operating theatre, where the operation is performed. Afterwards you wake up in the recovery area, where nurses watch over you while the anaesthetic wears off. Once you are stable, you either move to a ward or go home the same day, depending on the procedure and how your recovery is going.

## What the operation involves

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A reconstruction replaces the torn ligament with a new piece of tendon, called a graft. The graft can come from your own body, most often from the front of the knee or from the hamstring tendons at the back of the thigh, or from donor tissue. Your surgeon chooses the graft that suits your knee, your age and the activities you want to return to.

The operation is done through small cuts around the knee using a thin camera called an arthroscope, which lets your surgeon see inside the joint. The torn ligament is confirmed and the knee is checked for any other damage, such as a torn cartilage. Small tunnels are drilled in the shin bone and thigh bone, and the new graft is threaded through them so it sits where the old ligament used to be. The graft is then held in place with screws or buttons while it heals into the bone.

The cuts are closed with stitches and covered with a dressing. You will go home with written instructions on caring for the wounds.

Some tears can be repaired rather than rebuilt, but this suits only a small group of patients, usually where the ligament has torn cleanly off the bone and the tissue quality is good. Your surgeon will tell you if a repair is an option for you.

## After the operation

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When you wake up from the anaesthetic you will be in the recovery area, and once you are stable you will move to a ward or go home. Your team will tell you whether you go home the same day or stay one night in hospital. Nurses will keep you comfortable and give you pain relief as needed. Your knee will have a dressing on the wounds, and you may have a support bandage rather than a brace. Most people stand and take a few steps with a frame or crutches on the day of surgery, with a physiotherapist helping you. Please arrange for someone to stay with you for the first 24 hours after you get home. We leave the dressing on for about 10 days; please do not take it off before then unless we tell you to. We change or remove it when we see you.

## Recovery

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The first days are about comfort and gentle movement. Your knee will be sore and swollen, and it may feel warm. Rest, ice and the pain relief your team prescribes all help. Keep the leg raised when you are sitting or lying down. The swelling usually peaks in the first few days, then settles gradually over the following weeks.

You will see a physiotherapist soon after surgery, and you will keep working with them as your knee recovers. Early exercises focus on straightening the knee fully, bending it a little further each day and switching the thigh muscles back on. Walking starts with crutches or a frame, and you will put weight through the leg as your physiotherapist advises. You may have a support bandage rather than a brace. You can do most things at home once you feel steady: move around the house, prepare meals and go up and down stairs carefully. Avoid twisting, pivoting or kneeling until your knee is ready.

As the swelling settles and movement returns, the exercises become harder. You will build strength in the thigh muscles and practise balance and control. Later stages prepare you for the activities you want to get back to, such as running, jumping or changing direction. Some people also complete a structured return-to-sport program on top of normal physiotherapy before they are cleared for unrestricted sport.

Recovery varies from person to person. Your timeline may differ, and your surgeon and physiotherapist will guide you at each stage.

## What can go wrong

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Most patients do well, but problems can occasionally happen. Your surgeon and the team monitor you closely to spot any issue early.

**Stiffness in the knee.** Some people develop tightness that limits how far the knee bends or straightens. You might notice the knee feels locked or will not fully straighten, even with effort. Doing your exercises and getting full movement back before surgery lowers this risk. Tell your physiotherapist or call the clinic if the knee will not straighten.

**Infection.** This is uncommon, but watch for a deep, throbbing pain that does not ease with simple painkillers, redness spreading out from the wound, or feeling feverish and unwell. The knee may become hot, swollen and very tender. If you notice any of these signs, call the clinic straight away or go to the emergency department. Infection is treated with a washout of the joint and antibiotics, and the graft can often stay in place.

**The new ligament tearing again.** The graft can tear, just as the original ligament did. This usually happens with a twist or a fall, and it feels like the knee giving way again, often with swelling. If this happens, contact the clinic. A second operation to rebuild the ligament is possible, though recovery after that operation is usually slower and the results are not as predictable as the first time.

**Injuring the ligament in the other knee.** The ligament in your other knee can also tear, especially in young people returning to sport. Taking your time with the return-to-sport program before going back protects both knees.

**Pain at the front of the knee.** If the graft was taken from the front of the knee, that area can stay sore, particularly with kneeling, and the thigh muscle can be slower to regain strength. Mention this at your review if it limits you.

The complications table on this page lists typical rates if you want the specifics.

## When to call us

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Most problems show up early, and we would rather hear about them sooner than later. Call us if you have a fever, if the skin around the wound becomes redder or starts leaking fluid, or if the knee becomes hot, swollen and increasingly painful. Go to emergency if you have sudden severe pain, swelling in your calf, or shortness of breath, because these can signal a blood clot. Also go to emergency if your leg goes numb, feels cold or changes colour, or if you cannot move it.