CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

PATIENT INFORMATION

Anterior cruciate ligament injury

What you're feeling

The anterior cruciate ligament (ACL) is a strap of tissue deep inside your knee that keeps the shin bone from sliding forward. When it tears, most people feel or hear a "pop" at the moment it happens. About 70% of people notice this. Your knee often swells within 4 to 12 hours as blood fills the joint.

The pain sits deep in the knee itself, around the joint line. Twisting, pivoting, or changing direction quickly usually makes it worse. Resting and keeping the knee still tends to settle it. The swelling can feel tight and warm, and it may make the knee hard to bend fully.

The most troubling feeling is often not pain but instability. Your knee may feel like it "gives out" when you twist or turn. Going downstairs, stepping off a kerb, or landing after a jump can feel unsafe. Standing up from a squatting position may be difficult. You might avoid stairs or uneven ground without realising it.

If the injury happened some time ago, the pattern can change. The knee may give way repeatedly during twisting activities. It may also swell and ache after sport or a long day on your feet. Some people develop new catching or locking feelings inside the knee. This can happen when the cushioning cartilage rings (the menisci) are also torn, which is common with an ACL injury.

A knee that swells within 1 to 6 hours of a sporting injury needs careful checking for an ACL tear. If your knee is unstable, swollen, or giving way, it is worth having it assessed.

What's actually happening

Inside your knee, two bones meet: the thigh bone above and the shin bone below. The ACL is a strong strap of tissue that joins them, running from the thigh bone down to the shin bone. Think of it as a rope holding the two bones in line while you run, twist and land.

The rope has two strands. One strand is tight when your knee is bent, the other when your leg is straight. Together they stop the shin bone from sliding forward and stop the knee from twisting too far. When the ACL tears, that control is lost. The shin bone can slide and rotate, which is why your knee feels like it gives way.

Most tears happen in the middle of the strap, though some happen where it attaches to the thigh bone or the shin bone. The tear usually happens without anyone touching you, during a sudden stop or a quick change of

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direction. Sometimes a direct blow to the knee causes it. When the shin bone shifts suddenly, it can also bruise or dent the smooth surface of the bones, and the cushioning cartilage rings inside the knee can be torn at the same time.

The swelling you feel is blood filling the joint from the torn strap. The instability comes from the lost control of the shin bone. New catching or locking feelings later on often point to a torn cartilage ring rather than the strap itself.

There is one more thing worth knowing. A knee with a torn ACL, or with a torn cartilage ring, carries a real chance of wear-and-tear arthritis down the track. Roughly half of people with one of these injuries have arthritis with pain and stiffness 10 to 20 years later. Keeping the knee strong and stable, and treating the whole injury rather than just the strap, is aimed at protecting the joint for the long term.

What we can do about it

Dr Kieran Hirpara, an upper-limb surgeon at Mater Private Hospital Rockhampton, matches the treatment to your specific 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. A clinic assessment, which includes your history, an examination, and imaging where needed, establishes the diagnosis. Because this is an acute injury, surgery may be recommended straight away, without a trial of non-operative care first.

Some knees do well without surgery. We usually start with physiotherapy to rebuild movement and strength in the knee, along with a brace and changes to how you stay active. Short, progressive exercise programs are well tolerated and can be a first step, either to prepare the knee for surgery or as the main treatment itself. This path tends to suit people with lower activity demands or knees that rarely give way. It is worth knowing that a knee left without a working ACL has a higher chance of the cartilage rings being torn later, so we watch it closely and reassess if instability continues.

Pain relief in the early days is simple. Rest, ice, and keeping the knee elevated help the swelling settle. Simple pain medication and anti-inflammatories from your pharmacist or GP can ease the first weeks. Nothing else is needed at this stage.

Surgery is considered when the knee keeps giving way, when you play jumping, cutting, or pivoting sport, when your work involves heavy physical tasks, or when other parts of the knee need repair at the same time. Early reconstruction is also advised to protect the cartilage rings from further tearing. The operation replaces the torn strap with a new one, most often taken from your own body around the knee. We will talk through the choices with you, because each has different trade-offs in healing speed, soreness at the donor site, and strength. The aim is a stable knee that lets you return safely to the activities you value. This is a shared decision, made with you, based on your knee, your sport, and your goals.

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What to expect

Most knees settle in the first few weeks. The swelling and sharp pain ease with rest, ice, and simple pain relief. But a torn ACL does not heal back to normal on its own. The feeling of the knee giving way usually stays unless the knee is treated and strengthened. Some people manage well with physiotherapy and changes to how they stay active, and good strength and knee function can be kept that way over time. Others keep having instability during twisting or pivoting, which is often the sign that surgery is worth considering.

Recovery is gradual, whether or not you have surgery. Over weeks to months, the aim is a knee that bends fully, feels steady, and is strong enough for what you ask of it. Getting back to sport takes longer than most people expect. About 55% of people return to competitive sport after ACL reconstruction surgery, and 83% of elite athletes return to their preinjury sport. How you feel about returning matters too. Fear of the knee giving way can hold people back even when the knee itself is strong, and meeting set strength and movement goals before returning to sport helps protect against another injury.

Being honest about the risks matters. In the 24 months after reconstruction and return to sport, you carry a greater chance of another ACL injury than someone who has never torn one. For people aged 18 years and younger, a further ACL injury happens in 1 in 3 patients over 15 years. Waiting a long time before surgery also has costs: more cartilage damage in the knee, and in female patients a delay beyond 12 months gradually raises the chance of a cartilage ring tear that cannot be repaired. Ideally, reconstruction should not be delayed more than five months from injury, particularly in younger people.

The longer picture deserves a mention too. An ACL injury can affect knee-related quality of life for up to 35 years, whichever way it is treated. Roughly half of people develop wear-and-tear arthritis 10 to 20 years later, as covered earlier. What you can influence is the strength, movement, and stability of the knee around that injury, and that is what treatment is aimed at.

When to see someone

Get your knee checked soon after the injury. A knee that swells within 1 to 6 hours of a sporting injury needs careful assessment for a torn ACL, and the sooner it is seen the better the examination tends to be. See your GP promptly if your knee swells quickly after a twist or landing, if it feels like it gives way when you turn, or if you heard or felt a “pop” at the time. Ask for a specialist review if the knee keeps giving way during twisting activities, if it locks or catches, or if it swells and aches after sport weeks or months later. These later feelings often mean a torn cartilage ring inside the knee, which is common with an ACL injury and is worth picking up early.

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