CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

PATIENT INFORMATION

High tibial osteotomy

Why this operation has been suggested

Dr Kieran Hirpara, an orthopaedic surgeon at Mater Private Hospital Rockhampton, offers high tibial osteotomy to carefully chosen patients with knee pain from wear-and-tear arthritis. The operation means cutting and reshaping the main bone of the lower leg, the tibia, so your weight shifts away from the worn part of the knee. We usually suggest it for people who are younger and active, often under 60, with arthritis in one part of the knee rather than the whole joint. It suits people with physical jobs or those who want to keep playing sport.

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 visit we take a history, examine your knee and arrange imaging if needed. For long-standing problems like arthritis we usually try non-operative care first, such as changing your activities, physiotherapy, bracing or injections. Surgery comes into the conversation when those steps have not given you enough improvement.

The aim is to relieve pain and let you stay active while keeping your own knee. The operation has a survival rate of over 96% at 5 years. We will talk through whether it suits you and decide together.

Before the operation

Once surgery is decided, we plan it carefully. You will need X-rays taken while you are standing, and sometimes an MRI scan, which uses magnets to show the soft parts of the knee. These pictures show where the worn cartilage is and help us work out exactly how much to reshape the bone. Most people need nothing more. If you have other medical conditions, you may need blood tests or a review with the anaesthetist, the doctor who puts you to sleep. In the days before surgery, we will tell you which medicines to stop and when. Do not eat for seven hours before your operation; we ask for a little longer than usual so your time can be brought forward if the theatre list runs early. Arrange for someone to drive you home, and wear loose, comfortable clothing.

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On the day

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

You wake up in the recovery area, where nurses watch over you while the anaesthetic wears off. Once you are stable, you either go to the ward or go home, depending on the procedure and your recovery.

What the operation involves

The operation is done through a cut on the inner side of your knee, over the upper part of the tibia, the main bone of your lower leg. Your surgeon cuts most of the way through this bone and then gently opens the gap, which changes the angle of the bone below your knee. This shifts your body weight onto the healthier, less worn side of the joint.

Once the bone is in the planned position, a metal plate with screws holds it in place while it heals. The plate stays inside your knee. In some cases it is removed later through the same area, which can ease symptoms for some people. The cut is then closed and covered with a dressing.

The aim of all this is to unload the worn part of your knee, which is what eases the pain. Your surgeon plans the correction carefully before the operation using your standing X-rays, so the bone is opened by exactly the amount worked out for your leg.

After the operation

You wake up in the recovery ward, where nurses watch over you while the anaesthetic wears off. Your knee will be covered with a dressing, and you may feel some pain as the numbness fades. The nurses will give you medicine to keep you comfortable. A physiotherapist may help you stand and take a few steps, with crutches, on the day of surgery or the next morning. Someone should stay with you for the first 24 hours after you get home. Your team will tell you whether you go home the same day or stay one night in hospital. 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

The first days are about comfort. Your knee will be sore and swollen, and the skin near the cut may feel tight. Pain medicine keeps this manageable, and resting with your leg raised helps the swelling settle. Some people notice the swelling is worse in the evenings at first. Ice packs, used in a towel, can ease this.

You will walk with crutches at first, putting only part of your weight through the leg while the bone heals. A physiotherapist will guide your exercises. These start gently, moving the knee and keeping the thigh muscles working, then build up as the bone knits. The dressing stays on for about 10 days; we change or remove it when we see you.

Day to day, you will need help with stairs and shopping for a while. You can move around the house, rest with your leg up, and do your exercises several times a day. Sleeping on your back with the leg supported is usually easiest. You can shower once we say the dressing can come off.

The milestones are about events, not dates. Once the bone has healed enough to take full weight, walking gets steadier and crutches are gradually left behind. As strength returns, you can start longer walks, then return to work and sport as your knee allows. Most people get back to sport at a level similar to or better than before the operation.

Recovery varies from person to person. Your surgeon and physiotherapist will guide your timeline.

What can go wrong

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

The bone may be slow to knit, or in rare cases may not join at all. You might notice pain at the cut site that does not settle, or a feeling that the knee is giving way. If this happens, bring it up at your next review.

The metal plate can sometimes irritate you. This often feels like aching or tenderness over the plate, especially in cold weather or after activity. If it bothers you, the plate can be removed later through a small cut in the same area. Mention it at your review.

Infection is uncommon but can happen. Watch for redness spreading out from the wound, warmth, swelling that gets worse rather than better, or fluid leaking from the cut. You may feel feverish. If you notice any of these, call the clinic straight away.

A blood clot can form in the deep veins of the leg. This feels like sudden swelling and tenderness in the calf, sometimes with the skin feeling hot. If you notice this, contact the clinic the same day. If you become short of breath or have chest pain, go to the emergency department.

Nerves near the knee can be bruised during surgery. This may feel like numbness, tingling or weakness in the foot or toes, or difficulty lifting the foot. Many of these settle on their own. Tell your surgeon at the next review if you notice it.

The corrected bone can rarely slip back toward its old position. You might notice the knee gradually feeling out of line again, or pain returning on the worn side. Bring this up at your review.

Other problems can include a fracture during the operation, stiffness in the knee, or a rare pain condition that causes burning, sensitivity and swelling well beyond the normal healing period. Your team will pick these up and manage them with you.

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

When to call us

Most problems show up early, and we would rather hear about them sooner than later. Call us if you have a fever, if the redness around the wound is spreading, or if fluid is leaking from the cut. Call us the same day if your calf becomes suddenly swollen and tender. Go to emergency if you become short of breath or have chest pain. Go to emergency if you lose feeling in your leg or foot, or you cannot move it. Call us if pain suddenly gets much worse, or the swelling keeps growing after the first few days.

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