PROCEDURE

ACL reconstruction

ACL reconstruction is surgery that replaces a torn knee ligament with a tendon graft

PURPOSE
Restore knee stability after an ACL tear

PROCEDURE TYPE
Therapeutic - minimally invasive arthroscopic surgery

WHERE IT IS DONE
Operating theatre, usually as day surgery

ANAESTHESIA
General, often with a regional nerve block

HOW LONG IT TAKES
About 1 to 2 hours

PREPARATION
Fasting, medication review, and home transport planning

RECOVERY
Same day usually; no driving until safely cleared

MAIN RISKS
Infection, blood clots, stiffness, graft failure

RESULTS
Surgical findings immediately; stability and function assessed over months

Overview

The anterior cruciate ligament, or ACL, helps control forward movement and rotation of the shin bone. A tear can make the knee unstable during turning, jumping, or sudden changes of direction.

ACL reconstruction replaces the torn ligament with a tendon graft, usually from your kneecap, hamstring, or quadriceps tendon. Donated human tissue may sometimes be used. The operation is generally performed through small cuts using an arthroscope, a narrow camera placed inside the knee.

Surgery can improve stability but cannot guarantee that the knee will feel as it did before the injury or prevent future arthritis or injury.

Why the procedure is performed

ACL reconstruction may be considered if your knee repeatedly gives way despite rehabilitation or if you want to return to work or sports involving pivoting, cutting, or jumping. Related damage, such as a meniscus tear, may be treated during the same operation.

The decision is not based on an MRI alone. Your symptoms, examination, activity goals, other injuries, health, and ability to complete rehabilitation all matter.

Who should and should not have it

Reconstruction may suit people with ongoing instability, high-demand activity goals, or related injuries that require a stable knee. It is not necessary for every ACL tear; physiotherapy may provide enough stability for less demanding activities.

Surgery may be avoided or delayed when:

Children and teenagers who are still growing need specialist assessment because surgery must protect the bones' growth areas.

- The knee is very swollen, stiff, or unable to straighten fully
- There is an active infection or skin problem near the knee
- A medical condition makes surgery or anaesthesia unsafe
- You cannot complete the lengthy rehabilitation programme
- Advanced arthritis is the main cause of pain
- You are pregnant and surgery can safely wait

How to prepare

Preoperative physiotherapy may help reduce swelling, restore full movement, and strengthen the knee.

Tell the surgical team about all medicines, supplements, allergies, medical conditions, and previous reactions to anaesthesia. They will explain whether to pause any medicine. Do not stop a blood thinner or other prescribed medicine without medical advice.

Follow instructions about when to stop eating and drinking. The treating facility's own instructions take priority , because fasting and medication plans vary.

Arrange for an adult to take you home and, if possible, stay during the first night. Remove trip

hazards and ask whether crutches, a brace, or cold packs will be provided.

What happens during the procedure

ACL reconstruction usually takes 1 to 2 hours under general anaesthesia. A regional nerve block may also reduce pain afterward.

The surgeon inserts an arthroscope through small cuts and examines the ACL, cartilage, menisci, and other ligaments. If your own tissue is used, a tendon graft is removed through another incision.

Small tunnels are made in the thigh bone and shin bone. The graft is passed through them, secured with screws, buttons, or similar devices, and checked for position and tension. Planned meniscus or cartilage treatment may also be performed.

The cuts are closed and dressed before you move to a recovery area.

Recovery and what to expect afterward

Pain and swelling are expected for the first few days. Use pain relief, cold packs, elevation, and ankle movements as directed. Do not exceed prescribed or labelled medicine doses.

Most people go home the same day. You will usually begin moving the knee and using crutches soon after surgery. How much weight you can place on the leg may depend on whether another structure, such as the meniscus, was repaired.

Physiotherapy is essential for restoring movement, strength, balance, and control. Early progress focuses on reducing swelling and fully straightening the knee.

Do not drive home. Drive again only when you are no longer taking medicines that impair alertness, can safely control the vehicle, and have been cleared under your surgeon's advice and local rules.

Desk work may be possible within a few weeks, but physical work takes longer. Return to sport commonly takes 6 to 12 months and should depend on healing, strength, movement, and functional testing rather than time alone.

Risks and possible complications

Possible complications include:

The reconstructed ACL can be injured again. Gradual rehabilitation and good movement

control reduce, but do not eliminate, this risk.

- Infection in the wound or knee joint
- A blood clot in the leg or lungs
- Knee stiffness or loss of movement
- Ongoing pain, swelling, or instability
- Graft stretching, tearing, or failure to heal
- Injury to nearby nerves or blood vessels
- Incision numbness
- Pain or weakness where tendon was removed
- Problems with fixation devices
- Reactions to anaesthesia

Results and follow up

The surgeon can usually explain the findings and treatment soon after surgery. ACL reconstruction does not normally require a pathology result.

Follow-up appointments check the wounds, swelling, movement, and stability. Stitches or clips may need removal, and your physiotherapist will adjust exercises as healing progresses.

Later rehabilitation focuses on strength, balance, running, jumping, and changing direction. Before demanding sport, your team may assess strength, hopping ability, movement quality, confidence, and knee stability. Even after successful surgery, the knee may not feel completely normal, and arthritis can still develop.

Alternatives

Structured physiotherapy is the main alternative and may provide enough stability for everyday activity without surgical risks. However, the knee may still give way during pivoting sports or demanding work.

Activity modification avoids movements that trigger instability but may limit sports, work, or recreation. A brace may provide support or confidence, but it does not rebuild the ACL or always prevent giving way.

ACL repair, which reattaches the ligament, is suitable only for selected tears and may have less

certain long-term durability. Another option is to delay surgery while completing rehabilitation. Some people no longer need an operation, although repeated instability may cause further meniscus or cartilage injury.

When to call your healthcare team

Contact your surgical team promptly for increasing wound redness, drainage, fever, worsening swelling, uncontrolled pain, or difficulty moving the knee after initial improvement. New calf pain or one-sided leg swelling needs urgent assessment.

Seek emergency care for:

Routine questions about dressings, exercises, medicine side effects, work, or gradual stiffness can usually wait for normal hours.

- Sudden shortness of breath
- Chest pain
- Coughing up blood
- Fainting or severe weakness
- A foot that becomes cold, pale, blue, or persistently numb

Common questions

Will I be asleep?

Usually, yes. General anaesthesia is standard, sometimes with a nerve block for pain relief.

Can I drive myself home?

No. Another adult must take you home. Resume driving only when you can safely control the vehicle and are no longer affected by anaesthesia or pain medicines.

How painful is ACL surgery?

Pain is common during the first few days but should gradually improve. Medicines, cold packs, elevation, and rehabilitation can help.

When will I know if it worked?

The surgeon checks graft position and initial stability during surgery. Functional results become clearer over several months.

Will I need crutches or a brace?

Crutches are commonly used at first. Brace use depends on your surgeon's approach and whether other structures were repaired.

When can I play sport again?

Commonly after 6 to 12 months, once healing and functional testing show that returning is safe.

Sources

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