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ACL Reconstruction: Patient Information

Understanding the ACL

The Anterior Cruciate Ligament (ACL) is made up of two bundles and plays a critical role in stabilizing the knee during twisting, pivoting, and landing movements.

You can function without an ACL for straight-line activities such as:

- Walking
- Running on even ground
- Cycling
- Swimming

Some people can also return to **social or recreational sports** without an ACL, as long as:

- Muscle strength and conditioning are good
- No other knee injuries are present

When Is ACL Surgery Recommended?

ACL reconstruction is advised if:

- You wish to return to **pivoting or high-impact sports**
- Your **job or lifestyle** involves sudden changes in direction, jumping, or landing
- You have **associated injuries** (e.g. meniscus or other ligament tears) that need surgical treatment

ACL Repair

Recent advances in surgical technique and our understanding of ACL healing have made **ACL repair** possible in specific cases.

When is ACL repair an option?

- For certain tear patterns where the ACL has torn away from the **femoral attachment**

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- If suitable, repair can result in a more "natural" feeling knee, faster healing (5 months), earlier return to sport.

Mr. Kejriwal always assesses the ACL's condition at the start of surgery and will proceed with a repair if appropriate.

ACL Graft Choices

The choice of graft is relevant during early recovery, especially within the first 12 months after surgery, when most graft failures occur.

Hamstring Tendon (Single Bundle)

- **Most common option worldwide**
- Uses two hamstring tendons
- **Failure rate:** ~10%
- **Side effects:** Some hamstring weakness, cramps, and strain, kneeling discomfort 10%
- **Best for:** Low- to medium-demand activities, risk of stiffness, or partial native ACL healing

Hamstring Tendon (Double Bundle)

- Recreates natural ACL anatomy using two bundles
- **Failure rate:** ~5%
- **Side effects:** as above
- **Best for:** Medium- to high-demand knees, where kneeling discomfort is a concern

Patellar Tendon (Bone-Tendon-Bone)

- Uses the middle third of your patellar tendon with bone plugs
- **Failure rate:** ~5%
- **Side effects:** Discomfort when kneeling (~20%)
- **Best for:** High-demand knees (e.g. professional athletes)

Quadriceps Tendon

- Uses a portion of the quadriceps tendon above the kneecap
- **Failure rate:** ~7%
- **Side effects:** More difficult early rehab, potential for long-term quad weakness
- **Best for:** Revision (repeat) ACL surgery

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ALL (Anterolateral Ligament) Augmentation

- Performed alongside ACL reconstruction in high-risk cases
- **Purpose:** Improves stability, reduces graft failure risk
- **Best for:** High-risk individuals (based on age, sport, laxity)

Rehabilitation (Rehab)

Rehabilitation is critical to a successful outcome after ACL reconstruction.

Key Points:

- **Muscle conditioning before surgery** is highly recommended
- **Consistent physiotherapy** before and after surgery reduces stiffness and graft failure
- **Timeline for recovery:**
  - ACL graft takes **~9 months** to mature
  - Muscle strength may take up to **2 years** to fully return

Return to Sport

- Do **not return to sport** for **at least 12 months** post-surgery
- You must pass a **Return to Sport (RTS) assessment** with your physiotherapist
  - This is **mandatory** before playing sport again

What to expect:

- **2 in 3** patients return to some sport by 2 years
- **Only 50%** return to the same level as before injury

Complications

All surgeries carry risks. The overall risk of complication in ACL surgery is **~5%**.

Common issues include:

- Infection
- Ongoing knee discomfort or “niggles”

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- Long-term stiffness
- A **numb patch** near the incision site (often permanent but less noticeable over time)

Post-Operative Care

Numbness

- Common after surgery, usually over the front or side of the shin
- Area and intensity vary
- Often reduces with time, but can persist long-term

Swelling

- Swelling is normal immediately after surgery and settles within **4 weeks**
- Rest, ice, and elevation help reduce it
- Persistent swelling can delay muscle recovery and may indicate **over-activity**

Clicking

- Often due to swelling and quadriceps weakness
- Usually improves with rehab
- Inform your surgeon if clicking is painful or persistent

Graft Failure

- Risk ranges from **5% to 25%**, depending on age and activity level

To reduce your risk:

- Complete pre- and post-op physiotherapy
- Avoid sport for at least 12 months
- Only return to sport **after passing the RTS assessment**

Online Videos

https://patient.orthopedia.com/student/path/1749344-anterior-cruciate-ligament-acl-tears?sid=e035fc29-ff6c-407b-81ab-8370f1419779&sid_i=3