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Anterior Cruciate Ligament (ACL) rehab

ACL recon is a surgical procedure to replace a torn ACL, typically using a graft from the patient's own tissue or a donor. Rehabilitation is critical to ensure a successful recovery, restore knee function, and return to pre-injury activity levels.

Rehabilitation Goals

- Protect the graft and promote healing
- Regain knee range of motion and strength
- Restore normal walking and functional movements
- Safely return to sports and physical activities

Expected Recovery Time

Milestone	Timeframe Range
Full weight-bearing without crutches	2-4 weeks
Achieve full range of motion	6-10 weeks
Jogging	3-6 months
Return to non-contact sports	6-9 months
Return to contact sports	9-12 months

Return to sport criteria for ACL reconstruction

Athletes should meet the following before return to high-risk sports:

1. Quadriceps and hamstring strength ≥ 90% of the uninjured side
2. Hop tests (single, triple, crossover) ≥ 90% limb symmetry
3. No pain, swelling, or instability
4. Full knee ROM and normal gait
5. Psychological readiness (e.g., using ACL-RSI score)
6. Functional movement assessment (e.g., Y-Balance Test, landing mechanics)

Key considerations:

- **Early return (<9 months)** is linked with a **higher re-tear risk**, especially in younger athletes.
- **Graft type**, **age**, **sport**, and **rehab quality** influence timeline.
- Surgeons and physios should guide decision-making using **evidence-based protocols** and functional assessments.

Phase 1: Early Post-op (0–2 weeks)

Goals

- Control pain and swelling
- Protect the graft site
- Begin gentle range of motion
- Activate quadriceps and hamstrings

Instructions

- Elevate leg and apply ice for 15–20 minutes several times a day
- Keep surgical dressing clean and dry
- Use crutches and knee brace as advised
- Limit weight-bearing as instructed

Exercises

- Ankle pumps
- Quadriceps sets
- Heel slides
- Straight leg raises (if no lag)
- Patellar mobilisations

Phase 2: Range of Motion and Early Strength (2–6 weeks)

Goals

- Improve range of motion to near full
- Gradually increase weight-bearing
- Start gentle strengthening
- Normalize gait pattern

Instructions

- Wean off crutches as tolerated
- Continue wearing brace if prescribed
- Monitor for swelling after exercises

Exercises

- Stationary cycling (no resistance)
- Wall slides
- Hamstring curls (gravity-assisted or light resistance)
- Step-ups
- Terminal knee extensions

Phase 3: Strength and Control (6–12 weeks)

Goals

- Regain full range of motion
- Build muscle strength and endurance
- Improve balance and proprioception

Instructions

- Continue home or supervised rehab
- Avoid high-impact activities
- Gradually increase intensity and load

Exercises

- Leg press (within comfortable range)
- Single-leg balance
- Mini-squats
- Resistance band exercises
- Side-steps and lunges

Phase 4: Advanced Strengthening and Agility (3–6 months)

Goals

- Restore advanced strength and control
- Introduce agility and dynamic exercises
- Prepare for running and sport-specific drills

Instructions

- Use proper warm-up and cool-down techniques
- Monitor for pain or swelling after sessions
- Progress under guidance of physiotherapist

Exercises

- Plyometric drills (e.g. jump squats)
- Agility ladders
- Bounding exercises
- Light jogging and progression to running
- Sport-specific drills (non-contact)

Phase 5: Return to Sport (6–12 months)

Goals

- Full functional recovery
- Safe return to competitive sport
- Psychological readiness and confidence

Instructions

- Complete return-to-sport testing if applicable
- Continue strengthening and agility maintenance
- Report any instability or discomfort

Exercises

- High-speed agility drills
- Pivoting and cutting
- Full sport-specific practice (with and without contact)
- Maintenance strength program

When to Contact Your Surgeon

- Fever over 38°C
- Increased swelling, redness, or warmth around the knee
- Severe pain not relieved by medication
- Signs of infection at incision site
- Sudden instability or "giving way" of the knee
- Difficulty bearing weight that worsens

Disclaimer

Note: This is a general guideline. Your physiotherapist or surgeon may adjust the protocol based on your specific condition and progress.