

# Tibiofemoral Cartilage Restoration

## Physical Therapy Protocol

### Phase I – Protection & Mobility (Post-Op Weeks 1–3)

#### Goals:

- Protect the surgical site.
- Control inflammation and pain.
- Begin early controlled motion within set limitations.

#### Precautions:

- Use TROM brace:
  - Week 1: 0–30°
  - Weeks 2–3: 0–45°
- Weight Bearing:
  - Week 1: 20% body weight
  - Increase by 10% each week
  - Full WB by Week 8

Exercises:

- Isometric quadriceps sets
  - Straight Leg Raises (SLR)
  - Open Kinetic Chain (OKC) strengthening within ROM limits
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**Phase II – Strength (Post-Op Weeks 4–6)**

Goals:

- Improve lower extremity strength.
- Normalize early muscle activation patterns.

Activities:

- Gait training with progressive weight-bearing
  - Weight shifting activities
  - Emphasis on glute strength and VMO (vastus medialis oblique) control
  - Use stationary bike (no resistance) to promote ROM
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**Phase III – Gait Normalization (Post-Op Weeks 7–12)**

Goals:

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- Achieve full weight bearing.
- Normalize gait pattern and eliminate compensations (e.g., Trendelenburg gait).

Exercises:

- Advanced gait training
  - Bodyweight squats (as tolerated)
  - Begin elliptical (low resistance)
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### **Phase IV – Proprioceptive Phase (Post-Op Weeks 13–24)**

Goals:

- Enhance joint stability.
- Improve neuromuscular control.

Activities:

- Progress to closed kinetic chain (CKC) exercises
  - Advance from double-leg to single-leg strengthening and balance drills
  - Increase dynamic proprioceptive training
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## **Phase V – Functional Return (Post-Op Month 6 and Beyond)**

### Goals:

- Safely return to sport and high-level functional activities.

### Activities:

- Initiate structured return-to-running program
- Begin sport-specific drills (e.g., cutting, jumping, agility drills)
- Continue progressive strengthening and balance training