

# Patellofemoral Cartilage Restoration

## Physical Therapy Protocol

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

#### Goals:

- Protect the surgical site
- Initiate gentle motion within protected range
- Activate quadriceps and VMO
- Begin safe mobility with assistive devices

#### Restrictions:

- PROM and AROM 0–20° (Week 1)
- PROM and AROM 0–60° (Weeks 2–3)
- Brace locked in extension unless performing exercises

#### Therapeutic Exercises:

- Isometric quadriceps sets
- Straight leg raises (SLR)
- Weight shifts in standing
- Patellar mobilizations
- Ankle pumps

### Phase II – Strength (Post-Op Weeks 4–6)

#### Goals:

- Improve AROM

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- Restore basic gait pattern
- Initiate controlled strengthening

**Restrictions:**

- Continue brace as needed, unlock as quad control improves
- Avoid open-chain resistance to the knee joint

**Therapeutic Exercises:**

- AROM to 0–125°
- Gait training with progressive weight bearing
- Stationary cycling for ROM (no resistance)
- Mini squats (pain-free)
- Single-leg balance drills
- Closed-chain quad/glute strengthening

**Phase III – Dynamic Strength (Post-Op Weeks 7–12)**

**Goals:**

- Achieve full AROM
- Normalize gait pattern
- Improve dynamic lower limb control

**Milestones:**

- Discontinue crutches and TROM brace
- Independent ambulation without gait deviations

**Therapeutic Exercises:**

- Step-ups and step-downs
- Lateral and diagonal movements
- Progressive resistance exercises for quads/glutes

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- Core strengthening

## **Phase IV – Proprioceptive Phase (Post-Op Weeks 13–24)**

### **Goals:**

- Enhance neuromuscular control
- Improve balance and proprioception
- Increase functional strength

### **Therapeutic Activities:**

- Single-leg balance on unstable surfaces
- Closed kinetic chain training
- Ergometers, elliptical, and stairmaster (as tolerated)
- Agility ladders and cone drills (if appropriate)

## **Phase V – Functional Return (Post-Op Month 6+)**

### **Goals:**

- Safely return to higher-level activities
- Prepare for sports or recreational return

### **Functional Progression:**

- Begin running program (if cleared)
- Integrate plyometric and impact control drills
- Sport-specific exercises and interval training