Suezie Kim, MD
Orthopedic Surgeon • Sports Medicine

PT PROTOCOL

# ACL Reconstruction — Quadriceps Autograft

Rehabilitation Protocol

## Phase 1 Weeks 0–2

**Weight-Bearing:** Partial weight-bearing with crutches (modified if a concomitant meniscal repair, meniscal transplant, or articular cartilage procedure was performed).

**Range of Motion:** Active-assisted range of motion (AAROM), progressing to active range of motion (AROM) as tolerated.

**Brace:** Hinged knee brace, locked in full extension for ambulation and sleeping (weeks 0–2); unlocked for ambulation and removed for sleeping (weeks 2–6).

### Therapeutic Exercises

- Quad and hamstring sets, and heel slides.
- Non-weight-bearing stretch of the gastrocnemius and soleus.
- Straight leg raises with brace locked in full extension, until quad strength prevents an extension lag.

## Phase 2 Weeks 2–6

**Weight-Bearing:** As tolerated; discontinue crutches.

**Range of Motion:** Maintain full extension; work on progressive knee flexion.

### Therapeutic Exercises

*Continue Phase 1 exercises, then add the following at 4 weeks:*

- Closed-chain extension exercises.
- Hamstring curls, toe raises, balance exercises.
- Progress to weight-bearing stretch of the gastrocnemius and soleus.
- Begin stationary bicycle.

## Phase 3 Weeks 6–16

**Weight-Bearing:** Full.

**Brace:** Discontinue once the patient has achieved full extension with no evidence of extension lag.

**Range of Motion:** Full and painless.

### Therapeutic Exercises

- Begin hamstring strengthening.
- Advance closed-chain strengthening exercises and proprioception activities.
- Begin stairmaster / elliptical.
- May start ahead-running at 12 weeks.

## Phase 4 Months 4–6

**Range of Motion:** Full and painless.

**Therapeutic Exercises**

- Continue quad and hamstring strengthening and flexibility work.
- Begin cutting exercises and sport-specific drills at 6 months.
- Maintenance program for strength and endurance.

**Return to sports: 9–12 months**