



# Indiana University Health

*IU Health Physicians Orthopedics & Sports Medicine*

## **AUTOLOGOUS CHONDROCYTE IMPLANTATION (ACI) OF PATELLOFEMORAL JOINT (PATELLA / TROCHLEA) WITH TIBIAL TUBERCLE OSTEOTOMY**

### **PHYSICAL THERAPY PROTOCOL**

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[www.bryansaltzmanmd.com](http://www.bryansaltzmanmd.com)

**Patient Name:** \_\_\_\_\_ **Date of Surgery:** \_\_\_\_\_

\_\_\_ **Evaluate and Treat**                      \_\_\_ **Provide patient with home program**

**Frequency:** \_\_\_\_\_ x/week    x    \_\_\_\_\_ weeks

**Associated Procedure (checked if performed):**

Lateral Release

Chondroplasty

Osteochondral Fracture Repair

Particulated Juvenile Cartilage Allograft Transplantation (DeNovo)



## Medial patellofemoral ligament (MPFL) reconstruction Osteochondral Allograft Transplantation

**Frequency:** 2x per week for \_\_\_\_\_ weeks

### CPM

- Initiate POD1 with 0-30°
- Perform 3x per day in 2-hour sessions.
- If cartilage restoration procedure performed:
  - 0-2 weeks: 0-30°
  - 2-4 weeks: 0-60°
  - 4-6 weeks: 0-90° and increase 5° per day

### Phase I (0-6 weeks): *Period of protection.*

- **Non-Weight Bearing (NWB) with brace locked in extension.** Hinged knee brace should be worn at all times except for CPM use, PT and hygiene.
- **ROM**
  - Immediate passive ROM 0-30°, and gently progress to 90°.
  - Progress active knee flexion as tolerated but **avoid active knee extension.**
- **Strengthening:**
  - Gentle quad sets with towel under heel, co-contractions, isometric quad/hamstring strengthening in extension and at knee flexion >60°
- **Precautions:**
  - No lateral patella mobilizations, medial mobilizations OK
  - No AAROM or AROM extension to protect osteotomy

### Phase II (6-12 weeks): *Transition phase.*

- Transition to full weight-bearing over weeks 6-8 (advance 50% per week).
- Discontinue brace at 8 weeks once adequate quad control and no lag on SLR.
- **ROM:** Passive ROM as tolerated with gentle stretching at end ranges if not yet at full motion. Active and active-assisted ROM as tolerated with no resistance.
- **Strengthening:**
  - Begin and advance SLRs. Once full weight-bearing, with no lag on SLR and no limp during gait, begin and slowly advance closed-chain quad/core and hamstring strengthening.
  - Initiate stationary bike at 6 weeks (high seat, low resistance). Normal settings at 8 weeks
  - No weight-bearing exercises with knee flexion angles >90°

### Phase III (3-6 months): *Begin more sport-focused conditioning.*

- **ROM:** Continue active and active-assisted ROM.
- **Strengthening:**
  - Progress closed-chain patellofemoral strengthening without limits. Begin treadmill walking at a slow pace and progress to balance/proprioception



- Elliptical at 12 weeks
- Light plyometrics and jogging can be initiated at 4 months.
- From 5 – 6 months, begin and advance sport-specific activities (running, agility training).
- High-impact activities (jumping, contact sports) allowed once full motion and strength achieved (usually 6 months).

**By signing this referral, I certify that I have examined this patient and physical therapy is medically necessary. This patient \_\_\_ would \_\_\_ would not benefit from social services.**

\_\_\_\_\_

**Date:** \_\_\_\_\_

**Bryan M. Saltzman, MD**