



## Indiana University Health

*IU Health Physicians Orthopedics & Sports Medicine*

### **PATELLAR DISLOCATION (NON-OP) - ACCELERATED**

#### **NON-OP PHYSICAL THERAPY PROTOCOL**

**Bryan M. Saltzman, M.D.**

*Chief, Division of Sports Medicine & Shoulder/Elbow Surgery*

Indiana University Health Physicians

Assistant Professor of Orthopaedic Surgery, Indiana University

Sports Medicine, Cartilage Restoration, Shoulder/Elbow Surgery

IU Health Methodist Medical Plaza North (MSK) – 201 Pennsylvania Pkwy #100,  
Carmel, IN 46280

IU Health Methodist Hospital – 1801 N Senate Ave, Indianapolis, IN 46202  
317-944-9400

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

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**Patient Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**X** Evaluate and Treat

**X** Provide patient with home program

Frequency: **2-3** x/week x **6** weeks



## **Phase I: Weeks 0-2**

- ROM:
  - Weeks 0-1: Locked in extension at all times
  - Weeks 1-2: Gradually increase flexion based on tolerance. Obtain full ROM by weeks 4-6.
  - Early emphasis on maintaining full extension
    - Low load long duration stretching for extension with head if needed
    - Towel roll extensions
    - Prone leg hangs
  - Gentle patellar mobilizations – avoid lateral patellar glides
- Weightbearing and brace use:
  - WBAT in hinged knee brace
  - Transition to patellar stabilization brace when able to perform 30 SLR in full extension without lab or brace on.
- Modalities:
  - Cryotherapy for 15minutes, 3x daily
  - NMES for quadriceps
- Exercises:
  - Gentle strengthening exercises only if they can be performed pain free.
  - Initiate functional closed kinetic chain exercises with strengthening from terminal extension to mid-range flexion. Isolate gentle sub-max open kinetic chain exercise from mid-range flexion to 0° and light isotonic open kinetic chain exercises 90° to 45°.
    - Adductor squeezes, SLE, closed kinetic chain knee extension, multiangle isometrics at 20° increments
    - Gentle short arc 0° to 30° for quadriceps
    - Light isotonic open kinetic chain exercises 90° to 45°
    - Closed kinetic chain exercises of weight shifting, partial wall squats
    - Gastroc/Soleus strengthening
  - Balance/proprioception exercises, double leg progressing to single leg
  - Core stability and upper body exercises

## **Phase II: Week 2-4**

- Goals:
  - Minimize effusion
  - Return to full ROM
  - Improve muscle strength and endurance
- Weightbearing and brace use:
  - WBAT
  - Patellar stabilization brace for exercises and long-distance ambulation
  - Normalize gait
- ROM:



- Full by 4-6 weeks
- Exercises:
  - As above plus:
  - Active warm-up: Bike, elliptical, treadmill walking
  - Strengthening and endurance exercises pain free. Respect the patellofemoral joint reaction forces that increase with knee flexion angles during closed kinetic chain exercises.
  - Incorporate total leg strengthening exercises, avoiding dynamic valgus angles during strengthening and functional activities.
    - Hip abductor and external rotator strengthening
    - Adductor squeeze, SLR, closed kinetic chain knee extension
    - Quadricep open kinetic chain isotonic short arc with progression to full ROM
    - Hamstring isotonics
    - Closed kinetic chain exercises: progress from mid-ROM to full ROM: leg press, step ups, partial lunges to full lunges, lateral step overs, side step with theraband, partial squats progressed to 90° squats
    - Gastroc/Soleus strengthening
  - Balance/proprioception
  - CV conditioning
  - Core Stabilization

### **Phase III: Week 4+**

- Goals:
  - Progress muscle strength, endurance, and balance activities
  - Progress to high level activities depending on functional demands
- Weightbearing and brace use:
  - WBAT
  - Patellar stabilization brace for exercises and sports until week 12
- Exercises:
  - As above plus:
  - Active warm-up: Bike, elliptical, treadmill walking
  - Strengthening and endurance exercises as above. May progress as tolerated.
  - Dynamic balance exercises
  - Impact activities if patient has 75% strength on closed kinetic chain resting
    - Initiate running program
    - Agility drills
    - Plyometrics
  - CV conditioning
  - Core Stabilization

### **Phase IV: Return to sport**

- Criteria to return to sports and to d/c brace



- Functional testing between 4-6 weeks if
  - Full Active ROM
  - No effusion
  - No pain at rest or activity
  - Quadriceps and hip external rotators strength >90% contralateral side
  - Satisfactory clinical exam
  - Functional hop test > 90% contralateral side
  - Completion of running program

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

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

**Bryan M. Saltzman, MD**