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ORTHOPAEDIC SURGEON  
Practice no. 0815802

# Patella Dislocation Protocol

With special thanks to Associate Professor Justin Roe (MBBS, FRACS) and the North Sydney Orthopaedic Research Group



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

### GOALS

- Minimize knee joint effusion
- Gently increase range of motion per tolerance
- Encourage quadricep function
- Gradual progression of therapeutic exercise for strengthening, stretching, and balance
- Normalization of gait pattern

### Range of Motion

- Week 0-1: 0 degrees of extension
- Week 1-2: Gradually increase based on tolerance. Full range of motion by 4-6 weeks.

### Weight bearing/Brace

- Weight bearing as tolerated with knee immobilizer.
- Switch to lateral patellar stabilizer when there is good quadriceps control

### Modalities

- Cryotherapy 15 minutes, 3 times per day
- Oral medication for pain and effusion as needed

### Treatment Recommendations (Based on Tolerance)

- Stationary bike - Active warm-up through range of motion (high bike seat)
- Gentle stretching to increase range of motion. Emphasis on full return of knee extension as soon as possible with gradual improvement for knee flexion range of motion based on patient tolerance.
  - Patellar mobilization only if needed, avoiding lateral patellar glides
  - Flexibility exercises for hamstring, gastroc/soleus, ITB, iliopsoas if indicated
  - Gentle strengthening exercises, 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 degrees and light isotonic open kinetic chain exercises 90 degrees to 45 degrees.
  - Adductor squeezes, SLR, closed kinetic chain knee extension, multi-angle isometrics at 20 degree increments
  - Gentle short arc 0 degrees to 30 degrees for quadriceps
  - Light isotonic open kinetic chain exercises 90 degrees to 45 degrees
  - 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: 2-4 Weeks - Minimal Protective Phase

### GOALS

- Minimize knee joint effusion
- Return to full range of motion
- Improved muscle strength and endurance
- Progression of therapeutic exercises for strengthening, stretching, and balance

### Range of Motion

- Gradually progress to full range of motion by 4- 6 weeks

### Weight bearing/Brace

- No limitations
- Normalization of gait pattern if not already achieved
- Continue with patellar stabilizing brace for long distance ambulation

### Modalities

- Cryotherapy 15 minutes 1-2x per day
- Oral medication for pain and effusion as needed

### Treatment Recommendations (Based on Tolerance)

- Active warm-up: Bike, elliptical, treadmill walking
- Stretching for full range of motion
  - Low load long duration stretching with heat if needed
  - Patellar mobilization only if needed, avoiding lateral patellar glides
- Flexibility exercises for hamstring, gastroc/soleus, ITB, iliopsoas if indicated
- Strengthening and endurance exercises, pain free. Progression to full range of motion exercises per tolerance.
- Incorporate total leg strengthening exercises, avoiding dynamic valgus angles during strengthening and functional activities.
  - Focus on 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 range of motion
  - Hamstring isotonic

- Closed kinetic chain exercises: progress from mid-range of motion to full range of motion: leg press, step ups, partial lunge progress to full lunge, lateral step overs, side step with theraband, partial squats progress to 90 degree squats
- Gastroc/Soleus strengthening
- Balance/proprioception
- Cardiovascular conditioning, core stabilization
- Ice

## Phase III: 4+ Weeks - Return to Activity Phase

### Goals

- Progress muscle strength, endurance, and balance activities
- Progress to higher level activities depending on functional demands and physician approval

### Brace

- Patellar stabilizing brace only for sport or strenuous work activities until week 12

### Modalities

- Cryotherapy 15 minutes, once a day or after strenuous activities

### Treatment Recommendations

- Active warm-up: bike, elliptical, treadmill walking
- Stretching and flexibility exercises as needed
- Strengthening and endurance exercises: advance as tolerated with emphasis on functional strengthening
- Avoid dynamic valgus during strengthening and functional activities, focusing on hip abductor and external rotator strengthening
  - Total leg strengthening
  - Hip strengthening
  - Heel raises
  - Hamstring full range of motion isotonic
  - Quadriceps isotonic in range of motion
  - Isokinetic quadriceps and hamstring in range of motion
  - Closed kinetic chain exercises: leg press, multidirectional lunges, squats, step-ups, side steps with theraband
  - Gastroc/Soleus strengthening exercises
  - Stair-master
- Dynamic balance exercises
- Impact activities if patient has 75% strength on closed kinetic chain testing
  - Running program
  - Agility drills
  - Plyometrics
- Sport specific activities
- Cardiovascular conditioning
- Core strengthening

**Anticipated return to full activity between 8-24 weeks**

Gundersen Lutheran Sports Medicine. GundersenLutheran, 10/2007. Web. 3 May, 2013.