



**ADVANZ HEALTH**

SPORTS MEDICINE | PHYSIOTHERAPY

# PATELLA DISLOCATION

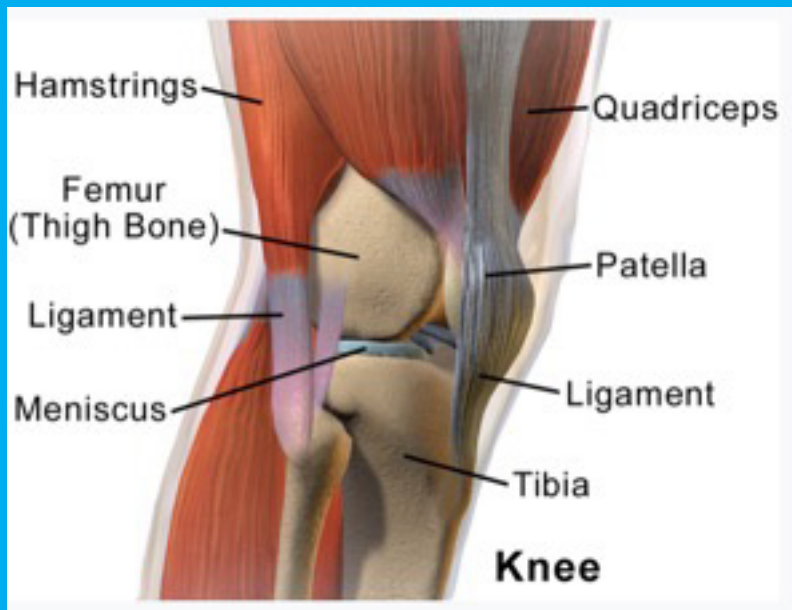
## REHABILITATION PROTOCOL

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Sports Medicine & Physiotherapy

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# PATELLA DISLOCATION

The Patella is a bone that sits within the quadriceps/patella tendon at the lower end of the femur (thigh bone). It protects the anterior articular surface of the knee. Patella dislocation occurs when the patella (kneecap) is completely displaced out of femoral groove. Subluxation is the term given to partial displacement out of the normal position. This injury is most common in athletic teenagers.



## Causes

Patella dislocation is primarily caused by a traumatic incident at the knee such as twisting or a direct blow. Risk factors can include:

- History of previous dislocation or subluxations
- Joint hypermobility or maltracking
- Shallow femoral groove
- Weak inner quadriceps muscles
- Tight lateral structures such as the ITB, hip flexors vastus lateralis and retinaculum

## Symptoms

- Visible displacement of the patella
- Pain with weight-bearing activities
- Local swelling and tenderness
- Feeling of instability or giving way
- Weakness of quadricep muscles

# CONSERVATIVE MANAGEMENT

Prior to rehabilitation, initial management involves 'reduction' (relocation) of the Patella. Often the Patella spontaneously 'reduces' itself, however if this does not occur, a health professional will assist by slowly extending the knee to return the patella to its correct position. Failing this, an X-ray must be performed to exclude a fracture prior to further attempting reduction.

## **First 24-48 hours**

The knee is stabilised in a splint to avoid bending and crutches may be used to limit weight bearing. RICER principle is applied to manage swelling and pain. Rehabilitation commences after the initial 48-hour RICER phase.

## **Nonsurgical Treatment**

- **Immobilization** - Your doctor/physio may recommend that you wear a brace for 3 to 4 weeks. This stabilizes the knee while it heals.
- **Weight bearing** - Because putting weight on the knee may cause pain and slow the healing process, your doctor/physio may recommend using crutches for the first week or two after the injury.
- **Physiotherapy** - Your physiotherapist will guide you through the recovery process following your injury. Your therapist will help regain normal range of motion in the knee without pain, as well as guide you through a strengthening program to help you return to sport/exercise. Typical recovery is 6-8 weeks.

# PHASE 1 - ACUTE PHASE (0-2 WEEKS)

GOALS	PRECAUTIONS	RECOMMENDED PROGRAM	CRITERIA TO PROGRESS TO NEXT PHASE <i>(TICK WHEN COMPLETE)</i>
<ul style="list-style-type: none"> <li>• Minimise knee joint effusion</li> <li>• Protection</li> <li>• Normalisation of gait</li> </ul>	<p>Keep the knee at 0 degrees flexion in Zimmer splint and offload with crutches for first week</p>	<ol style="list-style-type: none"> <li>1. Manage swelling and pain with <b>ice therapy (game ready)</b></li> <li>2. <b>Activation exercises</b> for VMO</li> <li>3. <b>Maintain flexibility</b> and mobility of body with home program of stretches and releases</li> <li>4. <b>Calf/hip/core strength exercises</b> in unloaded position</li> <li>5. <b>Manual therapy</b> for tight structures leading to injury or as a result of reduced mobility</li> </ol>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Decreased pain</li> <li><input type="checkbox"/> Swelling resolved</li> </ul>



# PHASE 2 – STRENGTH PHASE (2-4 WEEKS)

GOALS	PRECAUTIONS	RECOMMENDED PROGRAM	CRITERIA TO PROGRESS TO NEXT PHASE <i>(TICK WHEN COMPLETE)</i>
<ul style="list-style-type: none"> <li>• Progress to 90deg ROM</li> <li>• Improved muscle strength and endurance</li> </ul>	<p>Week 3: 0deg-45deg in ROM brace. 1 crutch if necessary.</p> <p>Week 4: 0deg-90deg in ROM brace. No crutches.</p> <p>It is essential that gait is normalised as soon as possible before progressing to more functional exercises</p>	<ol style="list-style-type: none"> <li><b>1. Manual therapy</b> to slowly increase ROM</li> <li><b>2. Commence strength</b> rehab exercises (see video)</li> <li><b>3. Mantain flexibility</b> and mobility of body with home program of stretches and releases</li> <li><b>4. Tape</b> patella medially</li> <li><b>5. Maintain</b> cardiovascular fitness with swim, xtrainer, treadmill walking</li> </ol>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Normalised gait</li> <li><input type="checkbox"/> No pain with rehabilitation exercises</li> </ul>

# PHASE 3 – RETURN TO ACTIVITY (4-8 WEEKS)

GOALS	PRECAUTIONS	RECOMMENDED PROGRAM	CRITERIA TO PROGRESS TO NEXT PHASE
<ul style="list-style-type: none"> <li>• Return to sport/activity</li> <li>• Restore full tendon strength/power</li> <li>• Resolve all pain</li> <li>• Improve whole-body strength</li> <li>• Prevent recurrence</li> </ul>	<p>Avoid any activities that aggravate knee</p> <p>Avoid plyometric exercises (e.g. jumping, hopping) on consecutive days.</p> <p>Ensure correct knee alignment in dynamic tasks</p>	<ol style="list-style-type: none"> <li>1. Progress <b>individualised exercises</b> to sports/activity specific.</li> <li>2. <b>Biomechanical retraining</b> (hip/knee/ankle control, minimise knee valgus and Trendelenberg)</li> <li>3. Introduce <b>plyometric exercises</b> (hopping, jumping) and <b>proprioception/balance</b></li> <li>4. Commence <b>running program</b></li> </ol>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Strength and power &gt;95% of non-injured leg</li> <li><input type="checkbox"/> No pain with daily activities, sports, during/after rehab exercises</li> <li><input type="checkbox"/> Full range of motion</li> <li><input type="checkbox"/> Pre-injury fitness/load restored (or enhanced)</li> <li><input type="checkbox"/> Biomechanical errors resolved</li> </ul> <p>NB: Rehab program should be continued for a minimum of 6 weeks after return to sport</p>



# PHASE 1

## REFORMER

- Double leg press (small range ) progress to singles, calf raises, arm work seated on box

## HEP

- ROM: supine/seated heel slides, ankle pumps
- Strength: SLR, IRQ with towel, ankle press in TB – progress to calf raises as tolerated, side lying leg raise, partial wall squat
- Balance: SL stance
- Gait: weight shifts, stepping practice
- Mobility/release

# PHASE 2

## REFORMER

- Supine and side lying single leg presses, legs in straps, scooters, skaters, bridges, arms in straps supine

## HEP

- Strength: squats, crab walks, toe taps standing, bridges, clams, single leg calf raises, supine core work, short lunge, hamstring curls on ball
- Balance: SL stance on wobble board or bosu
- Mobility/release

# PHASE 3

## REFORMER

- Supine and side lying single leg presses, legs in straps, scooters, skaters, bridges, arms in straps supine

## HEP

- Dynamic: hops forward/backward/lateral, squat jumps, jumps off box
- Strength: weighted squats and short lunges, lunges, step ups, lateral step ups
- Running program





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