



## ***Non-Operative Patellar Dislocation Rehabilitation Guideline***

This rehabilitation program is designed to return the individual to their activities as quickly and safely as possible. It is designed for rehabilitation following non-operative patellar dislocation. Modifications to this guideline may be necessary depending on physician-specific instruction, specific tissue healing timeline, chronicity of injury and other contributing impairments that need to be addressed. This evidence-based non-operative patellar dislocation rehabilitation guideline is criterion-based. Time frames and visits in each phase will vary depending on many factors, including patient demographics, goals and individual progress. This guideline is designed to progress the individual through rehabilitation to full sport and activity participation. The therapist may modify the program appropriately depending on the individual's goals for activity following non-operative patellar dislocation.

This guideline is intended to provide the treating clinician with a frame of reference for rehabilitation. It is not intended to substitute clinical judgment regarding the patient's post-injury care, based on exam or treatment findings, individual progress and/or the presence of concomitant injuries or complications. If the clinician should have questions regarding progressions, they should contact the referring physician.

## **General Guidelines/Precautions:**

- General healing timeline expected: 10-16 weeks
- Guideline may vary depending on length of immobilization period (if any).

# Non-Operative Patellar Dislocation Rehabilitation Guideline

PHASE	SUGGESTED INTERVENTIONS	GOALS/MILESTONES FOR PROGRESSION
<p><b>Phase I</b> <i>Acute Phase</i></p> <p><i>Weeks: 1-6 depending on immobilization period</i></p>	<p><b>Discuss:</b> Anatomy, existing pathology, rehab schedule and expected progressions.</p> <p><b>Specific Instructions:</b> Immobilize and weight bearing as determined by referring physician.</p> <p><b>Suggested Treatments:</b></p> <p><b>Modalities as indicated:</b> Neuromuscular electrical stimulation of VMO, interferential current, cryotherapy and ultrasound</p> <p><b>ROM:</b> Passive and AAROM within ROM tolerance of pain</p> <p><b>Manual Therapy:</b> SSoft tissue massage and manual lymphatic drainage (swelling management), McConnell Taping Technique</p> <p><b>Exercise Examples:</b></p> <ul style="list-style-type: none"> <li>• Quad Set</li> <li>• SLR with quad set</li> <li>• Isometric side lying hip abduction</li> <li>• Adduction ball squeeze</li> <li>• Isometric hamstring sets</li> <li>• Ankle pumps</li> </ul> <p>Exercise Examples to Add after Immobilizer Removed:</p> <ul style="list-style-type: none"> <li>• Knee extension open kinetic chain 10 degrees – 0 degrees and 90 degrees to 50 degrees</li> <li>• Isometric clamshells</li> <li>• Bridging with ball squeeze</li> </ul> <p><b>Other Activities:</b> May bike as appropriate for ROM purposes after immobilizer has been removed and ROM is available to do so</p>	<p><b>Goals of Phase:</b></p> <ol style="list-style-type: none"> <li>1. Diminished pain and inflammation</li> <li>2. Improve ROM to tolerance</li> </ol> <p><b>Criteria to Advance to Next Phase:</b></p> <ol style="list-style-type: none"> <li>1. Proper quad control, no extensor lag</li> <li>2. Full weight bearing and normal gait pattern</li> <li>3. No knee instability with walking</li> </ol>
<p><b>Phase II</b> <i>Intermediate Phase</i></p> <p><i>Weeks 4-9 depending on immobilization period</i></p>	<p><b>Specific Instructions:</b> Achieve ROM greater than 120 degrees knee flexion</p> <p><b>Suggested Treatments:</b></p> <p><b>ROM:</b> Passive range of motion progressions to end range</p> <p><b>Exercise Examples:</b></p> <ul style="list-style-type: none"> <li>• Leg press: bilateral, single leg, leg press with ball</li> <li>• Squats: wall squat, wall squat with ball squeeze, back squat, squat with ball squeeze, single leg squat</li> <li>• Forward and backward lunges</li> <li>• Forward and lateral step ups</li> <li>• Standing hip exercises: flexion, abduction, extension</li> <li>• Heel raises</li> </ul> <p><b>Static Proprioception:</b> 3-12 weeks</p> <ul style="list-style-type: none"> <li>• Static wobble board, dyna disc, Bosu ball, cone touch</li> </ul> <p><b>Dynamic Proprioception:</b> 4-12 weeks</p> <ul style="list-style-type: none"> <li>• Agility drills, hopping, forward and backward lunges</li> </ul>	<p><b>Goals of Phase:</b></p> <ol style="list-style-type: none"> <li>1. Improve muscular strength and endurance</li> <li>2. Progress to full active and passive ROM</li> <li>3. Improve total body proprioception and control</li> </ol> <p><b>Criteria to Advance to Next Phase:</b></p> <ol style="list-style-type: none"> <li>1. Return of full active and passive ROM</li> <li>2. No pain with activities</li> <li>3. Proper body mechanics with exercises demonstrating control of hip, knees and ankles</li> </ol>

(continued on next page)

<p><b>Phase III</b> <i>Advanced Stage</i></p> <p><i>Weeks 7-12 depending on immobilization period</i></p>	<p><b>Exercise Examples:</b></p> <p>Running:</p> <ul style="list-style-type: none"> <li>• See return to jog program</li> </ul> <p>Plyometric (progressively increase loads of plyometrics from this phase until return to sport:</p> <ul style="list-style-type: none"> <li>• POGOS: double and single leg</li> <li>• Box jump up:</li> <li>• Box hop up</li> <li>• Even ground jumps</li> <li>• Even ground hops</li> <li>• Drop jumps</li> <li>• Drop hops</li> <li>• Depth jumps</li> <li>• Depth hops</li> </ul> <p>Power movements:</p> <ul style="list-style-type: none"> <li>• Power clean</li> <li>• Power snatch</li> <li>• Med ball slam variations</li> <li>• Push press</li> <li>• Banded jumps</li> </ul>	<p><b>Goals of Phase:</b></p> <ol style="list-style-type: none"> <li>1. Return to strength training with appropriate modifications</li> <li>2. Improve muscular power, strength, and endurance</li> <li>3. Ensure proper impact mechanics with jumping and hopping drills to reduce risk for re-injury</li> </ol> <p><b>Criteria to Advance to Next Phase:</b></p> <ol style="list-style-type: none"> <li>1. All above still met</li> </ol>
<p><b>Phase IV</b> <i>Return to Performance Phase</i></p> <p><i>10-16 Weeks (depending on immobilization period)</i></p> <p><i>16-32 Expected Visits</i></p>	<p><b>Exercise Examples:</b></p> <ul style="list-style-type: none"> <li>• Progression of lower body strength and power training program</li> <li>• Progression of Impact training with plyometric activities</li> </ul> <p><b>Change of Direction Sport Specific Drills:</b> (<i>progressively increase COD loads</i>)</p> <ul style="list-style-type: none"> <li>• Cutting</li> <li>• Pivoting</li> <li>• Lateral shuffle drills</li> <li>• Cone drills: M, X and box pattern</li> <li>• Hurdles</li> <li>• Shuttle Drills</li> </ul>	<p><b>Goals of Phase:</b></p> <ol style="list-style-type: none"> <li>1. Progression of change of direction sport specific drills to prepare for return to competition with proper lower body mechanics</li> <li>2. Development of individualized maintenance program in preparation for discontinuation of formal rehabilitation.</li> </ol> <p><b>Criteria for Return to Sport:</b></p> <ol style="list-style-type: none"> <li>1. Successful completion of Knee Return to Sport testing.</li> </ol>
<p><b>Phase V</b> <i>Return to Full Activity</i></p> <p><i>Weeks 10-16</i></p>	<p><b>Specific Instructions:</b></p> <ul style="list-style-type: none"> <li>• Development of individualized maintenance program/ Return to performance based on timing of season and needs of the patient</li> <li>• Recommendations on return to sport</li> <li>• Communication with ATC, coaches and/or parents as needed</li> </ul>	<p><b>Suggested Criteria for Discharge:</b></p> <ol style="list-style-type: none"> <li>1. Meet criteria for Return to Sport</li> </ol>

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