



PATELLAR INSTABILITY

General Principles:

Patellar instability patients are divided into two basic categories. The **Patellar Subluxation/Lateral Release** protocol will be utilized for patients experiencing both acute and chronic patellar subluxations, as well as post-operative lateral release patients. The **Patellar Dislocation** protocol will be utilized for patients having experienced an acute patellar dislocation or have recently undergone a proximal patellar re-alignment surgical procedure. (i.e. VMO Advancement, Tibial Tubercle Transfer).

Patellar Subluxation/Lateral Release

PHASE I (Acute) Week 1

Weight Bearing

1. Progress WBAT using two crutches to full WBAT.

Modalities

1. Ice and electrical stimulation.
2. Compression and elevation as needed to control pain and swelling.
3. Ice for 10-20 minutes post activity throughout protocol.
4. Heat and/or ultrasound after 48 hours from injury or surgery.

Orthotics

1. Breg® PTO type knee orthosis for all weight bearing and exercise activity.
2. Discontinue knee immobilizer when patient can safely ambulate.

Exercises

1. Quadriceps/hamstring sets (sub-maximal, sup-painful)
2. Straight leg raises
 - a. No resistance.
 - b. Four planes.
 - c. Standing and lying.
3. Ankle pumps, all planes
4. Hamstring, calf, iliotibial band stretching.
5. Gravity assisted ROM, progress as tolerated.
 - a. Seated knee flexion, passive extension.
 - b. Wall slides, passive extension.
6. Neuromuscular re-education as needed.

PHASE II (Intermediate) Weeks 2 - 3

Weight Bearing

1. Should be full with normal gait.

Modalities

1. Continue Phase I modalities as needed.

Orthotics

1. Continue Phase I orthotics as needed.

Exercises

1. Progress Phase I exercises as tolerated.
2. Proprioceptive exercises:
 - a. Bilateral, progress to unilateral in brace.
3. Add resistance as tolerated to straight leg raises.
4. When patient has full non-painful AROM, may progress to the following exercises:
 - a. Terminal knee extensions
 - i. Progress resistance
 - b. Closed chain exercises
 - i. Stationary bike, progress as tolerated
 - ii. Leg Press or plyosled, bilateral, progress to unilateral, progress resistance.
 - c. Short arc quadriceps
 - d. Full arc hamstrings as tolerated
5. Aquatics as needed
 - a. Cycling.
 - b. Straight leg flutter kicks.
 - c. Mini-squats to 30 degrees (progress resistance as tolerated, progress to land).
 - d. Lateral step-ups (progress as tolerated, progress to land).

PHASE III (Advanced) Weeks 4 - 6

Modalities

1. Only as needed.
2. Ice after exercises for 10-20 minutes.

Orthotics

1. Use Breg® PTO brace for exercise now. Recommend using knee sleeve for sporting activity for 3-6 months per physician order.

Exercises

1. Progress Phase II exercises.
2. Aggressive full-arc isotonic hamstring/quadriceps.
 - a. Start with cuff weights, progress to stations as tolerated.
3. When patient demonstrates 65% strength of quadriceps compared to contra-lateral knee, may progress to the following exercises:
 - a. Jump rope.
 - b. Bounding on Plyosled
 - c. Running program.
4. Functional activities (return to work/sport).
5. When patient demonstrates 90% strength of quadriceps strength compared to contra-lateral knee, may progress back to sport and discontinue formal rehabilitation.
6. Home exercise program
7. Refer to fitness center.