This rehabilitation program is designed to return the individual to their full activities as quickly and safely as possible following a patellar dislocation. Modifications to this guideline may be necessary dependent on physician specific instruction or other procedures performed. This evidence-based patellar dislocation guideline is criterion-based; time frames and visits in each phase will vary depending on many factors. The therapist may modify the program appropriately depending on the individual's goals for activity following a patellar dislocation.

This guideline is intended to provide the treating clinician a frame of reference for rehabilitation. It is not intended to substitute clinical judgment based on exam/treatment findings, individual progress, and/or the presence of concomitant procedures. If the clinician should have questions regarding progression, they should contact the referring physician.

Guidelines/Precautions:

- **Timeline expected 10-16 weeks for general healing**
- **Immediate immobilization or mobilization is controversial at this time. Immediate mobilization places the individual at 3x higher risk of re-dislocation compared to being immobilized. However, immobilization for 6 weeks did result in a greater risk in knee ROM restriction. (research study by Maenpaa and Lehto)**
- **Guideline is dependent on immobilization period for 3 or 6 weeks.**

Phase	Suggested Interventions	Goals/Milestones for Progression
Phase 1: Acute *1-6 weeks depending on immobilization period*	*WB status:* use of crutches with WBAT using knee immobilizer at 0 degrees or patella stabilizing brace. May unlock brace at 3 weeks to available pain free ROM May wean from brace and taping as quadriceps function improves (approximately week 6) *Therapy:* • Heel slides, quad sets, straight leg raises, 4-way hip, VMO activation exercises, isometric hamstring set • NMES for quad activation • Balance/Proprioception starting with double leg stance • Modalities for reduction of effusion and pain relief • Patellar mobilizations for proper patellar tracking • Calf/hip/core strength exercises in unloaded position Exercise examples to add after immobilization period:	*Goals of Phase:* 1. Control pain 2. Reduce effusion 3. Improve quadriceps contraction 4. Gradually progress knee ROM Criteria to advance: 1. Proper quad control, no extensor lag 2. FWB status and normal gait pattern 3. No buckling of the knee when walking

	• May use NuStep or bike for ROM purposes after immobilizer has been removed • SAQ (10-0 degrees) and LAQ (90 to 50 degrees) • Isometric clam shells • Bridging with ball squeeze Manual Therapy: STM, manual lymphatic drainage, McConnell taping technique	
Phase II: intermediate 4-9 weeks depending on immobilization period	*WB status:* FWB, wean from crutches as appropriate May wean from brace and taping as quadriceps function improves (approximately week 6) *Therapy:* • Closed kinetic chain exercises: Total gym/leg press, partial squats, step ups, back squat, single leg squat, forward and backward lunges, heel raises • Single leg balance • Anti-gravity treadmill • Glute/core strengthening to prevent knee valgus deformity • Patellar mobilizations for proper patellar tracking; patellar taping as needed • Static wobble board, dyna disc, BOSU ball, Cone touch • LAQ through full ROM • Elliptical, treadmill, bike	*Goals of Phase:* 1. Return to full knee ROM 2. No quadriceps extension lag ~~3. Normalized gait pattern with brace~~ 4. Improve total body proprioception and control 5. Improve Muscular strength and endurance 6. May discharge at end of this phase dependent on patient population and return to functional activities without pain Criteria to advance: 1. Full active and passive ROM 2. No pain with activities 3. Proper body mechanics with exercises (control demonstrated through hip, knee and ankle)
Phase III: Advanced 7-12 weeks depending on immobilization period	*Therapy:* • Elliptical, treadmill • Squats, multi-directional lunges, step-ups • Single leg isotonic exercises • Single leg dynamic balance activities • Agility drills and plyometrics o Pogo hops (double and single), box jumps, even ground jumps and bounds, drop jumps,	*Goals of Phase:* 1. No effusion 2. No pain with functional activities 3. Proper form with functional exercises 4. Improve muscular power, strength, and endurance 5. Return to strength training with appropriate modifications

	depth jumps (progressively increasing loads of plyometrics until return to sport) • Power clean, power snatch, med ball slams, push press, banded jumps	6. Proper landing and jumping mechanics to reduce risk for reinjury. Criteria to advance: 1. All above goals met
~~Weeks 8+~~ *10-16 weeks*	*Therapy:* • Sport-specific drills • Cutting, pivoting, lateral shuffle drills, cone drills (M, X, box patterns), hurdles, shuttle drills • Progressing lower body strength and power training programs as well as impact training with plyometric activities. • Return to running • Consider Return to Sport/Activity & Discharge Criteria-Lower Extremity	*Goals of Phase:* 1. Full strength with MMT 2. Within 85-90% of opposite LE with Y-balance test or single leg jumping tests and two legged hop test if appropriate 3. Progression of direction changes for sport specific drills with proper lower body mechanics 4. Develop individualized maintenance program in preparation for discontinuing formal rehab Criteria for Return to Sport: 1. No fear avoidance during running, cutting, and jumping 2. Passing return to sport testing/criteria