



PATELLAR FEMORAL PAIN DYSFUNCTION



PHASE OF REHABILITATION		CONSERVATIVE TREATMENT (Patellar Dislocation)	CONSERVATIVE TREATMENT (Recurrent Patellar Dislocation)	CONSERVATIVE TREATMENT (Chondromalacia Patella)	LATERAL PATELLAR RELEASE AND RECONSTRUCTION
PHASE 1 ACUTE or POST-OP (0-6 WEEKS)	GOALS	Reduction of pain and inflammation Full Weight Bearing Protection	Reduction of pain and inflammation Full Weight Bearing Protection	Reduction of Pain Strengthening and Stretching Program	Protect and Repair
	REHABILITATION GUIDE	-Temporary immobilization with a knee extension brace for comfort (2 to 3 weeks). -Rest from aggravating activities -Modalities for pain: Ice -Taping -PFJ mobilizations as needed -ROM: pain free -Quadriceps training (less than 45°), VMO with muscle stim (NMES) -Early hip and hamstrings strengthening -Stretching of tight muscles, structures -Early proprioception: Single leg balance, foam pad	-Early strengthening: isometric VMO retraining program -ROM: pain free -Stretching of tight muscles, structures -Taping -PFJ mobilizations as needed -Quadriceps training (less than 45°), VMO with muscle stim (NMES) -Early proprioception: Single leg balance, foam pad	-Rest from aggravating activities -Modalities for pain as needed: ice -ROM exercises for knee -Strengthening of quadriceps, hamstrings and hip -Closed Chain Kinetic Exercises: less than 45° (semi squat) -Open Chain Kinetic Exercises: pain free only, short arc (0-5°, 90°-full) -Balance and proprioception (single leg stance, foam pad, wobble board) -General Conditioning and cross training (stationary bicycle, swimming) -Taping or Bracing as needed	-Extension brace -Crutches with protect weight bearing as tolerated (0-2 weeks): 0° extension (2-4 weeks): 0-30° flexion (4-6 weeks): up to 45° flexion -Early quadriceps strengthening: VMO with muscle stim (NMES) -Early proprioception exercises when able to fully weight bear *guideline may vary depending on individual patient. To be determined by ortho surgeon.
	PRECAUTIONS	Avoid pain during exercises Avoid impact, deep squats and running	Avoid pain during exercises Avoid impact, deep squats and running	Avoid pain during exercises Avoid impact, deep squats and running	Avoid knee flexion past 45° Avoid impact, deep squats and running (for 6 months).
	CRITERIA FOR PROGRESSION TO PHASE 2	Full ROM Patella is aligned and stable	Full ROM Patella is aligned and stable	Full ROM Patella is aligned and stable Good quadriceps activation	45° knee flexion Good quadriceps activation
PHASE 2 (6-12 WEEKS)	GOALS	Maintain full ROM Progress strengthening	Maintain full ROM Progress strengthening	Maintain full ROM Progress strengthening	Near full ROM Progress strengthening
	REHABILITATION GUIDE	-Progressive quadriceps strengthening: Eccentric training of Quadriceps -Progress hip muscle strengthening exercises -Combination of Open and Closed Chain Kinetic Exercises -Core strengthening program -Progress proprioception: single leg stance with movement, Bosu Ball -Walk-jog; progress to light jogging		-Progress with functional strengthening exercises (sit to stand, lunging, squatting, step-ups, side steps) -Progress balance exercises (Bosu Ball, single leg stance with movement) -Include core strengthening	(Week 6): quadriceps, hamstring, hip strengthening, core stability (Week 7 to 8): concentric proprioception exercises



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		-PFJ mobilizations as needed -Bracing: J Brace -Soft tissue work		-Continue with home exercise program: 3-4 sets of 12-15, 3 times a week for maintenance program	
	PRECAUTIONS	Avoid pain during exercises Avoid impact and deep squats	Avoid pain during exercises Avoid impact and deep squats	Avoid pain during exercises Avoid impact and deep squats Avoid running	Avoid knee flexion past 90° with weight bearing exercises
	CRITERIA FOR PROGRESSION TO PHASE 3	Full ROM, good patella position, good VMO and quadriceps strength (90% compared to other side), pain free with exercise program, no effusion			Full ROM Minimal pain Good quadriceps strength Patella is aligned and stable
PHASE 3 (10-16 WEEKS)	GOALS	Progression of strengthening program and sport specific training			Progression of strengthening program and sport specific training
	REHABILITATION GUIDE	-Progress sport specific training with drills, cutting/directional change movements, performing sudden stops/starts -Lunge walking, high-knee march, toe jogging, side shuffles, deadlifts, bridging (with/out ball) -Plyometrics: box jumps, resisted squat jumps, 1 to 2 times a week, warm up and cool down -Return to sport if pain free with training -Continue with home exercise program: 3-4 sets of 12-15, 3 times a week for maintenance program, 50-60% intensity			-Strengthening: progress to isotonic (high reps, moderate resistance) (12 wks): start sport specific training, controlled sports only
	PRECAUTIONS	Proper warm up and cool down Gradual build up of volume of work			Avoid contact sports Avoid activity involving twisting Avoid high impact sports Avoid running
	CRITERIA FOR PROGRESSION TO PHASE 4				
PHASE 4 3-6 MONTHS					Progress Sport Specific Training with drills, cutting/directional change movements, performing sudden stops/starts Avoid running (6 mos) Return to Sport (6 mos) *Serious consideration for returning to running – may not be advisable
6-12 MONTHS					-Continue with home exercise program: 3-4 sets of 12-15, 3 times a week for maintenance program, 50-60% intensity



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