Cleveland Clinic
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Physical Therapy Protocol: Nonoperative Treatment of High Grade MCL Injury

Phase 1: Weeks 0 through 6 – MCL Protection, Quad Activation, Motion Recovery

Physician Goals: Protect the injured MCL, which has a chance to heal but is at its most vulnerable during this time, decrease pain, prevent significant stiffness, reactivate the quadriceps muscle group
Restrictions: Weight bearing as tolerated, hinged knee brace on at all times including sleep, avoid knee hyperextension, no resisted knee adduction (no valgus force across the knee)
Exercises: Patella mobilization, quad sets with brace locked at 0°, straight leg raises with brace locked in full extension until quad control is good, then straight leg raises unlocked, gastroc stretching, hip abduction/adduction strengthening with resistance above the level of the knee, stationary bike with no resistance, pool walking to help with gait normalization, calf raises and single leg balance, floor-based core exercises
Total Visits: 12 – once to twice per week with daily at home range of motion exercises, quad sets, hip and core strengthening

Phase 2: Weeks 6 through 12 – MCL Protection & Early Strength Recovery

Physician Goals: Begin to build lower extremity strength and endurance while minimizing valgus stress on the knee
Restrictions: Continue wearing hinged knee brace at all times – OK to remove for sleep now, no running, jumping, cutting or pivoting,
Exercises: Short arc squats/weight shifts to max 90° knee flexion, initiate step-up program and progress to step-down program, leg press with max knee flexion of 90°, lunges, isotonic knee extensions, hamstring bridges on Swiss ball with knees in full extension, stationary bike with low resistance, incline treadmill walking (7-12%), advance hip/core/glute strengthening; light kicking in pool (no breaststroke), single leg dead lift with knee extended, proprioceptive and balance exercises
Total Visits: 12 – once to twice per week depending on patient's ability to perform HEP independent of PT sessions

Phase 3: Weeks 12+ – Strength & Endurance Recovery

Physician Goals: Increase strength throughout the entire range of motion without restrictions, begin to regain endurance, wean out of hinged knee brace
Restrictions: Running, cutting, return to sports per criteria below
Exercises: Progress lower body strengthening with no restrictions, OK for isolated hamstring strengthening exercises, elliptical, continue to emphasize core/hip/glute strengthening
Total Visits: 12 – once to twice per week depending on patient's ability to perform strength training independently – goal is strengthening 3-4x per week

Return to Running Criteria:

- ☐ Trace effusion, flexion within 5° of contralateral side
- ☐ Limb symmetric index (LSI) on anterior reach Y balance test ≥ 90%
- ☐ LSI on quadriceps torque output on isometric measurement ≥ 75%
- ☐ 12” single leg squat tolerance with good hip control
- ☐ Able to walk > 1 mile with no limping or pain
- ☐ Able to “hop” with upper extremity assistance on operative leg 5 times without pain or compensation
- ☐ Single leg balance with eyes closed ≥ 30 seconds

Return to Cutting / Agility Training Criteria:

- ☐ Return to running criteria met above
- ☐ No effusion
- ☐ Full range of motion
- ☐ Quad LSI on isokinetic ≥ 85%
- ☐ Hamstring LSI on isokinetic ≥ 85%
- ☐ LSI on anterior reach Y-balance ≥ 95%
- ☐ Single leg hopping pain free

Return to Sport Criteria:

- ☐ LSI ≥ 95% hamstring curl and leg press
- ☐ Able to perform single leg squat to 75° with correct form
- ☐ Single leg hop LSI ≥ 95%
- ☐ Y-balance ≥ 95% (mean of 3 trials in anterior, posterolateral and posteromedial ÷ 100)
- ☐ Vertical jump test, single leg hop distance, and timed single leg hop over 20 feet ≥ 90% contralateral side