



## **Medial Collateral Ligament Injury Rehab Protocol**

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### **EMERGENCY MANAGEMENT INCLUDES:**

- A. Protection
  - 1. Protected ambulation – PWB to WBAT
  - 2. Bracing
    - a. Grades I & II – as ordered by physician, full ROM allowed
      - 1) bilateral upright hinge
      - 2) DonJoy/Ortho Tech
      - 3) Lateral knee guard
    - b. Grades II & III – rehab brace with ROM limited –10° to 75°
- B. Ice
- C. Compression
- D. Elevation
- E. Accurate diagnosis is crucial to rule out associated injury, which may alter treatment plan

<b>EARLY POST INJURY PHASE</b>
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- A. Continue bracing as described above
- B. Continued protected ambulation PWB to WBAT
- C. Exercise
  - 1. Grades I & II
    - a. Patellar glides & tilts
    - b. Active ROM – to be performed within pain free limits
    - c. ROM in swimming pool/whirlpool
    - d. Isometrics for quad, hams including both PNF and spectrum
    - e. Bike with low seat & low resistance for ROM
    - f. Hamstring/calf stretching in a NWB position
    - g. Resisted hip exercise with weights proximal for abduction and adduction
    - h. Resisted ankle exercise utilizing Theraband or rubber tubing for resistance
    - i. Resisted exercise for upper body and non-involved leg to maintain strength conditioning
  - 2. Grade III
    - a. Patellar glides and tilts
    - b. AROM – 15° to 75° for 4 weeks, then full ROM afterwards
    - c. Isometrics for quads and hams, including PNFs
    - d. Resisted hip exercise with weights proximal for abduction and adduction
    - e. Resisted ankle exercises

- f. Resisted exercises for non-involved leg and upper body – include single leg biking (non-involved)

#### **EARLY POST INJURY PHASE (Continued)**

- D. Modalities – (prn)
  - 1. Whirlpool
  - 2. Ice (post exercise)
  - 3. Electrical stim for pain and swelling control and/or muscle re-education/strengthening
  - 4. Biofeedback to improve quad control

### **INTERMEDIATE POST INJURY PHASE BEGIN ONCE FULL ROM IS ACHIEVED – GENERALLY 3-6 WEEKS POST INJURY**

- A. Grades I, II, & III
  - 1. Eliminate brace for ADL
  - 2. Progress to full weightbearing without assistive devices increasing distance as tolerated
  - 3. Exercises
    - a. Bike with seat High and low resistance – progress from 5-7 minutes initially to 15-30 minutes
    - b. Flexibility exercises as determined by assessment of patient
      - 1) hams
      - 2) calf
      - 3) quad
      - 4) hip flexors/TFL
    - c. Physiologic knee extension (0° - 45°)
      - 1) leg press
        - (a) supine with sports cord
        - (b) leg press machine
      - 2) mini squats
        - (a) standing isometrics
        - (b) bilateral mini squats
        - (c) unilateral mini squats
        - (d) standing sports cords
        - (e) mini squats with free weights
    - d. Resisted knee flexion
    - e. Resisted hip/ankle exercises
    - f. Proprioception activities
      - 1) single leg support on solid base of support to progressively unstable surfaces (floor to mini tramp)
      - 2) BAPS board
      - 3) Profitter
    - g. Swimming
      - 1) free style (no breast-stroke)
      - 2) functional activities

### **RETURN TO SPORT**

- A. Continue with previous activities to increase flexibility, strength, and muscular and cardiovascular endurance. Emphasis is on reconditioning for return to sport.
- B. Continue proprioceptive activity progressing as tolerated

- C. Begin functional strengthening program – sport-specific modified plyometrics program
  - 1. Slow speed to high speed
  - 2. Bilateral to unilateral support
  - 3. Low to moderate heights
  - 4. Soft to hard surfaces

**RETURN TO SPORT (Continued)**

- D. Functional activities progression
  - 1. Walk/jog (flat track) – start at one-half mile, walk curves and jog straightaway – progress to 2 miles
  - 2. Straight jogging (flat track) – start at one-quarter mile – progress to 2 miles
  - 3. Three-quarter speed running (flat track) – start with 20 yard sprints, doing 4-10 reps
  - 4. Full speed sprinting – 20 yard sprints, doing 4-10 reps
  - 5. Backward jogging – 20 yard jog, doing 4-10 reps
  - 6. Backward three-quarter speed running – 20 yard run, doing 4-10 reps
  - 7. Backward sprint – 20 yard sprint, doing 4-10 reps
  - 8. Lateral slides (defensive drills) one-half to three-quarter to full speed
  - 9. Zigzags one-half speed (soft cuts) – 5 yard increments for 20 yards, progress 2-5 times
  - 10. Zigzags three-quarter speed (soft cuts) – 5 yard increments for 20 yards, progress 2-5 times
  - 11. Zigzags full speed (soft cuts) – 5 yard increments for 20 yards, progress 2-5 times
  - 12. Linebacker drills – one-half, three-quarter and full speed, backward-forward-side-to-side in 10 yard increments, progress 2-5 times
  - 13. Backward zigzags – one-half, three-quarter and full speed, 10 yard increments, progress 2-5 times
  - 14. Figure eight's – one-half, three-quarter and full speed – progress from large circles to smaller circles then to faster speeds, progress from 5-10 times
- E. Criteria for return to sport:
  - 1. No signs of active inflammation
  - 2. Full ROM and normal flexibility
  - 3. Isokinetic testing – bilateral comparison of peak torque and work within 85% of non-involved limb and ham to quad ratio of 65%
  - 4. Functional tests
    - a. Vertical jump
      - 1) bilateral
      - 2) unilateral comparison
    - b. Standing broad jump
      - 1) bilateral
      - 2) unilateral comparison
  - 5. Completion of functional progression leading to full participation in sport
- F. Protective bracing as ordered by physician
  - 1. Lateral knee guards
  - 2. Functional knee braces
    - a. DonJoy – quick and relatively inexpensive
    - b. Ortho Tech – for heavier athletes
    - c. CTI – for small athletes requiring greater mobility

<p style="text-align: center;"><b>MAINTENANCE</b> <b>CONTINUE FLEXIBILITY AND STRENGTH TRAINING</b></p>
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