



Medial Collateral Ligament Injury Rehab Protocol

Mauricio F. Herrera, MD

305-595-1317

drsports@me.com

www.herreriasportsmedicine.com

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

EARLY POST INJURY PHASE

- 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

<p>INTERMEDIATE POST INJURY PHASE BEGIN ONCE FULL ROM IS ACHIEVED – GENERALLY 3-6 WEEKS POST INJURY</p>
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- 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

<p>RETURN TO SPORT</p>

- 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

**MAINTENANCE
CONTINUE FLEXIBILITY AND STRENGTH TRAINING**