

MCL PROTOCOL

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IMMEDIATE POST INJURY PHASE

DAY 1 TO DAY 3

EMERGENCY MANAGEMENT INCLUDES:

1. Protection
 - Protected ambulation- PWB to WBAT
 - Bracing
 - Grade I & II (mild)- as ordered by physician, full pain- free ROM allowed
 - Bilateral upright hinge- Brace
 - Grades II & III (severe)- rehab brace with ROM limited - 10°-75°
2. Ice
3. Compression
4. Elevation
5. Accurate diagnosis is crucial to rule out associated injury, which may alter treatment plan.

EARLY POST INJURY PHASE

DAY 3 TO APPROXIMATELY 3 WEEKS

1. Continue bracing as described above.
2. Continue protected ambulation PWB to WBAT
3. Exercise
 - Grades I & II
 - Patellar glides & tilts
 - Active ROM- to be performed within pain free limits
 - ROM in swimming pool/ whirlpool
 - Isometrics for quad, hams including both PNF and spectrum
 - Bike with high seat & low resistance for ROM
 - Hamstring/ Calf stretching in a NWB position
 - Resisted hip exercise with weight proximal for abduction and adduction
 - Resisted ankle exercise utilizing TheraBand or rubber tubing for resistance
 - Resisted exercise for upper body and non-involved leg to maintain strength conditioning
 - Grade III
 - Patellar glides and tilts
 - AROM- 15° to 75° for 4 weeks then full ROM afterwards

- Isometrics for quads and hams, including PNFs
 - Resisted hip exercise with weights proximal for abduction and adduction
 - Resisted ankle exercises
 - Resisted exercise for non-involved leg and upper body- including single leg biking (non-involved)
- Modalities (PRN)
 - Whirlpool
 - Ice (post exercise)
 - E-stim for pain and swelling control and/or muscle re-education/strengthening
 - Biofeedback to improve quad control

INTERMEDIATE POST INJURY PHASE

BEGIN ONCE FULL ROM IS ACHIEVED- GENERALLY 3 TO 6 WEEKS POST INJURY

1. Grades I, II, & III

- Eliminate brace for ADL depending on MCL stability
- Progresses to full weight bearing without assistive devices increasing distance as tolerated
- Exercises
 - Bike with high seat and low resistance- progress for 5 to 7 minutes initially to 15 to 30 minutes
 - Flexibility exercises as determined by assessment of patient
 - Hams
 - Calf
 - Quad
 - Hip Flexors/ TFL
 - Physiologic knee extension (0°-45°)
 - Leg Press
 - Supine with sports cord
 - Leg press machine
 - Mini Squats
 - Standing isometrics
 - Bilateral mini squats
 - Unilateral mini squats
 - Standing sports cords
 - Mini squats with free weights
 - Resisted knee flexion

- Resisted hip/ankle exercises
- Proprioception activities
 - Single leg support on solid base of support to progressively unstable surface (floor to mini tramp)
 - BAPS board, Dyna Disk
- Swimming
 - Free style (no breaststroke)
 - Functional activities.

RETURN TO SPORTS

1. Continue with previous activities to increase flexibility, strength, and muscular and cardiovascular endurance.
 - Emphasis is on reconditioning for return to sport.
2. Continue proprioceptive activity progressing as tolerated
3. Begin functional strengthening program, sport-specific modified plyometrics program
 - Slow speed to high speed
 - Bilateral to unilateral support
 - Low to moderate heights
 - Soft to hard surfaces
4. Functional activities progression
 - Walk/jog (flat track)-start at one half mile, walk curves and jog straightway- progress to 2 miles
 - Straight jogging (flat track) start at one-quarter mile- progress to 2 miles
 - Three- quarter speed running (flat track)- start with 20-yard sprints, doing 4-10 reps
 - Full speed sprinting- 20-yard sprints, doing 4 to 10 reps
 - Backward jogging- 20-yard jog, doing 4 to 10 reps
 - Backward sprint- 20-yard sprints, doing 4 to 10 reps
 - Lateral slides (defensive drills) one- half to three quarter to full speed
 - Zigzags- 1- half speed (soft cuts)- 5-yard increments for 20 yards, progress 2 to 5 times
 - Zigzags 3- quarter speed (soft cuts)- 5-yard increments for 20-yard, progress 2 to 5 times
 - Zigzags full speed (soft cuts)- 5-yard increments for 20 yards, progress 2 to 5 times

- Linebacker drills-1 half, 3 quarter and full speed, backward-forward-side-to-side in 10-yard increments, progress 2 to 5 times
 - Backward zigzags- 1 half, 3 quarter and full speed, 10-yard increments, progress 2 to 5 times
 - Figure eight's- 1 half, 3 quarter and full speed, progress from large circles to smaller circles then to faster speeds, progress from 5 to 10 times.
5. Criteria for return to sports:
- No signs of active inflammation
 - Full ROM and normal flexibility
 - Isokinetic testing- bilateral comparison of peak torque and work within 85% of non-involved limb and ham to quad ration of 65%
 - Functional tests
 - Vertical jump
 - Bilateral
 - Unilateral comparison
 - Completion of functional progression leading to full participation in sports
6. Protective bracing as ordered by physician
- Lateral knee guards
 - Functional knee braces

MAINTENANCE

CONTINUE FLEXIBILITY AND STRENGTH TRAINING