

Rehabilitation of Isolated MCL Sprains

This program may be accelerated for Grade I MCL sprains or may be extended depending on the severity of the injury. The following schedule serves as guidelines to help in the expediency of returning a patient to his or her pre-injury state.

Please note that if there is any increase in pain or swelling or any loss of range of motion, these serve as signs that the progression of the patient may be too rapid.

I. MAXIMAL PROTECTION PHASE

Goals

- Early protected ROM
- Prevent quadriceps atrophy
- Decrease effusion/pain

Time of Injury: Day One

- Ice, compression, elevation
- Knee hinge brace non-painful ROM; if needed
- Crutches, weightbearing as tolerated
- Passive range of motion/active assistive range of motion to maintain ROM
- Electrical muscle stim to quads (8 hours per day)
- Isometrics quads: Quad sets, straight leg raises (flex)

Day Two

- Continue above exercises
- Quadriceps sets
- Straight leg raises (flexion, abduction)
- Adduction isometrics
- Hamstring isometric sets
- Well leg exercises
- Whirlpool for ROM (cold for first 3-4 days, then warm)
- High voltage stimulation to control swelling

Day Three – Seven

- Continue above exercises
- Crutches – weightbearing as tolerated
- ROM as tolerated
- Eccentric quad work



- Bicycle for ROM stimulus
- Resisted knee extension with electrical muscle stim
- Initiate hip add, ext
- Initiate mini-squats
- Initiate leg press isotonic
- Brace worn at night, brace during day as needed

Criteria for Progression to Phase II

- No increase in instability
- No increase in swelling
- Minimal tenderness
- PROM at least 10-100°

II. MODERATE PROTECTION PHASE

Goals

- Full painless ROM
- Restore strength
- Ambulation without crutches

Week Two

- Continue strengthening program with PRE's
- Continue electric muscle stim to quads during isotonic strengthening
- Continue ROM exercise
- Emphasize closed kinetic chain exercises: lunges, squats, lateral lunges, wall squats, lateral step-ups
- Bicycle for endurance
- Water exercises, running in water forward and backward
- Full ROM exercises
- Flexibility exercises, hamstrings, quads, IT band, etc.
- Proprioception training (balance drills)
 - Weight shifts
 - Tilt board squats
- Stairmaster endurance work

Days Eleven – Fourteen

- Continue all exercises in week two
- PRE's emphasis quads, medial hamstrings, hip abduction
- May initiate isokinetics, sub-maximal -> maximal fast contractile velocities
- Begin running program if full painless extension and flexion are present



Criteria for Progression to Phase III

- No instability
- No swelling/tenderness
- Full painless ROM

III. MINIMAL PROTECTION PHASE

Goals

- Increase strength and power

Week Three

- Continue strengthening program
- Wall squats
 - Vertical squats
 - Lunges
 - Lateral lunges
 - Step ups
 - Leg press
 - Knee extension
 - Hip abd/adduction
 - Hamstring curls
 - Emphasis:
 - Functional exercise drills
 - Sport cord lunges, cone drills
 - Fast speed isokinetics
 - Eccentric quads
 - Isotonic hip add, medial hamstrings
- Isokinetic test
- Proprioception training
- Endurance exercise
- Stationary bike 30-40 minutes
- Nordic Trac, swimming, etc.
- Initiate agility program, sport specific activities

IV. MAINTENANCE PROGRAM

Criteria to return to competition

- Full ROM
- No instability



- Muscle strength 85% of contralateral side
- Proprioception ability satisfactory
- No tenderness over MCL
- No effusion
- Quad strength; torque/BW
- Lateral knee brace (if necessary)

Maintenance program

- Continue isotonic strengthening exercises
- Continue flexibility exercises
- Continue proprioceptive activities