

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 return the patient to his/her pre-injury state. Please note that if there is any increase in pain or swelling or loss of range of motion these serve as signs that progression of the patient may be too rapid.

MAXIMAL PROTECTION PHASE

Goals: Early protected ROM
Prevent quadriceps atrophy
Decrease effusion/pain

A. Time of Injury: Day One

Ice, compression, elevation

Hinge knee brace non-painful ROM; if needed (to be determined by physician)

Crutches, weight bearing as tolerated

Passive Range of Motion/ Active Assistive Range of Motion to maintain ROM

Electrical muscle stimulation to quads (8 hours a day)

Isometrics Quads: Quad Sets, Straight leg raises (flex)

Emphasize:

Hamstring stretches

AAROM Knee flexion stretching to tolerance

B. Day Two

Continue above exercises

Quadriceps sets

Straight leg raises (flexion, abduction)

Hamstring Isometric sets

Well leg exercises

Whirlpool for ROM (Cold for first 3-4 days, then warm)

High voltage Galvanic stimulation to control swelling

C. 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 stimulation

Initiate hip Add, Ext

Initiate mini-squats

Initiate leg press isotonic

Brace worn at night, brace during the day as needed

Continue ROM and stretching exercises

II. MODERATE PROTECTION PHASE

Criteria for Progression:

1. No increase in instability
2. No increase in swelling
3. Minimal tenderness
4. PROM 0-110 degrees

Goals: Full painless ROM
Restore strength
Ambulation without crutches

A. Week Two

Continue strengthening program with PREs
Continue electric muscle stim to quads during isotonic strengthening
Continue ROM exercises and stretching
Emphasize closed kinetic chain exercises; lunges, squats, lateral step-ups
Bicycle for endurance and ROM stimulus
Water exercises, running in water forward and backward
Full ROM exercises
Flexibility exercises, hamstrings, quads, IT Band, etc.
Proprioception training (balance drills)
Stairmaster endurance work
Lateral lunges, wall

B. Days Eleven-Fourteen

Continue all exercises in week two
PREs emphasis quads, medial hamstrings, hip abduction
Initiate isokinetics, sub-maximal -4 maximal fast contractile velocities
Begin running program if full painless extension and flexion are present

III. MINIMAL PROTECTION PHASE

Criteria for Progression:

1. No instability
2. No swelling/tenderness
3. Full painless ROM

Goals: Increase strength and power

A. 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
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 for return to competition:

1. Full ROM
2. No instability
3. Muscle strength 85% contralateral side
4. Proprioception ability satisfactory
5. No tenderness over MCL
6. No effusion
7. Quad strength; torque/BW that fulfils criteria

Maintenance Program

Continue isotonic strengthening exercises
Continue flexibility exercises
Continue proprioceptive activities