

## 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 an athlete to his 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 the progression of the patient may be too rapid.

### Phase I – Maximal Protection Phase

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

#### A. Time of Injury: Day One

Ice, compression, elevation  
Knee hinge brace non-painful ROM; if needed  
Crutches, weight bearing as tolerated  
Passive ROM/AAROM to maintain ROM  
Electrical Muscle stim 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  
Wall 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 – WBAT  
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 Isotonics  
Brace worn at night, brace during day as needed  
Continue ROM and stretching exercises

### Phase II – Moderate Protection Phase

Criteria for Progression:

1. No increase in instability
2. No increase in swelling
3. Minimal tenderness
4. PROM 10-100 degrees

Goals: Full painless ROM

Restore strength  
Ambulation without crutches

#### A. Week Two

Continue strengthening program with PRE's  
Continue electric muscle stim to quads during isotonic strengthening  
Continue ROM exercises and stretching  
Emphasize closed kinetic chain exercises; lunges, squats, lateral lunges, wall 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

#### B. Days Eleven - Fourteen

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

#### Phase 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

Phase IV – Maintenance Program

Criteria for return to competition:

1. Full ROM
2. Quad strength; Torque/BW that fulfills criteria
3. Muscle strength 85% of contralateral side
4. Proprioception ability satisfactory
5. No tenderness over MCL
6. No effusion
7. No instability
8. Lateral Knee Brace (if necessary)

Maintenance Program

Continue isotonic strengthening exercises

Continue Flexibility exercises

Continue Proprioceptive Activities