

## REHABILITATION OF ISOLATED MCL SPRAINS

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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 the 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 - weight bearing as tolerated

ROM as tolerated

Eccentric Quad work

Bicycle for ROM stimulus

Resisted Knee Extension with electrical muscle stim

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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

## **II. MODERATE PROTECTION PHASE**

### **Criteria for Progression:**

1. No increase in instability
2. No increase in swelling
3. Minimal tenderness
4. PROM 0-100 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, 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:

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

**Goals:** Increase strength and power

### **Phase III Continued:**

#### **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 5. No tenderness over MCL
2. No instability 6. No effusion
3. Muscle strength 85% contralateral side 7. Quad strength; Torque /BW that fulfills criteria
4. Proprioception ability satisfactory

**Maintenance Program**

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Continue Isotonic Strengthening Exercises

Continue Flexibility Exercises

Continue Proprioceptive Activities