

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 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

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

- Ice, compression, elevation
- Knee hinge brace non-painful ROM; if needed
- Crutches, weight bearing as tolerated
- Passive Range of Motion/Active Assistive Range of Motion to maintain ROM
- Electrical muscle stim to quads (8 hours a day)
- Isometrics Quads: Quad Sets, Straight Leg Raises (Flex)

### **B. 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

### **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
- Initiate Hip Add, Ext
- Initiate Mini-squats
- Initiate Leg Press Isotonics
- Brace worn at night, brace during day as needed

## **II. MODERATE PROTECTION PHASE**

### Criteria for Progression:

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

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 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

### **B. 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

## **III. MINIMAL PROTECTION PHASE**

### Criteria for Progression:

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
      - 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 for return to competition:

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

Maintenance Program

Continue Isotonic Strengthening Exercises  
Continue Flexibility Exercises  
Continue Proprioceptive Activities