



Δρ. Χρήστος Κ. Γιαννακόπουλος

Ορθοπαιδικός Χειρουργός, Διδάκτωρ Πανεπιστημίου Αθηνών

Πύργος Αθηνών, Κτίριο Γ', 2^{ος} όροφος, Λεωφ. Μεσογείων 2-4, Αθήνα 115 27

Τηλ.: 210 7712792 | **Κινητό:** 697 20 999 11 | **E-mail:** cky@orthosurgery.gr

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 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
- 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:

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

- Continue Isotonic Strengthening Exercises
- Continue Flexibility Exercises
- Continue Proprioceptive Activities