Orthopaedic Sports Specialists, P.C.

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Rehabilitation of High Grade Isolated MCL Sprains

This program may be accelerated for Grade I MCL/LCL 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 One - MAXIMAL PROTECTION PHASE

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

A. Time of Injury: Day One
1. Ice, compression, elevation
2. Knee hinge brace non-painful ROM or knee immobilizer
3. Crutches weight bearing as tolerated
4. Passive range of motion/Active Assisted range of motion to maintain ROM
5. Electrical muscle stim to quads (8 hours a day)
6. Isometrics Quads, Quad Sets, 60 reps; 3 x day
            Straight leg raises, 3 sets of 15; 3x day

B. Day Two
1. 7 count SLR
2. Hamstring setting
3. Well leg exercises
4. Whirlpool for ROM (cold for first 3-4 days,then warm)
5. High Voltage Galvanic Stimulation to control swelling
6. Continue above

C. Days Three - Seven
1. Continue above
2. Crutches weight bearing as tolerated
3. ROM as tolerated
4. Eccentric quad work
5. Bicycle for ROM stimulus

6. Multi-angle isometrics with electric stim
7. Initiate Hip abduction, extension, 3 sets of 15
8. Brace worn at night, brace at day as needed

Phase Two - <u>MODERATE PROTECTION PHASE</u>

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
1. Continue strengthening program with PRE's
2. Continue electric muscle stim
3. Continue ROM exercises
4. Multi-angle Isometrics with electric stim
5. D/C's crutches
6. Bicycle for endurance
7. Water exercises, running in water forward and backward
8. Full ROM exercises
9. Flexibility exercises hamstrings, quads, IT band, etc.
10. Proprioception training

B. Days 11 - Fourteen
1. Continue as week two
2. PRE's emphasis quads, medial hamstrings, hip abduction
3. Initiate Isokinetic, sub-maximal, maximal fast, contractile velocities
4. Begin running program if full painless extension and flexion are present.

Phase three - <u>MINIMAL PROTECTION PHASE</u>

Criteria for Progression:
1. No instability
2. No swelling/tenderness
3. Full painless ROM

Goals: Increase strength and power

A. Week Three
1. Continue Strengthening Program
Emphasis: Fast Speed Isokinetic
Eccentric Quads
Isotonic Hip Add, Medial Hamstrings
2. Isokinetic Test
3. Proprioception Training
4. Endurance Exercises
Stationary bike 30-40 minutes
Nordic Trac, Swimming, etc.

<u>RUNNING PROGRAM</u>

Jog 1 mile if no pain or limp, then:
6 x 80 yds 1/2 speed
6 x 80 yds 3/4 speed
6 x 80 yds full speed
6 x 80 yds 1/2 speed cutting
6 x 80 yds full speed cutting

Stop at any point there is pain or limp or undue fatigue. The next day the entire program must be restarted all over again till it can be finished in its entirety in one work out.

Phase 4 - <u>MAINTENANCE PHASE</u>

<u>Return to competition</u>

1.   Full ROM
2.   No tenderness over MCL-
3.   No instability
4.   No effusion
5.   Muscle strength 85% of contralateral side
6.   Quad strength = body weight (60%)
7.   Proprioceptive ability satisfactory
8.   Lateral knee brace

<u>Maintenance Program</u>
        Continue isotonic strengthening Exercises
        Continue Flexibility Exercises
        Continue Proprioceptive Activities

The above program may be accelerated for 1 MCL/LCL sprains or may be extended depending on the severity of the injury. The above schedules are just guidelines.

Please note that if there is a any increase in pain, increase in swelling, or loss of motion these are signs that one is progressing the program too fact.