

MCL Sprain, Part II

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Conservative care of a medial collateral ligamentous sprain means nonoperative treatment. Therefore, the examiner must first determine the extent of the injury to determine whether it can be treated conservatively. Ellsasser et al.¹ had a 98% success rate using conservative care in professional football players with isolated collateral ligamentous knee injuries.

In order for a patient to be treated conservatively, the following criteria had to be met:

1. Testing the extended knee in valgus-abduction stress had to be negative. This indicated that the cruciates were not significantly torn.
2. Testing valgus at 30 degrees flexion should not exhibit more than 10 degrees motion (second degree sprain) compared to the normal knee and should have a firm end-feel. Indelicato² has a three phase conservative treatment for third degree sprains.
3. Lachman test and rotatory anterior and posterior drawer tests should be negative. Rules out cruciate and capsular tears.
4. Palpation of ligamentous tenderness should be localized to either the origin, joint line or insertion of the MCL. If the tenderness is diffuse, it is probable that the damage is not localized and more than the MCL is involved. Mennell feels that normal ligaments are never tender on palpation and if a ligament is tender without a history of sprain, then the joint below the tender ligament is the primary source of pain.³
5. If there is effusion, it will be localized. If the effusion is diffuse, suspect more than a MCL sprain, i.e., cruciate or osteochondral fracture, etc.
6. X-ray should rule out bony injury.

Conservative management should attempt to create immediate motion if possible. A cylinder cast is used as a last resort since immobilization retards recovery and causes muscular atrophy. If the patient has well-developed muscles to support the sprain, a cast is not usually recommended. Of course, if the musculature is weak or inadequate, a cast may be needed for several weeks. Crutches may be needed until the patient can walk without a limp.

Clancy⁴ recommends during the first few days, compression dressing, ice for ten minutes, 3-4 times a day, quadriceps sets (patient supine: opposite knee flexed, injured knee extended with foot dorsiflexed while quadriceps is isometrically contracted for 8 seconds for 20 repetitions, 3 times per day), and straight leg lifts at a similar rate. From 3 to 7 days after injury, he recommends swimming with a flutter kick and straight leg raises with a maximum weight that can be done 23 times (3 sets) and also with hip extension, flexion and abduction but not with hip adduction. Eventually, increased quadriceps, hamstring, abductor, adductor, and gastrocnemius rehabilitation should be carried out. Rapid walking and jogging could begin as soon as the ligamentous tenderness and 30 degree valgus stress test are normal. Full recovery usually takes 3 to 8 weeks.¹

Limitation of motion (flexion and extension) is common during the first few weeks, but will be eliminated in the shortest amount of time if friction massage is applied immediately. During the first week or two the friction should be applied lightly in order not to disrupt the normal inflammatory process. After the second week, increased pressure should be used across the ligament. Normally, ligamentous motion occurs because of knee movement beneath the ligament, but in the acute relatively immobile state, friction will move the ligament on the bone. Friction will help prevent the most frequent chronic complication of MCL sprain which is loss of complete terminal knee flexion and/or extension. Friction should be applied 20 minutes daily for the first week while the knee is in its most flexed and extended positions.

References

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FEBRUARY 1990