Medial Collateral Ligament Injury

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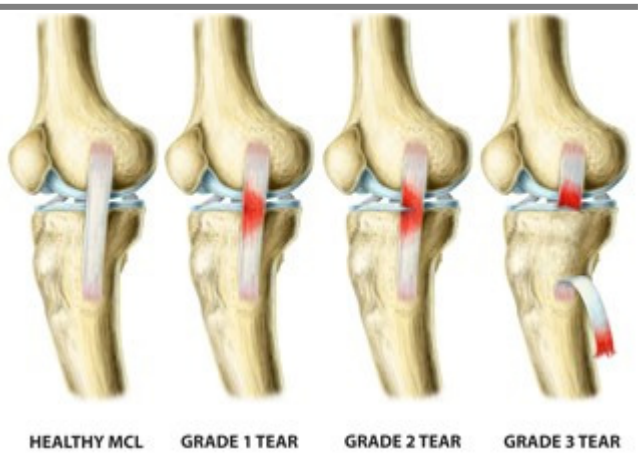
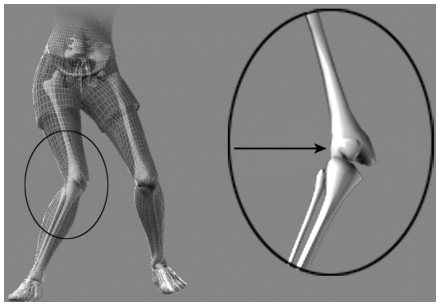
Knee Ligament Anatomy

A ligament is a fibrous band of tissue that connects one bone to another bone. At the knee, there are 4 main ligaments that attach the femur (thigh bone) to the tibia (leg bone) and function to provide stability to the knee. The Medial Collateral Ligament (MCL) is one of these main ligaments and is located on the inner (medial) aspect of the knee. The primary function of the MCL is to stabilize the side to side motion of the knee.



Mechanism of MCL injury



The MCL is a commonly injured ligament. It is typically injured from a force that pushes the knee inwards toward the other knee. This is called a valgus force and it can result from either a direct contact injury (such as rugby or soccer when a player is tackled at the knee), a or a non-contact twisting injury (such as when a player is landing from a jump or suddenly changes direction in skiing, soccer, netball, etc.).

Signs and Symptoms of MCL Injury

The athlete typically feels immediate pain over the MCL along the inner aspect of the knee. Swelling and tenderness are often associated with the injury. The degree of injury is graded clinically from I-III.
A grade I injury is a strain of the MCL and is painful but the ligament is still able to provide stability to the knee.
A grade II injury involves tearing of the MCL and the knee feels unstable side to side.
A grade III injury is a more extensive tearing of the MCL and other medial side knee structures.

Treatment of MCL injuries:

Unlike the other commonly torn knee ligament, the ACL, the MCL has very high healing potential. Reasons for the high healing potential is that the ligament is located outside the knee joint and therefore is not surrounded by joint fluid (unlike the ACL which is located inside the knee joint). Also, there is a good blood supply to the MCL which facilitates a strong healing response. Because of this high healing potential, the vast majority of MCL injuries can be treated non-operatively.

Minor injuries are treated with rest and anti-inflammatory medications. More severe injuries are treated in a hinged brace set to allow 30-90° of motion. The brace prevents full knee extension which holds the knee in a stable position without putting stress on the MCL as it is healing. These more severe injuries need time in the brace, typically around 6 weeks, to allow the ligament to heal before physiotherapy is started. If a brace is required it is imperative that it is worn at all times, and the knee is not permitted to straighten even occasionally until the ligament is healed.

Once the ligament is healed, a graduated return to sport program with the physiotherapist is started. Rarely, the ligament does not heal adequately to provide the stability needed by the athlete. In this uncommon situation, surgery may be required to reconstruct the MCL. Fortunately, the vast majority of athletes are able to return to their sport fully without surgery.

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