

Collateral Ligament Injuries of the Knee

Introduction

Collateral ligament injuries in the knee are among the commonest causes that bring an athlete off the field during a sports event. The athlete usually has much difficulty in getting up because of pain and swelling on the injured knee. The knee just gives way upon standing.

It is uncommon to have isolated collateral ligament injuries. Other parts of the knee such as the cruciate ligaments or the menisci could be hurt at the same time.

Anatomy

Collateral ligaments are located on the two sides of the knee joint and connect the joint to the pelvic and the thigh bones. The medial collateral ligament, or MCL, provides stability to the medial (inner) side of the knee, whereas the lateral collateral ligament, or LCL, provides stability to the lateral (outer) side of the knee.

Cause

Injuries to collateral ligaments are usually caused by external impact to the side of the knee. However, this type of injury is very rare.

Symptoms

The patient will feel sharp pain inside the knee right after injury.

Diagnosis

A physical examination usually gives a very good indication of which ligaments have been torn in and around the knee. X-rays may be required to rule out the possibility of any damaged bones. Sometimes stress X-rays may be useful to confirm if one of the collateral ligaments has been torn. Magnetic Resonance Imaging (MRI) may help to delineate other related injuries, including injury to the ACL or meniscus.

Non-Surgical Treatment

Partial ruptures of medial collateral ligament can be treated without surgery. The application of the “R.I.C.E.” principle – Rest, Ice, Compress and Elevate, is usually enough. Resting can give the ligament time to heal. Icing should be done two to three times a day for 15 to 20 minutes each. Compression with a medical elastic band can help to reduce swelling. This can be complemented by a supportive device for the knee. Elevate the knee area as much as you can.

Surgical treatment

Surgery may be required if the collateral ligaments are completely torn or cannot heal by themselves. Restorative surgery has a high success rate of completely restoring the stability and function of the knee.

Rehabilitation

Consult your doctor for the best way of rehabilitation. A typical rehabilitation programme for injuries of the collateral ligaments consists of the following:

1. Passive flexing and extending of the knee for restoring flexibility.
2. Use of external stabilising device to control the movements of the knee.
3. Strengthening exercises for the quadriceps, which provides the greatest supporting and stabilising function when the knee is bearing weight.
4. Other training such as paddling on a stationary bicycle or intensive strengthening exercises for the quadriceps.

Prevention

Adequate warm-up is necessary before participating in any athletic activities and competitions. The limb muscles should undergo a period of stretching and relaxation before performing rigorous movements, as it takes time for joints and muscles to reach their optimal level of performance. As much as possible, avoid unaccustomed impact and motions beyond one's limit.