

# ***ANTERIOR CRUCIATE LIGAMENT TEAR***

## **DESCRIPTION**

This is a sprain (tear) of one of the 4 major ligaments of the knee. The anterior cruciate ligament (ACL) is a rope like structure that helps keep the normal relationship of the femur (thigh bone) and the tibia (leg bone). This ligament is most important in sports that require pivoting, changing direction (cutting), and/or jumping/landing. When torn, this ligament does not heal, though it may scar to other structures of the knee. About half the people who tear their ACL also have a torn meniscus cartilage.

## **FREQUENT SIGNS AND SYMPTOMS**

- A pop or tear is usually heard or felt at the time of injury, an inability to continue after the injury, and large knee swelling noticed within 6 - 8 hours after the injury but frequently within 3 hours.
- Inability to straighten knee.
- Knee giving way or buckling, particularly when trying to pivot, cut (rapidly change direction) or jump, often there is swelling with repeated giving way.
- Occasionally locking may exist when there is concurrent injury to the meniscus cartilage.

## **CAUSES**

Force that exceeds the strength to the ligament. This injury may be as a result of a non-contact injury (landing awkwardly or cutting while cleats are stuck to the ground) or from contact such as getting tackled at the knee.

## **RISK INCREASES WITH**

- Sports that require pivoting, jumping, cutting or changing direction (basketball, soccer, volleyball) or contact sports (football, rugby)
- Poor physical conditioning (strength/flexibility)
- Women appear to have a higher risk than men
- Improper equipment

## **PREVENTIVE MEASURES**

- Appropriate warm-up and stretching before practice and competition
- Appropriate conditioning including thigh, leg and knee flexibility, muscle strength and endurance as well as cardiovascular fitness
- Proper technique
- Proper equipment (length of cleats for surface)

## **EXPECTED OUTCOME**

The ACL does not heal on its own, but most people can perform normal daily activities after an appropriate rehabilitation program. For those who want to return to participating frequently in sports that require pivoting, cutting, jumping/landing surgery is usually required.

## **POSSIBLE COMPLICATIONS**

- Frequent recurrence of symptoms, such as knee giving way, instability and swelling
- Injury to meniscal cartilage, resulting in locking and swelling of the knee.
- Injury to other structures of the knee, including the articular cartilage, resulting in arthritis of the knee.
- Injury to other ligaments of the knee
- Knee stiffness (loss of knee motion)

## **GENERAL TREATMENT CONSIDERATIONS**

Initial treatment consists of medications and ice to relieve pain and reduce the swelling of the knee.

Walking with crutches until you walk without a limp is often recommended (you may put full weight on the injured leg). Range of motion, stretching and strengthening exercises may be carried out at home, though usually referral to a physical therapist or athletic trainer is recommended. Occasionally, your physician may recommend a knee brace, especially if other ligaments are injured along with the ACL.

For those patients that do not perform sports that require pivoting, cutting, jumping/landing frequently, surgery is usually not required and rehabilitation is recommended. Individuals that usually exercise by jogging, cycling and/or swimming only, usually do not require ACL surgery. Rehabilitation of ACL tears usually concentrates on reducing knee swelling, regaining knee range of motion, regaining muscle control and strength, functional training, bracing (occasionally) and education, such as avoiding sports that require pivoting, cutting, changing direction and jumping/landing. For those that do perform sports that require pivoting, cutting, jumping/landing frequently, surgery is usually recommended to allow return to these sports.

## **MEDICATION**

- Non-steroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take if surgery planned in 7 days or less), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset or an allergic reaction occurs.
- Stronger pain relievers may be prescribed as necessary by your physician. Use only as directed and only as much as you need.

## **HEAT AND COLD:**

- Cold is used to relieve pain and reduce inflammation for acute and chronic cases. Cold should be applied for 10 - 15 minutes every 2-3 hours for inflammation and pain, and immediately after any activity which aggravates your symptoms. Use ice packs or an ice massage. Cold compression may be useful.
- Heat may be used prior to performing stretching and strengthening activities prescribed by your physician, physical therapist or athletic trainer. Use heat pack or a warm soak.

## **NOTIFY OUR OFFICE IF**

- Symptoms get worse or do not improve in 6 weeks despite treatment
- New, unexplained symptoms develop. Drugs used in treatment may produce side-effects.