

Informational Guide to Anterior Cruciate Ligament (ACL) Injuries

Introduction

A ligament is a strong, thick band of tissue that connects a bone to another bone. The anterior cruciate ligament (ACL) runs from the outer backside of the femur (thigh bone) to the inner front side of the tibia (shin bone). The ACL is the most commonly injured ligament in the knee.

The main job of the ACL is to control how far the tibia moves forward on the femur. It is the first ligament to become tight when the knee is straightened. Because of this, the ACL is often at risk during hyperextension injuries.

The ACL is most often injured during sporting events. Strain at this ligament will also occur with forceful twisting of the leg when the foot is planted on the ground.

Symptoms

Initially following an injury to the ACL, the knee will swell because of increased bleeding inside of the joint. This onset of swelling will generally start to get better within two to four weeks following the injury.

Feelings of instability and a sense of giving-out at the knee may be present during activities of daily living and general movements. Because torn ligaments have a poor blood supply they don't heal well. This will result in instability of the knee. Long-term instability will increase the risk of osteoarthritis at the knee.

Diagnosis

ACL injuries are typically diagnosed by taking a thorough history of how the injury occurred as well as a physical examination of the area. Swelling that occurs within two hours of the incident indicates the presence of blood in the joint. When this happens at the knee, there is a 70% chance of ACL damage.

X-rays may be taken to rule-out a fracture. An MRI may be ordered to further view or confirm other ligament or cartilage injury.

Treatment

The initial swelling and pain that occurs following an ACL tear may be treated with physical therapy, anti-inflammatory medication, rest, ice, compression and elevation (RICE).

Instruction in range of motion (ROM), general strength and stability at the knee will be initiated. Bracing may also be used to support the knee during movement. Though bracing may help, it may also give a false sense of stability.

If the above treatments fail to alleviate pain and other symptoms of movement difficulty, surgery may be indicated. There are three arthroscopic methods typically used to repair a torn ACL:

- 1) The center third of the patellar tendon (between the knee cap and the front shin bone) may be used to replace the ACL.
- 2) The tendons of the semitendinosus (a hamstring muscle) and the gracilis (a thigh muscle) may be woven together to form an ACL replacement.
- 3) An allograft using harvested tissue from a cadaver may also be used to replace a damaged ACL.

Rehabilitation

Non-surgical treatment of the ACL following injury typically takes six to eight weeks. A physical therapist will initially help to decrease pain and swelling associated with this injury. Instruction in proper ROM, balance, movement awareness, stretching and strengthening activities with use of a self-managing home exercise program (HEP) will also be initiated as seen appropriate.

Prior to any surgical intervention, a therapist will help to increase strength and stability, and decrease swelling and scar tissue to facilitate recovery following the procedure. After surgery, ACL rehabilitation is typically a four to six month progression under the guidance of a physical therapist with further instruction in a HEP.

More Information...

For more information please contact any of our three clinics in Roseville, Spring Lake Park, or Blaine where a knowledgeable therapist will be happy to assist you with your recovery needs.