

ACL Injuries:

When a Key Player of Your "Knee Team" Goes Down

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The knee is one of the largest joints in the human body. We rely on its proper function for daily movements from simply stepping into our car to more aggressive activities like skiing or soccer. Stand up, walk, sit down, run, jump, stop - as long as your knees are healthy, none of these movements sound difficult however, when you are injured or impaired even simple movements can be cumbersome and painful.

STAYING IN THE GAME – PREVENTION

One of the most common knee injuries is a tear of the anterior cruciate ligament, or ACL. The incidence of ACL injuries is estimated at 200,000 per year. In the past decade, a great deal of research has been aimed at designing ACL tear prevention

programs. These programs are usually conducted at physical therapy clinics and consist of specific stretching, strengthening, flexibility and balance exercises. They aim at retraining the nervous and muscle systems in athletes to be more efficient, and as a result, reduce the potential for non-contact ACL tears.

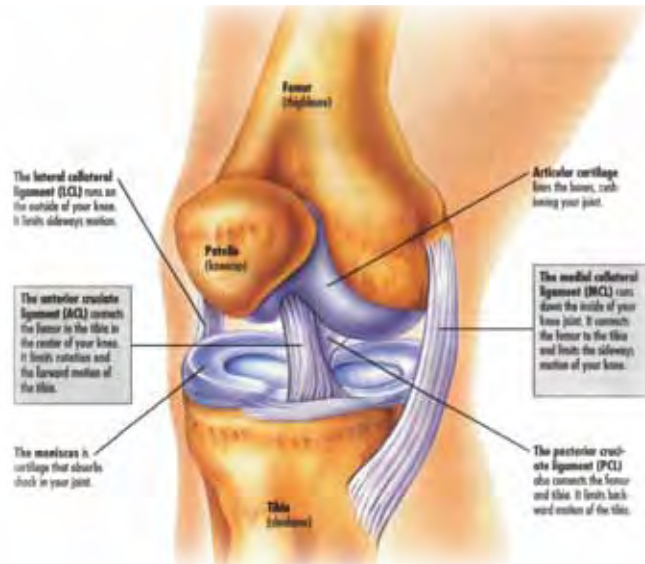
The goal of any good ACL tear prevention program is to; teach the athlete how to avoid vulnerable positions, increase flexibility, increase core and leg strength, incorporate plyometric exercises which are high intensity (explosive muscular contractions that invoke the stretch reflex), and increase proprioception or the body's ability to perceive movement and orientation.

Injury results when the ACL is stretched beyond its limit. The most common reasons the ACL tears include: sudden change in direction, hyperextension of the knee, stopping suddenly, deceleration while running, landing awkwardly from a jump, and direct collisions. "I landed awkwardly, and my knee went the other" is a frequent explanation given to describe knee injury to the ACL. It is common to hear a popping sound when the ACL injury first occurs - this is the tearing of the ligament and it can be quite painful.

Within a day or so, the knee usually becomes very swollen. You may experience an inability to move the

knee normally, walk without pain, or have a feeling of instability. This is an uncomfortable sensation because you may feel as though you can no longer trust your knee to stabilize your movements.

ACL tears that are left untreated often lead to injury to the cartilage of the knee. With a torn ACL, the knee



is at risk for "giving way" episodes. During one of these episodes, the knee pivots and the smooth cartilage surfaces shear against one another, which can cause damage to the cartilage or cause the meniscus to tear. Damage to the meniscus and smooth cartilage predisposes the knee to developing arthritis. Each "giving way" event puts the knee at further risk for damage.

GETTING BACK IN THE GAME – DIAGNOSIS AND TREATMENT

The two most useful tools used to make a diagnosis of an ACL tear are the patient's recollection of the injury and a good physical exam. Orthopedists measure the degree of laxity in an injured knee vs. the uninjured side to help diagnose an ACL tear. An MRI scan is also a very useful tool

that can help confirm the diagnosis of injuries to meniscus, cartilage and other structures in the knee.

Initially, it is common to prescribe or recommend the use of anti-inflammatory medications, knee brace, ice packs, and physical therapy exercises to regain or maintain your range of motion. Also, if the swelling is significant, it can limit the normal range of motion of the knee. Your doctor may recommend, aspirating, or draining the knee of the excess blood, to relieve pain and help regain range of motion.

You and your doctor may choose to pursue a non-surgical approach to treating your ACL injury. This will usually require that your knee is stable during routine activities, and you refrain from participation in high-risk sports and activities. In this case, your doctor may prescribe that you commit to

a full course of physical therapy. During physical therapy sessions, a trained therapist will work closely with you to help reduce your pain, increase your motion, and improve your thigh and calf strength. As you progress, you will also be taught how to more safely engage in your favorite sport or activity.

Unlike muscles, ligaments do not have their own blood supply and cannot heal themselves. If you are still experiencing pain after all other conservative measures have been taken, your doctor may suggest surgery to reconstruct the ligament, help relieve your pain and help restore your mobility. The goal of surgical treatment of ACL tears is to restore stability and function of the knee. In an ACL reconstruction surgery a "graft" is used to rebuild the torn ligament. The graft used to reconstruct the ACL can

be taken from your tissue known as an autograft, or can be borrowed from a cadaver donor, an allograft. The most commonly used autograft tissues are taken from either the hamstring tendons or the patellar tendon.

After surgery, you will likely be able to go home the same day. Most people use crutches for a week or two. Full recovery from ACL repair usually takes 4-6 months. During this time, the patient is enrolled in a rigorous physical therapy program. Return to sports or other vigorous activity often depends on your commitment to getting better.

Our knees do a lot of work for us each day and ideally we don't have to think about any of it. When the ACL player on the knee team goes

down, there are some very good options available to get you back in the game. Jeff Harrison, MD is a highly trained surgeon who practices at the Calton-Harrison Clinic, located at McKay-Dee Hospital. He specializes in arthroscopy, knee ligament reconstruction, meniscal repair, rotator cuff repair and the correction of shoulder instability and can help you get back in the game.

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GETTING BENCHED – ACL INJURY

Football, basketball, skiing and soccer are considered high risk activities for ACL injuries. Approximately 70% of ACL injuries occur through non-contact mechanisms. There is a higher incident of ACL injury in female athletes than males in certain sports. Researchers suspect the greater angles in the female hip and leg alignment may make the knee more vulnerable to force. Additionally, female hormones can relax ligaments and make them less stable, making some women more susceptible to knee injury.

200,000

INCIDENCES OF
ACL INJURIES
ESTIMATED PER YEAR

4-6

MONTHS ESTIMATED
FOR FULL RECOVERY
FROM ACL REPAIR