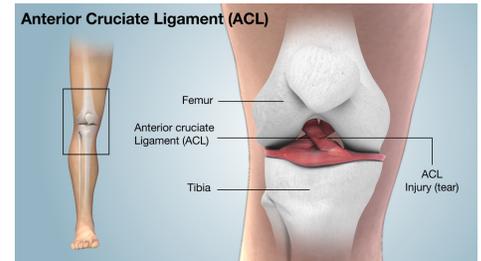


ACL HEALTH

optimalphysicaltherapy.com 920-648-2400

"Our mission is to empower and educate athletes about the changes their bodies go through, and teach them how to reconnect on a neuromuscular level, and heal themselves in a way that allows them to optimize their function and restore their core foundation so they can return to their desired fitness levels safely and with better long term results."

An anterior cruciate ligament tear is an injury to the knee commonly affecting athletes, such as soccer players, basketball players, skiers, and gymnasts. Nonathletes can also experience an ACL tear due to injury or accident. Approximately 200,000 ACL injuries are diagnosed in the United States each year. It is estimated that there are 95,000 ruptures of the ACL and 100,000 ACL reconstructions performed per year in the United States. Approximately 70% of ACL tears in sports are the result of non-contact injuries, and 30% are the result of direct contact (player-to-player, player-to-object). Women are more likely than men to experience an ACL tear. Physical therapists are trained to help individuals with ACL tears reduce pain and swelling, regain strength and movement, and return to desired activities.



HOW DOES IT FEEL?

When you tear the ACL, you may feel a sharp, intense pain, cannot walk on the leg or support your weight, and swelling in the knee area. You may hear a loud "pop" or snap.

DIAGNOSIS?

Immediately following an injury, you may be examined by a physical therapist, athletic trainer, or orthopedic surgeon. If you see your physical therapist first, your therapist will conduct a thorough evaluation that includes reviewing your health history. Your physical therapist will ask:

- What you were doing when the injury occurred.
- If you felt pain or heard a "pop" when the injury occurred.
- If you experienced swelling around the knee in the first 2 to 3 hours following the injury.
- If you felt your knee buckle or give out when you tried to get up from a chair, walk up or downstairs, or change direction while walking.

Your physical therapist may perform gentle "hands-on" tests to determine the likelihood that you have an ACL tear and may use additional tests to assess possible damage to other parts of your knee.

An orthopedic surgeon may order further tests, including magnetic resonance imaging (MRI), to confirm the diagnosis and rule out other possible damage to the knee.

PREVENTION?

Much of the research on ACL tears has been conducted with female collegiate athletes, because women are 4 to 6 times more likely to experience the injury. Preventive physical therapy programs have proven to lower ACL injury rates by 41% for female soccer players. Researchers have made the following recommendations for a preventive exercise program:

- The program should be designed to improve balance, strength, and sports performance. Strengthening your core (abdominal) muscles is key to preventing injury, in addition to strengthening your thigh and leg muscles.
- Exercises should be performed 2 or 3 times per week and should include sport-specific exercises.
- The program should last no fewer than 6 weeks.

Although most exercise studies have been conducted with female athletes, the findings may benefit male athletes as well.

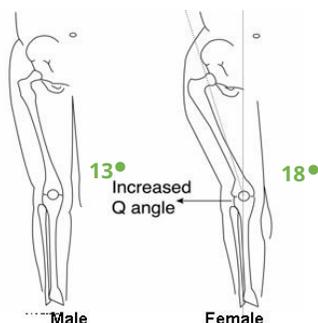
Q Angle in Girls

To assist in childbirth, females are born with a wider pelvis which, in the parlance of sports medicine, means girls have a larger Q angle (calculated by two intersecting lines using key points of the pelvis, spine, and legs). In a nutshell, a girl's Q angle averages 17 degrees while the average boys is 14 degrees.

That 3-degree difference in the Q angle has been linked to a variety of injuries and issues, including:

- ACL tears – Makes the knee less stable, thereby putting it under more stress.
- Patellofemoral Pain Syndrome – Known more commonly as 'runner's knee,' the quadriceps muscle exerts a disproportionate pull on the patella (kneecap), leading to chronic pain.
- Chondromalacia – Also part of runner's knee, this occurs when cartilage beneath the patella (kneecap) is worn down, leading to chronic pain.

An increased Q angle in girls leads to a corresponding increase in forces and pressures on the knee.



HOW CAN A PHYSICAL THERAPIST HELP?

Once an ACL tear has been diagnosed, you will work with your surgeon and physical therapist to decide if you should have surgery, or if you can recover without surgery. If you don't have surgery, your physical therapist will work with you to restore your muscle strength, agility, and balance, so you can return to your regular activities. Your physical therapist may teach you ways to modify your physical activity in order to put less stress on your knee. If you decide to have surgery your physical therapist can help you before and after the procedure.

Treatment Without Surgery

Current research has identified a specific group of patients (called "copers") who have the potential for healing without surgery following an ACL tear. These patients have injured only the ACL, and have experienced no episodes of the knee "giving out" following the initial injury. If you fall into this category, based on the specific tests your physical therapist will conduct, your therapist will design an individualized physical therapy treatment program for you. It may include treatments such as gentle electrical stimulation applied to the quadriceps muscle, muscle strengthening, and balance training.

Treatment Before Surgery

If your orthopedic surgeon determines that surgery is necessary, your physical therapist can work with you before and after your surgery. Some surgeons refer their patients to a physical therapist for a short course of rehabilitation before surgery. Your physical therapist will help you decrease your swelling, increase the range of movement of your knee, and strengthen your thigh muscles (quadriceps).

Treatment After Surgery

Your orthopedic surgeon will provide post-surgery instructions to your physical therapist, who will design an individualized treatment program based on your specific needs and goals. Your treatment program may include:

Bearing weight. Following surgery, you will use crutches to walk. The amount of weight you are allowed to put on your leg and how long you use the crutches will depend on the type of reconstructive surgery you have received. Your physical therapist will design a treatment program to meet your needs and gently guide you toward full weight-bearing.

Icing and compression. Immediately following surgery, your physical therapist will control your swelling with a cold application, such as an ice sleeve, that fits around your knee and compresses it.

Bracing. Some surgeons will give you a brace to limit your knee movement (range of motion) following surgery. Your physical therapist will fit you with the brace and teach you how to use it safely. Some athletes will be fitted for braces as they recover and begin to return to their sports activities.

Movement exercises. During your first week following surgery, your physical therapist will help you begin to regain motion in the knee area and teach you gentle exercises you can do at home. The focus will be on regaining the full movement of your knee. The early exercises help with increasing blood flow, which also helps reduce swelling.

Electrical stimulation. Your physical therapist may use electrical stimulation to help restore your thigh muscle strength, and help you achieve those last few degrees of knee motion.

Strengthening exercises. In the first 4 weeks after surgery, your physical therapist will help you increase your ability to put weight on your knee, using a combination of weight-bearing and non-weight-bearing exercises. The exercises will focus on your thigh muscles (quadriceps and hamstrings) and might be limited to a specific range of motion to protect the new ACL. During subsequent weeks, your physical therapist may increase the intensity of your exercises and add balance exercises to your program.

Balance exercises. Your physical therapist will guide you through exercises on varied surfaces to help restore your balance. Initially, the exercises will help you gently shift your weight onto the surgery leg. These activities will progress to standing on the surgery leg, while on firm and unsteady surfaces to challenge your balance.

Return to sport or activities. As athletes regain strength and balance, they may begin running, jumping, hopping, and other exercises specific to their individual sport. This phase varies greatly from person to person. We design return-to-sport treatment programs to fit individual needs and goals.

250,000 ACL injuries/year
United States

2-8x  Gender Bias
Girls more likely to injure ACL

30% ACL injuries from contact

1  Prevention class goal
Pivot Control *statistics*



Direct Access legislation

NO REFERRAL NEEDED

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