

The most talked about knee injury in sports—the ACL

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The ACL, or Anterior Cruciate Ligament, is one of four major ligaments providing stability to the knee joint. An injury to this important structure is commonly associated with athletic activity. The injury most frequently occurs as a result of jumping and pivoting and often without any contact from

an opposing player. An athlete will make a sudden change of direction by planting and cutting on a fixed foot causing the ACL to rupture. The description of a “pop” is reported by the athlete in about half of the cases.

Studies have indicated women are at higher risk for an ACL injury than men in sports involving jumping and change of direction, such as basketball, soccer, and volleyball. The gender difference has been and continues to be studied with research areas focusing on hormone and structural differences including the angle created between the hips and knees called the “Q angle”, the size of the notch within the knee where the ACL is located, and muscular strength and reaction time. Another interesting area of focus is the teaching of proper jumping and landing mechanics as poor technique often leads to this devastating injury. These programs, including the SportsMetrics program currently offered at the Sanford POWER Center, have proven to be effective for reducing the incidence of ACL injuries.

Upon sustaining an ACL injury the athlete is often unable to resume activity. The injury may have associated swelling around the knee and the athlete may or may not be able to bear weight. Initial treatment of the injury includes icing to reduce the amount of swelling and provide pain relief, and protecting the athlete by wrapping, bracing, and/or utilizing crutches. Medical attention will need to be sought from either your provider or a specialist, in this case an orthopedic surgeon.

Examination of the knee by the physician includes manual tests to determine the extent of the injury to the ACL and to other knee structures. These tests stress the injured structure and provide an initial impression. An MRI, or Magnetic Resonance Imaging, is often sought to provide a detailed picture of the ligaments, cartilage, and other soft tissues around the knee. This imaging study can confirm the ACL injury and also identify other associated structures which have been damaged.

Surgery is the most common approach to treating this injury as continued athletic activity with a torn ACL increases the risk for other knee injuries including damage to the meniscus, or cartilage. There are several techniques which can be performed to reconstruct the ACL. The surgeon decides which method to use based on what would be best for the individual patient. The most commonly used grafts to replace the injured ACL are the middle third of the patellar

tendon on the involved knee or the hamstring tendon. A graft from a cadaver is also an option.

Following the surgery, therapy must begin to restore the knee’s normal range of motion and strength. The rehabilitation is lengthy and is quite often more challenging than the surgery even for elite athletes. The rehab process is goal driven while keeping the healing process of the newly reconstructed ACL as the highest priority. Return to play often occurs six to twelve months following surgery and can include the need to temporarily wear a protective brace.

For more information on Sanford’s Sportsmetrics program, please call (605) 328-1804.



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