

Torn ACL:
the silent predator

(DECK)Attention football players: You've heard about it and seen it happen to some of the best. Here's what you need to know about the king of all knee injuries.

by william b. haynes, m.d.

It's everything you've been waiting for: You're a senior in high school, and you're the starting tailback. You've been tabbed a possible preseason all-region pick. You worked hard during the off-season with weights, underwent speed training and had your own personal trainer. You're bigger, stronger, faster and quicker. For you right now, life is good. This is your year.

So fast-forward a bit and picture this: You're in the offensive huddle during the fourth game of the season. Your team is 3-0 and playing arguably the best team in the region. You've been averaging 98 yards per game. The coach has called your number on fourth and six in a scoreless game at your opponent's 20-yard line. The ball is snapped to the quarterback – you take the pitch and head toward the right sideline. Out of nowhere comes a strong-side linebacker blazing toward you. You plant your right foot and attempt to cut inside the linebacker but, suddenly, you slip and go down for a two-yard loss. Your right knee hurts. You think you felt a “pop” as it gave, but you're not sure because everything happened so fast. The trainer and coaches help you off the field and apply ice to your knee. You feel certain that you'll be back in the second half. After all, there was no contact. You simply slipped while pivoting or trying to cut. The second half starts, and you can hardly walk, much less run.

After icing your knee all weekend, Monday comes and your parents take you to see a sports medicine specialist. He takes one look at your swollen knee and grasps it performing what must be a certain kind of test. The surgeon glances at your parents, looks over at you and unloads the bomb, “I think you've torn your ACL.” You're devastated. This is your season. It couldn't have happened to you. “It can't be torn,” you say, devastated. “No one even touched me.”

A crash course in ACL injury and repair

While not the most common or most serious knee injury in football, no injury is more devastating (particularly psychologically) to a player, his family, his coaches and his team than a torn Anterior Cruciate Ligament (ACL). Dreams are shattered, team strategies are altered and championships are won or lost when key players sustain this injury.

While football is a contact sport, a tear to the ACL most commonly occurs during a non-contact, pivoting, twisting-type motion. A hyperextension injury can also cause a tear. Seventy percent of ACL injuries result from non-contact injuries. The good news is that, while this is a season-ending injury, it's not a career-ending injury. New arthroscopic techniques and surgical advances have improved outcomes and make recovery and return to a level-one sport possible within six months.

The ACL is the main stabilizing ligament of the knee that connects the thigh (femur) bone to the leg (tibia) bone, preventing shifting of one bone on the other. Tearing this

ligament often causes significant instability, or “giving out”, of the knee. Unfortunately the ACL is not surgically repairable.

When the ACL tears, it normally explodes in its mid-substance into what is commonly referred to as “mop ends.” Imagine taking two mops and trying to sew all those strands back together. It essentially cannot be done. Even if this is accomplished, the damage to the ligament is usually so extensive that the repair would not be able to withstand normal forces placed on the knee when walking or running.

Surgeons, therefore, use other “body parts” to make or reconstruct a new ligament. This new ligament is placed into the knee at the exact area of the original ligament. Graft selection is important and should be discussed with the surgeon. Basically, they use either an autograft or an allograft.

An autograft is a graft taken from another part of your body and used for the new ACL. Part of the patella tendon, hamstrings or quadriceps tendon is most commonly used. The two most common are the middle third of the patella tendon, and a portion of the hamstrings.

An allograft is a graft taken from a cadaver (deceased person). While this doesn't sound like a very desirable alternative, it definitely has its advantages. The surgery is generally less painful and has an easier recovery period during the first several weeks. Allografts are more commonly used in patients older than age 30, because older patients have a more difficult time regaining their motion after surgery and rehabbing their knees than do 16-year-old kids.

Normally the allograft “takes” well, and the final result is similar to the autograft. In both instances the body has to incorporate the graft into a new ligament complete with its own blood supply. Cartilage or meniscus injuries also occur in about 50 percent of acute ACL injuries. The meniscus is a C- or O-shaped spacer in the knee that acts as a cushion or shock absorber. Tearing the cartilage simultaneously with the ACL can worsen the prognosis and even lead to more significant problems in later years, particularly if it is not addressed surgically.

Returning to level-one or cutting, pivoting- or jumping-type sports can generally occur in six months to a year. One can generally return to a pre-injury level of competition following successful ACL reconstruction. Graft failure is rare. Because it takes time for the body to incorporate the ligament (turn the ligament into a normal living ligament), it is best to wait six months for full recovery, even if you feel like your knee is normal.

Physical therapy after surgery is important and should begin immediately following surgery.

When is surgery necessary?

So, when should you consider undergoing surgery for an ACL injury? Not everyone who sustains an ACL injury needs to undergo surgical reconstruction. Some patients will not experience significant instability and can return to essentially the same level of activity after therapy. The vast majority of athletes aged 25-to-50 who live an active lifestyle, are athletic or have recurrent instability should consider ACL reconstruction. In addition, those patients with combined ACL and meniscus or cartilage injuries should undergo surgery.

One final note: Before a surgeon can operate, it is important for the patient to understand that surgery is not performed until the swelling resolves and range of motion returns to

normal, which usually takes three-to-six weeks. This period also allows the family the opportunity to consider the options carefully and plan for the surgery and rehabilitation period if it is necessary.

So after you read this magazine, put it in a safe place and pray you never need it. But if someone in your family is unfortunate enough to sustain an ACL injury, you will have answers to some of the most frequently asked questions before you even see your surgeon.

By the way, your team won 14-10.

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