

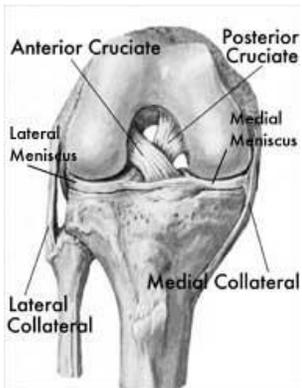
GOAL POST

ACL Injuries

by: **Dr. Trevor L. Hall, MD, CCFP, DIP. SPORT MED**

“I blew out my knee!” Have you ever yelled out this phrase? Knee injuries are very common in basketball players. One of the more serious injuries involves the **anterior cruciate ligament (ACL)**.

A **ligament** is a rope-like structure that holds two bones together. In your knee, there are four main ligaments (see Figure 1). The ACL acts to prevent the tibia (shin bone) from shifting forward in relation to the femur (thigh bone), and also helps to prevent rotational movements between these two bones.



Sports that involve a lot of **pivoting, stops and starts, landing jumps, and contact** between players have a higher risk of ACL injuries. Usually, if you tear your ACL, there is considerable pain, swelling that occurs quickly, and occasionally a “pop” sensation.

Figure 1: Knee Anatomy

A **physician** who has experience at diagnosing ACL injuries should be able to tell the extent of injury through physical examination. ACL tears can be a complete or partial (“stretching”). Sometimes, special tests such as magnetic resonance imaging (MRI) may be required to diagnose an ACL tear. X-rays are usually done to make sure that you have not sustained any bone injury.

The **initial treatment** of ACL tears involves measures to decrease the swelling such as frequent **icing** and using a non-steroidal anti-inflammatory medication (e.g., naproxen). **Physiotherapy** is very important in regaining your knee range of motion and preventing

excessive muscle wasting. Often, the physician will prescribe a temporary brace for the first two weeks to

protect your knee. Once your knee starts to settle down, the physiotherapist will show you some particular **strengthening** (especially hamstring strength) and **balance exercises**, which are very important in the rehabilitation of your knee.

With appropriate treatment of an isolated ACL tear, your knee should be feeling good within 6 weeks (no pain or swelling because the inflammation has settled down). Unfortunately, the torn ACL does not usually heal or “tighten up”. Once an ACL is completely torn, it stays torn.

The big problem with this situation is that an ACL-deficient knee does not function properly. If you return to a contact sport or a sport with a lot of pivoting (football, hockey, soccer, basketball, etc.) your knee will probably give out again (“blow out” your knee all over again). Every time your knee gives out (knee instability), you risk causing other damage to your knee such as cartilage tears and possibly **long-term problems** such as osteoarthritis. I have seen a twenty year-old athlete with arthritis in her knee because she had undergone three years of instability episodes due to a chronic ACL tear without having her knee treated.

To try to prevent this knee instability, a physician can prescribe a special **custom-fit ACL brace**. This type of brace can be used on a daily basis in the rehab period and later to help to prevent knee instability in high risk situations such as pivoting or contact sports. In general, these braces are well-tolerated since they are custom-fit and made of strong light-weight materials such as titanium and carbon-fibre.

Depending on your sport or activity level, you may have to have **surgery to reconstruct your ACL**. Surgical reconstruction comes the closest to getting your knee back to normal. (cont’d)

Health • Exercise • Performance

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If your sport does not involve any pivoting (e.g., road cycling) then you probably will not need surgery (unless your knee gives out with daily activities which can sometimes happen!).

Surgery is usually the best option for individuals who play basketball and other pivoting and contact sports. In the realm of sport injuries, ACL surgery is a fairly large procedure since the surgeon has to be skilled at this type of procedure. You have to be very dedicated to working hard at physiotherapy for several months after surgery, to help ensure a successful outcome.

In general, the earliest you can **return to contact & pivoting sports** after ACL surgery is six (6) months. Often, this period is closer to nine (9) months. Going back too early can result in re-injury since the reconstructed ACL will not be strong enough. Usually, you will be using the ACL brace after surgery, during the rehabilitation, and for the first year afterwards.

Although an ACL tear is a major injury, it is not the end of the world. With appropriate treatment, most players are able to return to the same level of activity they were at prior to injury.

Have a great season!



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with McMaster U. Dept. of Family Medicine and is actively involved in training sports medicine PGY3 fellows. He has worked internationally with Canadian national teams and at Olympics, and currently is sports medicine consultant for the U. of Waterloo varsity teams.



Obstacles don't have to stop you. If you run into a wall, don't turn around and give up. Figure out how to climb it, go through it, or work around it.

-Michael Jordan

Let's Get 'HUMERUS'

A psychology teacher had just finished a lecture on mental health and was giving an oral test. She asked "How would you diagnose a patient who walks back and forth screaming at the top of their lungs one minute, then sits in a corner weeping uncontrollably the next?"

A young man in the rear raises his hand and answers, "A basketball coach."

Tips & Tricks

Sports Recovery

Recovery after competition and workouts is essential to preventing injury and maintaining conditioning. After a rigorous workout or competition it is most important to refuel within the first 3 hours after. During these first 3 hours our glycogen stores (energy sources) are most depleted and receptive to restoration. Eating a meal high in carbohydrates will help to restore these energy stores quickly and efficiently. Even if you do not feel like eating after competition try drinking a beverage high in carbohydrates such as chocolate milk.

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