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Getting back in the game after a torn ACL

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If you play sports, or are an avid sports fan, chances are you've heard the expression "torn ACL." Tears to the ACL, or anterior cruciate ligament, are common among ski-racers and recreational skiers alike, but also occur in other sports--potentially keeping you or your favorite professional player out of the game for many months, if not longer. If you're planning a ski trip this winter, you may want to read on!

Let's start by reviewing where the ACL is located and what its purpose is. The two main bones that make up the knee are the femur (thigh bone) and tibia (shin bone). The ACL, shaped like a rope, runs inside your knee joint attaching from the back part of the femur to the front part of the tibia and therefore tends to limit how far the shinbone can slide forward on the end of the thighbone. Imagine what it would be like if every time you took a step your shin felt like it was going to slide forward off the end of your thigh. The anterior cruciate also provides angulation and rotational stability to the knee joint.

During skiing, the knee is particularly vulnerable to strains of the ACL when landing jumps, skiing moguls, or if you twist as you fall. The excessive rotational and shearing forces that can happen during these activities can overstretch the ligament. In ice hockey, a contact force such as being hit from the front or the side is the most common mechanism of injury, but it is possible to sprain it by catching an edge and twisting as you hit the ice. Figure skaters are also at high risk when jumping and landing due to the rotational forces.

At the time of injury many people describe hearing a loud "popping" noise. This can be caused by other factors and doesn't always mean a torn your ACL. Key indicators of a torn ACL are immediate swelling and difficulty supporting body weight when standing--if these occur, it is important to be assessed as soon after injury as possible. In many cases an x-ray may be necessary to rule out a fracture. Immediate home care should include rest, ice, compression and elevation. For moderate to severe sprains, a knee immobilizer brace will also be helpful in the early stages to provide protection to the knee.

Injury to this ligament can cause serious functional problems. Pivoting or twisting movements can cause shifting between the two bones and produce a feeling that the knee will 'give out.' In the long term this instability may make the knee more prone to developing cartilage tears and arthritis.

A carefully planned rehabilitation program is crucial for a successful recovery from an ACL injury. In the first 4-6 weeks, a physiotherapist can help control swelling, maintain range and strength in the knee, as well as give advice on protecting the knee while the ligament is healing. Over time, the level of difficulty of rehabilitation exercises can be increased, permitting more weight bearing, coordination and agility exercises.

Endurance activities are also a component of a thorough rehabilitation program. The hamstring muscles, in particular, are a very important muscle group to strengthen after an ACL injury. Their action of bending the knee (pulling back on the tibia) provides the same directional support that the ACL does, so strong hamstrings can have a direct effect on stabilizing the ACL deficient knee. The quadriceps (muscles on the front of the thigh) exert just the opposite force on the knee, pulling the shinbone forward as they straighten the knee. For this reason if incorrect quads exercises are performed they can actually contribute to increased strain on the ACL and delay recovery. A physiotherapist knows how to safely progress these exercises.

The length of rehab will depend on how severe the injury is, how consistent and dedicated a person is with his or her rehab program, and what level of activity the individual plans to return to--the star midfielder, for example, may have a more rigorous and lengthy rehabilitation program than the sports fan watching the game from the couch! In general, the muscles in the injured leg should be as strong as in the uninjured leg before returning to a particular sport. Importantly, there are also measured protocols that a physiotherapist and doctor use to assess safe return to any athletic endeavor. Occasionally, instability is still a problem and a brace is needed. Injuries that are severe and/or do not respond to exercise alone may require a consultation with an orthopedic surgeon because surgical ACL reconstruction may be necessary.

For further information on this topic please contact the Fawzia Sultan Rehabilitation Institute (FSRI) in Hawally at 264-2862, or check out our website at www.rehabinstitutekuwait.com

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