

Return to Sport

It is recommended that athletes with reconstructed ACL injuries return to sport with the approval of their orthopaedic surgeon. This is usually when strength, range of motion and co-ordination are at nearly full capacity.

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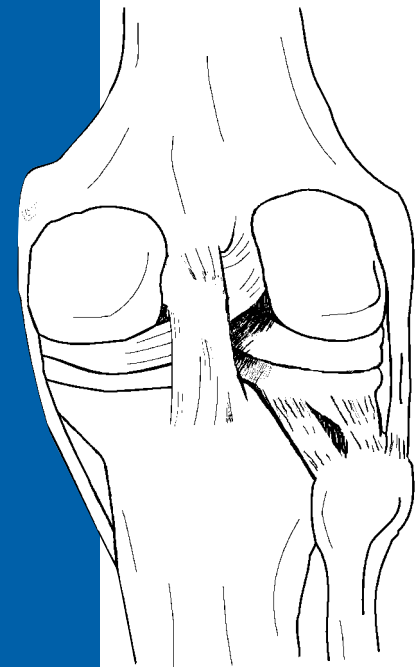
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Acknowledgments

This fact sheet was produced by Sports Medicine Australia - Victorian Branch and funded by Sport and Recreation Victoria.

Sports Medicine Australia - Victorian Branch wishes to thank the Sports Medicine Practitioners who provided expert feedback in the development of this fact sheet.



Anterior Cruciate Ligament Injury



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Introduction

Injuries to the Anterior Cruciate Ligament (ACL) are relatively common in sport. Historically serious injuries to the ACL have prematurely halted sporting careers. However current surgical and rehabilitation practices enable most athletes with ACL injuries to resume regular sporting activities.

Initial Treatment

The immediate treatment of any soft tissue injury consists of the RICER protocol - rest, ice, compression, elevation and referral. The RICER protocol should be followed for 48 - 72 hours. The aim is to reduce the bleeding and damage within the joint. The knee should be rested in an elevated position with an ice pack applied for 20 minutes every two hours (never apply ice directly to the skin). A compression bandage should be applied to limit bleeding and swelling in the joint.

The No HARM protocol should also be applied – no heat, no alcohol, no running or activity, and no massage. All these will lead to increased swelling and bleeding in the injured area.

A sports medicine professional should be seen as soon as possible to determine the extent of the injury and to provide advice on treatment required. A sports medicine professional may perform a physical examination and take x-rays of the knee. An MRI test may be recommended to confirm the diagnosis.

Treatment

Surgical reconstruction is a very common method used to repair a completely torn ACL. This usually involves replacing the torn ACL. Various factors are considered when deciding on whether to surgically reconstruct a torn ACL. These include:

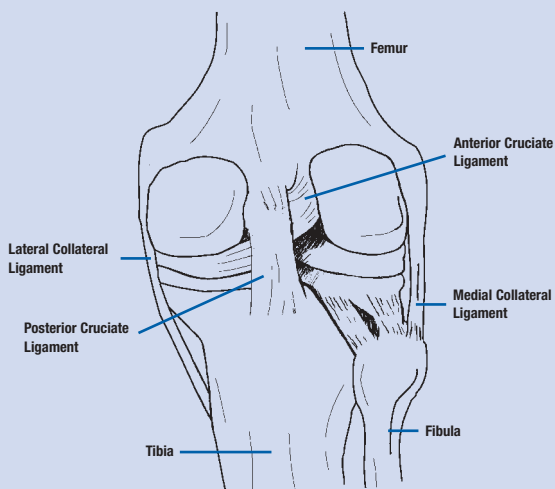
- The degree of knee instability
- Associated injuries of the knee
- Social factors such as cost of treatment and time away from work
- The type of sports played by the injured athlete
- The age of the athlete

The expected demands to be placed on the knee also influence the decision to treat an ACL injury with surgical reconstruction.

Rehabilitation

Rehabilitation for a reconstructed ACL will be conducted under the direction of an orthopedic surgeon and the supervision of a physiotherapist. A number of rehabilitation program schedules exist however more recent programs commence with a schedule of protected mobilisation, followed by strengthening activities and ultimately progress to functional exercises. This rehabilitation usually takes between six and nine months.

POSTERIOR VIEW OF THE KNEE



Causes of Injury

The ACL prevents the femur from moving forwards during weight bearing. It also helps to prevent rotation of the joint.

Tearing of the ACL is a relatively common injury particularly in sports such as football, basketball, netball and alpine skiing. Women are more likely to suffer an ACL injury than men.

Injury of the ACL most often occurs when an athlete is pivoting, decelerating suddenly or landing from a jump. The injury can also be caused by another player falling across the knee.

Signs & Symptoms

Most athletes who experience a full tear of the ACL describe a loud sound such as a 'pop or crack'. This is often followed by a period of extreme pain in the first few minutes after the injury.

A torn ACL is often accompanied by a hemarthrosis (bleeding into the joint space) which may be visible as a large tense swelling of the knee. Examination of the knee is more easily done within the first hour following the injury before the development of the hemarthrosis. Presenting for medical assessment as soon as possible after injury is recommended even if significant swelling has occurred.

Athletes with a torn ACL often have severe restriction of movement, particularly extension.

Other knee injuries such as damage to the meniscus (knee cartilage), and the medial or lateral collateral ligaments may also accompany a torn ACL.

A number of physical tests may be done to determine whether there is a tear to the ACL. These tests determine the degree of laxity (looseness) in the joint. MRI is usually performed when a torn ACL is suspected.

Functional Anatomy

The knee is one of the most complex joints in the human body. Being a hinge joint it is structured to perform two principle actions, flexion (bending) and extension (straightening). The muscles which act at the knee are predominantly the Quadriceps (extension) and the Hamstrings (flexion).

The knee is comprised of the bottom end of the Femur (thigh) and the upper end of the Tibia (shin) and the Patella (knee cap). The major ligaments of the knee are the Anterior Cruciate (ACL), the Posterior Cruciate (PCL), and the Medial (MCL) and Lateral (LCL) collateral ligaments. These, along with the muscles acting on the knee provide the joint's stability.

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