The ACL Reconstruction procedure creates tunnels in the thigh bone (femur) and the shin bone (tibia) to make a path for the new graft (tendon). One of the most common graft used is the semi-tendonosis/gracilis graft. This graft is taken from a portion of the muscles in the thigh. The graft is passed through specially designed instruments into the tunnels and fixed inside the tunnels. The new graft is fixed inside the tunnels with screws, buttons, pins, or similar devices. Some of those devices are made out of materials that resorb or dissolve with time and are replaced with bone by the body. The graft crosses the joint in the position as the original ACL after it is fixed with these devices. The small incisions are then closed and a knee compression bandage is applied. Some surgeons prefer to use a long leg brace postoperatively.

Rehabilitation

As you and the doctor may have discussed before surgery, extensive rehabilitation is the key to your recovery from ACL Reconstruction. Recovery normally requires five to six months or until the graft is transformed by soft tissue healing into a strong and durable ligament. This can require the better part of one year. If the graft is ruptured or stretched drastically during the recovery, a second surgery will be required.

Your physical therapy for the first three weeks after surgery will concentrate on bending and stretching exercises to increase active range of motion, flexibility, and strength in your knee. While your knee may feel tight and slightly painful, it is important to keep your joint moving to promote healing and to maintain flexibility.

After the first three to four weeks, your physical therapy will concentrate on resistive type strength building exercises (such as cycling or swimming), which are low impact and less harmful to perform. Strength building exercises are extremely important to recover lost muscle mass due to surgery but also to improve joint stability, reducing stress on the ligaments.

Following surgery you may be using crutches as needed for the first few weeks. Crutches are usually not necessary once the knee is comfortable enough to walk. Your surgeon will evaluate your progress and advise you on when you may discontinue using the crutches.

The results of your ACL Reconstruction are based to a great extent on your discipline, motivation and perseverance in performing the physical therapy program. With your cooperation and dedication, you have an excellent chance to regain the strength, stability and confidence in your knee that you had before your injury in a limited amount of time.

Full strength and mobility should be restored to your knee after two to four months of following your physical therapy treatment plan. Once your doctor clears you, most patients typically return to unrestricted recreational activities.

Biomet Sports Medicine is a manufacturer of orthopedic implants and does not practice medicine.

This brochure was prepared in conjunction with a licensed physician and is presented as general information only. Only an orthopedic surgeon can determine what treatment is appropriate. The life of any implant will depend on your weight, age, activity level, and other factors. For more information on risks, warnings, and possible adverse effects, see the Patient Risk Information section found within BiometSportsMedicine.com. Always ask your doctor if you have any questions regarding your particular condition or treatment options.

All trademarks herein are the property of Biomet, Inc. or its subsidiaries unless otherwise indicated.
The Knee

The ACL (Anterior Cruciate Ligament) is one of the four main ligaments in the knee. The ligament connects the thigh bone (femur) to the shin bone (tibia), keeping the knee from hyperextending, preventing anterior dislocation at the tibia, providing rotational stability and support to help prevent unnatural movement in the joint. If the knee is twisted, bent side to side, or hyperextended, the ACL can be injured.

Contact sports or high-impact activities involving rapid twisting movements may place extreme forces on the knee, which can lead to injury. Basketball, football, soccer, baseball, tennis, and skiing are common activities that can lead to a tear or rupture of an ACL. However, ACL injuries can also occur in older adults as the ACL becomes weaker with age. Simple activities such as missing a step on a staircase, stepping in a hole, or falling can cause ACL tears.

ACL Injuries

When the ACL tears, the person often describes hearing a pop and feeling the knee “giving out” or buckling. A torn ACL often results in swelling and a loss of stability in the knee, sometimes referred to as “feeling loose.”

There are several different types of ACL tears: a partial tear of the ligament, a complete tear of the ligament (rupture), and rarely the very end of the ligament remains attached to a small piece of bone which breaks or separates from the lower leg bone (avulsion).

Treatment Options

Treatment for ACL injuries depends on the severity of the tear and whether other parts of the knee are injured. The patient’s activity level and overall health are also considered before treatment begins.

Depending on the activity level of the patient, minor ACL tears are usually treated with physical rehabilitation, which will help build strength and increase flexibility in the knee. Rehabilitation normally lasts several weeks, at which time most patients return to normal activities.

Complete ACL tears, called ruptures, normally require ACL Reconstruction surgery followed by several months to a year of rehabilitation. ACL Reconstruction is the most common form of treatment for patients who require the use of a stable knee for athletic sports, walking, or other low-impact activities.

It is important to get a timely diagnosis of an ACL injury to avoid potentially damaging the knee further. Typically, surgery may be delayed until several weeks after the injury. The delay allows swelling to subside and enables the injured knee to regain some strength, stability and range of motion. Delaying the surgery also decreases the risk of permanent stiffness or decreased motion following surgery.

Procedure

There are several options available when treating an ACL injury. The most common treatment is to replace your native ACL with a new ligament. Typically, the new ligament material (graft) can be taken from one of the patient’s own tendons (autograft), or the graft can be taken from a tendon in the knee of a tissue donor (allograft). You and your doctor will decide which option is best for your particular situation.

ACL Reconstruction is usually performed as an outpatient procedure and rarely requires an overnight stay in the hospital. The entire procedure requires approximately 1–2 hours to complete and is typically performed under general anesthesia, spinal or epidural.

ACL Reconstruction is most often performed arthroscopically. Arthroscopy is a surgical technique that uses long tube-like scopes that are inserted into the body through very small incisions. These scopes display the inside of your knee joint on a monitor, allowing the surgeon to precisely manipulate the surgical instruments. The benefits of arthroscopic surgery are a shorter recovery period, smaller incisions (1/4”-1/2” in length), minimal scarring and less potential for infection.