Management And Complications of Anterior Cruciate Ligament injury

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Introduction

Anterior cruciate ligament (ACL) one of the strong bands or ligaments of tissue that help connect your thigh bone (femur) to your shinbone (tibia).[1,4] ACL injuries most commonly occur during sports that involve sudden stops or changes in directions. People who has an experience an ACL injury have a higher risk of developing osteoarthritis in the knee which is degenerative of joints, may occur even if you have surgery to reconstruct the ligament. Depending on the severity of your ACL injury.

Treatment of ACL injury may include rest and rehabilitation exercises to help you regain strength and stability, or surgery to replace the torn ligament followed by rehabilitation. A proper training program may help reduce the risk of an ACL injury.[1]

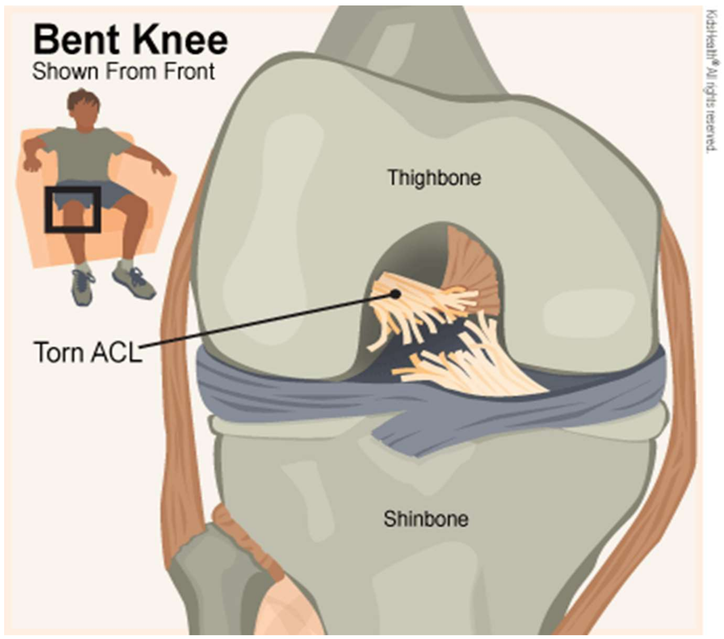

Figure 1 shows the ACL that connects the bottom of the thighbone (femur) to the top of the shinbone (tibia).[4]

Discussion

Management of ACL injury divided into Surgical or non-surgical management. Immediately after an injury to your knee Promote first-aid care to reduce pain and swelling which is as the following:

-Rest: rest is necessary for healing and limits pain.

-Ice: try to ice your knee at least every two hours for 20 minutes at a time.

-Compression: Wrap an elastic bandage around your knee.

-Elevation: Lie down with your knee propped on pillows.

-Rehabilitation: include reducing knee swelling, maintaining mobility of the kneecap to prevent knee pain problems. For surgical ACL tears the torn is replaced by a substitute graft made of tendon as Patellar tendon autograft.[2] The most common complications of ACL injury Infection, Bleeding, numbness, Instability, Stiffness, Viral transmission which result from surgery. Approximately high percentage of injuries are non-contact and occur when the athlete is trying to change directions, slow down or jump.[3]

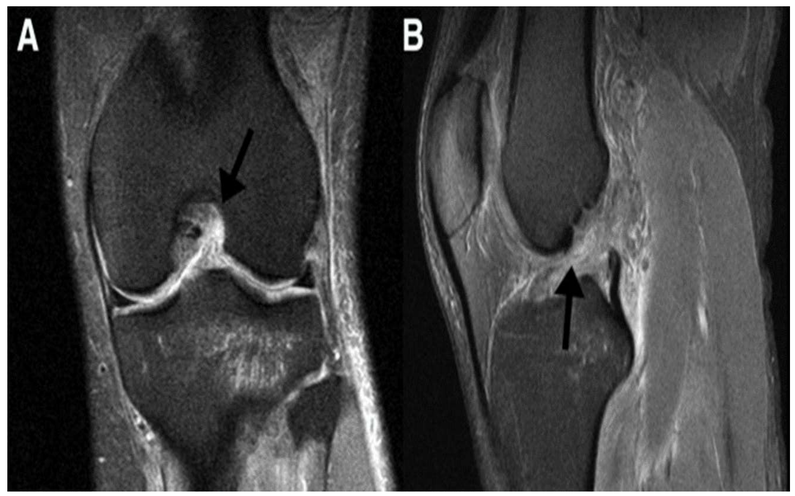

Figure 2 shows Preoperative (A) coronal and (B) sagittal magnetic resonance imaging slices of the left knee showing a torn anterior cruciate ligament (black arrows) with fiber discontinuity.[2]

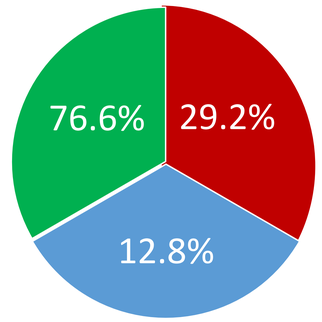

Figure 3 shows 76.6% of all ACL injuries resulted in surgery, 29.2% of the ACL injuries assessed by an athletic trainer and a12.8% of those assessed by an athletic trainer and an orthopedic physician did not result in surgical repair.[3]

Conclusion

In conclusion there are five key steps that should be included in the planning of this program: identification, exercise, training load and volume, Training Frequency and Exercise timing.[3]

Most ACL injuries occur when an anterior force is applied to the tibia. It is important to identify the risk factors that can contribute to this anterior force to reduce the chance of injury. Identification of risk factors and mechanisms of injury that are modifiable through neuromuscular based on injury prevention programs would allow many athletes to continue sports participation and reduce risk for ACL injury.[3]

Reference

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