

### **Twisted your ankle in Soccer?**

You twisted your ankle in a soccer tournament over the weekend. It's already Wednesday and it is still bothering you when walking to class and in soccer practice. X-rays at your doctor's office were negative and you have been following the doctor's instructions -- taking Tylenol, using ice packs at the end of the day and using an ace wrap for practice. The swelling gets worse by the end of the school day, especially after practice, and you do not seem to be getting better. Your doctor diagnosed your injury as a "simple ankle sprain". What should you do?

### **Ankle Sprains in High School Soccer-the most common injury**

Thirty-four percent of all high school soccer injuries are ankle sprains, with a higher rate of these injuries in girls soccer than boys soccer. Ankle fractures occur more often in girls than boys, and girls are more likely to be injured while still wearing an ankle brace than boys. Boys' ankle sprains were more likely to be related to a mechanism involving another player, and girls are more likely to sprain an ankle in a non-contact situation and while contacting soccer apparatus (goal post, the ball, etc). Is there such a thing as a simple ankle sprain?

Researchers agree that there is no such thing as a simple ankle sprain. Serious injuries that can occur when you sprain your ankle include: cartilage damage to the inside bone of the ankle (talus); peroneal tendon injury, peroneal nerve injury, and fractures. Studies show that up to 25% of high school athletes who suffer a sprained ankle in soccer will suffer another ankle sprain (more serious) within a year. On average, high school soccer players will miss up to 3 weeks for an ankle sprain, and up to 6 weeks or more for a "high-ankle" sprain. It is estimated that fifty to seventy-five percent of high school soccer athletes who sprain their ankles will end up with chronic ankle instability.

### **Ankle Sprains Defined**

Straining and/or tearing the ligaments (tissue that connects bones to other bones) of your ankle are the most common ankle sprains. The most common type of ankle sprain involves injury of the outside ligaments when your foot rolls "in" relative to your leg. This is called an "inversion" ankle sprain. This can occur when you step on another player's foot, you step on uneven ground, or simply are caught off-guard when your foot suddenly contacts the playing surface while changing direction. Sometimes, when your foot is planted on the playing surface, your leg twists while the foot stays planted and you suffer damage higher up the ankle. This is called a "high-ankle" sprain. More rarely, your foot rolls to the outside and you sprain the inside ligaments of the ankle. This is called an "eversion" ankle sprain.

Visit this Mayo Clinic website for a video and basic description of an ankle sprain.

<http://www.mayoclinic.com/health/ankle-sprain/MM00717>

Visit this American Academy of Orthopedic Surgeons website for an overview of ankle sprain injury identification and treatment.

<http://orthoinfo.aaos.org/topic.cfm?topic=A00150>

## Grading the sprains, soccer's common injury

Written by John Tomberlin

Sunday, 01 May 2011 18:55 - Last Updated Sunday, 01 May 2011 19:39

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There are 3 basic grades of severity of ankle sprains.

### **Grade I ankle sprain**

There is minimal damage to the ligaments in this injury, with microscopic tearing of ligament fibers. This leads to minimal swelling, mild pain to the touch, minimal loss of motion, and mild impairment (some restriction while attempting to walk or run). Initial treatment involves ice and compression and modified activities. Return to play estimate: 1-3 weeks.

### **Grade II ankle sprain\***

There is moderate damage to the ligaments in this injury, with moderate tearing of the ligament fibers. This leads to moderate swelling, moderate pain to the touch, moderate loss of motion, and moderate impairment (notable restriction while attempting to walk). Along with initial treatment listed for Grade I injury, an ankle brace with most likely be utilized to control motion and allow early healing. Return to play estimate: 3-6 weeks.

### **Grade III ankle sprain\***

There is severe damage to the ligaments in this injury, with complete tearing or rupture of the ligament fibers. This leads to major swelling, major pain to the touch, major loss of motion, and major impairment (unable to walk without assist). Use of crutches and an ankle boot will likely be initial treatment of choice. Return to play estimate: 12+ weeks.

*\*There is an increased risk of developing chronic ankle instability with these injuries.*

## **Treatment and Return to Soccer**

Advice to athletes, parents, and coaches: If you want your soccer athlete to return quickly to the playing field (while reducing their chance of suffering a recurrence) make sure they see their sports medicine professionals ASAP (high school athletic trainer and physical therapist for immediate treatments and rehabilitation for faster return to play).

*Controlling swelling* is paramount to a quick return to play. Swelling is the ankle's worst enemy, reducing motion, reducing reaction time, and producing an environment that will slow healing and increase pain responses. Although controlling pain is important, playing on a chronically swollen ankle will increase the risk of re-injury and chronic ankle instability, and lead to sub-par performance. The use of ice and compression stockings until the swelling is no longer present is the best advice.

*Restoring balance* is the key factor to successful return to play. Traditional strengthening exercises with rubber bands can contribute to chronic pain and have not been shown to assist in early return to play. Studies show that athletes who suffer a Grade I ankle sprain whose pain

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goes away in a week or two can still show signs of hip muscle imbalance at six weeks if there is no treatment intervention. New research shows that athletes are more prone to suffering an ankle sprain if they exhibit poor balance control as a result of muscle imbalance at the hip. Ankle taping and braces are useful, but they are not a substitute for restoring balance control with functional exercise. Research also shows that young athletes with chronic low back pain problems develop muscle imbalances at the hip, increasing their risk of suffering a severe ankle sprain injury.

Finally, if your ankle sprain injury is not improving in a timely manner, get in to see a sports medicine specialist to rule out more serious injury (missed fracture, nerve stretch injury, tendon stretch injury, or cartilage damage) as soon as possible. These problems need early identification and treatment. Research shows that high school athletes who suffer chronic ankle sprains are likely to develop ankle arthritis as adults.

*(About the Author: John Tomberlin has worked with high school athletes in the Cedar Rapids Metro area since 1995. He was a four-sport athlete in high school and a high school coach for two years in Illinois. John has more than 25 years of experience working with athletes as a physical therapist and a certified strength and conditioning specialist. He has worked with professional athletes in the NFL, MLB, and on the PGA and LPGA tours. John also has worked with elite amateur athletes in alpine skiing, figure skating, and track and field.)*