

The “High Ankle Sprain”

Ankle sprains are common injuries. In fact, they are one of the most common injuries encountered in the United States. What is the difference between a common ankle sprain and a high ankle sprain? Why do athletes with a high ankle sprain seem to be out for a longer period of time? The reason lies in the anatomy of the ankle, and the different ligaments injured in a typical ankle sprain versus a high ankle sprain.

The ankle is made of three bones in the lower leg: the tibia, the fibula, and the talus (see diagram). These bones act together to form the ankle joint, which typically sustains loads three times body weight with normal daily activity. The soft tissues that surround the ankle allow for its stability and motion. The ligaments, in particular, stabilize the ankle.

The common ankle sprain involves injury to a ligament on the outside of the ankle called the “ATFL”, which stands for the anterior talofibular ligament. This ligament runs between the end of the fibula to the talus on the outside of the ankle (see diagram). It is one of the primary stabilizers of the ankle and is frequently injured when an athlete “rolls” the ankle. Athletes frequently will have pain, swelling, and even bruising in more severe sprains. These symptoms localize to the outside and just below the ankle joint. Many times there is a single area of maximal tenderness. Despite these symptoms, some athletes are able to return to perform quickly at a high level with the use of ankle braces that can help prevent the ankle from “re-rolling” and compensate for the injured ligament.

In the high ankle sprain, however, a different set of ligaments is injured, called the “syndesmosis” (pronounced SIN-des-MOE-sis). The syndesmosis is a set of ligaments that is located above the ankle joint. The syndesmosis lies between the tibia and fibula and runs towards knee, holding these two bones together. In normal walking, with each step, the tibia and fibula are exposed to high forces that act to spread the tibia and fibula apart. The syndesmosis acts as a shock absorber between the tibia and fibula and prevents the bones from splaying. Thus, with walking, the syndesmosis is exposed to high forces; with running, even higher forces; and with running and cutting, even higher forces still. When the syndesmosis is sprained, every step can be painful. What can be more frustrating for athletes and coaches is that the high ankle sprain does not typically cause a great degree of swelling or bruising and generally does not “look that bad.” Unfortunately, no type of bracing has been shown to treat or prevent these injuries.

High ankle sprains occur from sudden twisting injuries, which occur commonly in contact and cutting sports. Athletes will typically say the pain radiates up the leg from the ankle, and is worse with cutting motions that mimic the original twisting injury. The high ankle sprain is typically treated with the same treatment principles as for the common ankle sprain: Rest, ice, compression, and elevation – the RICE protocol. However, since the syndesmosis is subjected to such high forces with each step, the amount of rest needed tends to be longer than for the common ankle sprain – nearly twice as long in most studies. If the ligament is severely sprained, or even torn, a screw is sometimes placed between the tibia and fibula to hold the two bones together to allow for the ligament to scar and heal. Athletes with typically return to play within 6 weeks, but about half will remain symptomatic up to 6 months.