

Ankle Sprains

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What is this injury?

A sprained ankle is a stretching or tearing of the ligaments (connective tissue holding bone to bone) on either the outside (lateral) or inside (medial) part of the ankle. Since most sports require full body weight support on the ankles as well as full range of motion when running, jumping, and landing, it's no surprise that ankle sprains represent the most common of all sport injuries. A sprain of the lateral ankle ligament is much more common than a sprain of the medial ankle ligament, partly because of the biomechanical demands of most weight-bearing sporting events and partly because the lateral ligament is thinner and weaker than the medial ligament.

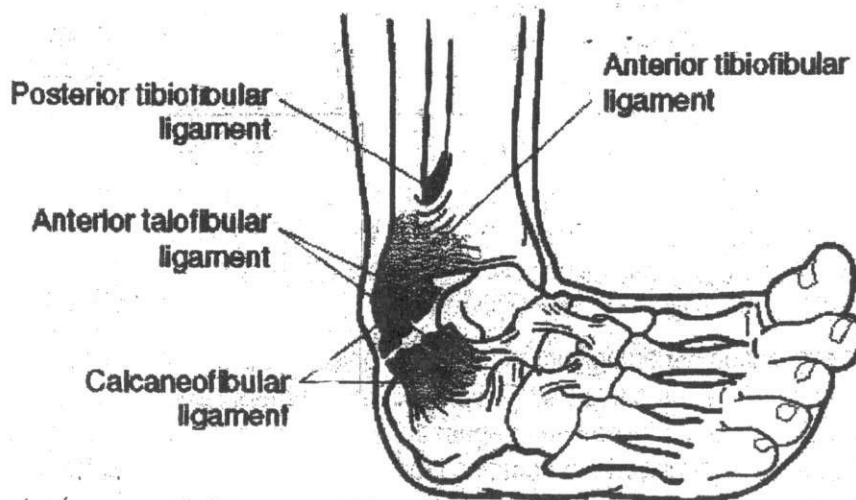


Diagram of Lateral Ankle Sprain

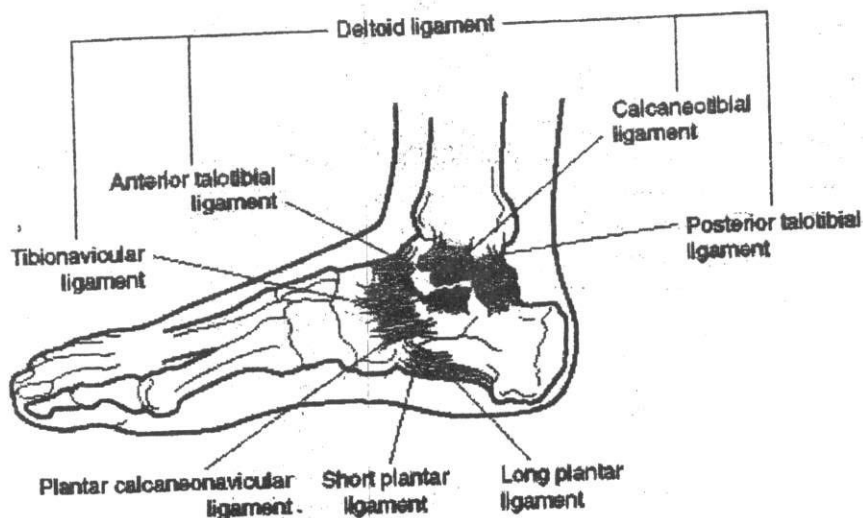


Diagram of Medial Ankle Sprain

Ankle sprains are classified as Grades 1, 2, or 3, depending on the severity of injury. In all cases, there is damage to the ligament or ligaments and to connective tissue between bones of the ankle complex. Sprains are not to be confused with ankle strains, which involve damage to muscle and tendon (connective tissue joining muscle to bone). Grade 1 sprains are mild and usually reflect stretching of the ligament fibers. Grade 2 ankle sprains are moderate in severity and characterized by both stretching and tearing of ligament fibers. Grade 3 ankle sprains involve complete tearing of one or more ligaments.

How does the injury occur?

Ankle sprains occur when the foot turns in a way that causes body weight to be supported by ankle ligaments. Lateral sprains happen when the lower leg rolls over the ankle to the lateral side, pressing the bottom of the foot inward, a movement known as foot inversion. Medial sprains occur when the lower leg rolls over the ankle to the medial side, forcing the bottom of the foot outward (called foot eversion). Many victims of either common type of ankle sprain report hearing a snap or pop at time of injury and thus think the ankle has been broken.

Perhaps the activity that most often causes ankle sprain is landing after a jump or a vault. A gymnast might sprain an ankle when dismounting equipment, a basketball player when rebounding a ball. Ankle sprains also occur during changes of direction while running, such as in soccer and rugby. But an ankle can also be sprained while walking or running over uneven surfaces, or even while simply stepping off a curb.

What are the symptoms?

Probably the most striking symptom of ankle sprain is instant and severe pain. Weight bearing by the affected foot is usually very painful, though a Grade 1 sprain might briefly accept some weight, resulting in a hobble. Swelling occurs rapidly, usually within the first few minutes, with discoloration over the area of the damaged ligament following within five to 20 minutes. The amount of swelling and discoloration depends on severity of damage to the ligament and to adjacent blood vessels. Range of motion of the afflicted ankle is reduced immediately because of pain, and subsequently reduced due to swelling.