



## THE DREADED ANKLE SPRAIN

It never fails you are just walking along minding your own business and there it goes right over on your ankle. Just like that you are hobbling along thinking what just happened. Well you guessed it; you just sprained your ankle. Most ankle sprains happen when we least expect it and can range from a minor inconvenience to complete debilitation for several weeks.

Ankle sprains occur when people go over on or turn their foot unexpectedly and the result is usually a sprain of the ligaments and strain of the muscles and tendons.

When you turn your foot in towards the center of the body, you stress three main ligaments on the outside of the ankle the anterior talofibular, calcaneofibular and posterior talofibular ligaments. As these ligaments are stretched information is sent to the muscles, specifically the peroneals, to contract and protect the ligaments therefore, resulting in a strong muscle contraction leading to a muscle and tendon strain. If the force is strong enough, it can cause some tearing of the tiny blood vessels surrounding the area and lead to some minor to severe bruising. The bruising may occur immediately or take several days to appear depending on the severity.

Ankle sprains are graded grade I, II or III. Grade I sprains result in microscopic tearing of the ligaments involved and commonly get better within 24-48 hours with very little discomfort or dysfunction in a couple of days apart from the lack of proprioception which will be discussed later. Grade II sprains on the other hand are probably the most traumatic as they result in visible tearing of the ligaments involved. Grade III sprains are a complete rupture of the ligament into two separate pieces.

Imagine pulling a Kleenex out of the box. If you looked at the Kleenex under a microscope you would see small microscopic tears throughout the tissue this would be a Grade I sprain. Take the same Kleenex and tear it slightly so that it is visible to the naked eye, this is a Grade II sprain. Continue to tear the Kleenex until it is only being held together by a small piece, this is still a Grade II sprain. Now tear the Kleenex completely into two separate pieces this is a Grade III sprain. Grade II sprains are the most painful and usually take the longest to heal anywhere from 2 weeks to several months. Grade III sprains usually hurt for a split second when the injury first happens and then immediately the pain goes away because as the ligament is torn into two pieces the nerve supplying that ligament is torn into two also, therefore, the pain information cannot be sent to the brain, however, the surrounding musculature can be traumatized and result in pain.



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So what do you do if you sprain your ankle? The first thing to do is RICE. Rest, Ice, Compression and Elevation. Any time you cause significant trauma to any part of the body you should seek the advice of a health care professional. A good rule of thumb is if you can walk on it within a few minutes, it is likely not broken; keep in mind this is only a rule of thumb and individuals' different levels of pain tolerance will affect this. If there is not immediate swelling, then you likely only sustained a Grade I sprain and RICE along with a few specific exercises will likely do the job over 2-3 days. If however, it doesn't resolve within a few days or there is immediate swelling you should consult your healthcare professional.

Treatment consists of assessment to determine the degree and amount of damage, pain control, reducing inflammation, restoring muscle length and strength and proprioception retraining. Proprioception is the ability to tell where your foot is in space which is a very important component to balance. People who continue to go over on their ankle are likely doing so because they lack proprioceptive input. A few balance exercises can help you restore your proprioception. Treatment is generally the same for all three types of ankle sprains and varies with the individual's specific injury. It is very rare that even a Grade III which is a full rupture of the ligament in the ankle is a surgical candidate. There are some great braces on the market that can be used to help return the individual to activity, however, it is not in the best interest of the individual to rely on the brace for an extended period of the time as the muscles that would normally protect the area will not return to their full strength as they will have the brace to rely on.

The best way to prevent ankle sprains is to maintain the length and strength of the muscles around the ankles and of course watch where you're going. A few simple exercises involve using a piece of elastic and placing it around the end of your foot while sitting on the ground with your leg straight. Tie the elastic to the leg of a table and sit so the foot is at a 90 degree angle to the elastic. Next turn the foot in with the elastic giving some resistance, do this 10 times for 3 sets. Next turn your body so you are facing the opposite direction so the resistance will be provided when you turn the foot out, do this 10 times for 3 sets. Next sit so that you are directly in front of the elastic and the resistance will occur when you pull your toes back towards your nose do this 10 times for 3 sets. These exercises should be performed without pain and you should consult a healthcare professional if you have had an injury or the above exercise cause any pain.

Good luck and remember watch where you're going!