

## **Is Your Ankle Playing Tricks on You?**

Ankle sprains happen. Athletes learn the concepts of P.R.I.C.E. (Protect, Rest, Ice, Compression, Elevation) early in their career as a way to manage acute (recent) injuries with swelling and pain. General guidelines are that an athlete should not return fully to play until swelling has resolved, and they can perform multiple repetitions of sport-specific activities without an increase in pain or swelling. But sometimes ankle sprains keep happening, and an athlete can spend an entire season dealing with one ankle sprain after another. Athletes may call it a trick ankle; doctors call it recurrent ankle sprains. Therapists call it decreased proprioception, and it is treatable.

There are three body systems that aid in maintaining balance: vestibular, visual and somatosensory, or proprioception. Proprioception is knowing where your body is in space. You have sensors in your skin, muscles and joints that give you information regarding what type of surface you are standing on and where your arms and legs are in relation to each other and that surface. If your brain receives information from those sensors that you are not balanced and are going to fall, your body reacts to first prevent the fall, and if that isn't possible, then to protect your head from hitting the ground. When your body sustains an injury - a sprain, a hit, surgery - the swelling and tissue damage disrupt the sensors, and balance is impaired. Even after the swelling and pain of an ankle sprain are gone, if those sensors are not trained, they will not do their job well, and the body will not be able to prevent the next ankle sprain.

Balance is a skill just like free throws, juggling, throwing, or any other sport skill. Just like any other skill, you can improve your balance by practicing it. In rehabilitation, proprioception is trained by strengthening the muscles surrounding the ankle, and by working the ankle's sensors.

If you have turned your ankle, and there is some pain and swelling, use the concepts of PRICE for 1-2 weeks until the swelling has gone, and you have no pain at rest. Then you are ready to try some of the following exercises, which are in order of difficulty. Do not move on to the next exercise before you can successfully perform the first one.

### **For strengthening:**

1. Stand on a stair with your injured leg, keeping your other leg straight. Slowly bend the knee of the leg on the stair, and lightly touch the floor with the other foot-just touch it, do not stand on it. Return to standing. You may hold onto the railing for balance if you need to. Repeat 10-15 times.
2. Stand on your injured leg, raise up on your toes as far as you can and come back down. Repeat 10-15 times.

**For balance:**

1. Stand on one foot, hands on hips, with legs not touching. The goal is to balance 2 minutes without falling.
2. Stand as in #1, and close your eyes. The goal is 2 minutes without falling.
3. Stand as in #1 in front of a wall, facing the wall, and bouncing a ball against the wall 20 times without losing your balance.
4. Stand as in #3, with your foot parallel to the wall. Turn the trunk of your body 90° and bounce a ball against the wall 20 times. Repeat facing the other direction.
5. Stand as in #4, between 2 walls (as in a hallway). Keeping your foot stationary, turn and bounce the ball off of one wall, then turn and bounce it off the other wall. Repeat 20 times.

Increasing proprioception will not only help an athlete get into the game, and stay in the game, but it can also help with performance. Ankle injuries may seem like a minor problem, especially if it is a mild sprain. However, if that sprain is not properly treated, it can obviously happen again and again. That is why it is important to allow the injury to fully heal, before trying to continue playing. **PRICE** can aid in healing quicker, but strength and balance will aid in making sure your ankle does not continue to play tricks on you.

Consult your primary care physician for more serious injuries that do not respond to basic first aid. As an added resource, the staff at Nationwide Children's Sports Medicine is available to diagnose and treat sports-related injuries for youth or adolescent athletes. Services are now available in four locations, to make an appointment, call 614-355-6000.