

# TerranearPMC Safety Share

Robert Brounstein

## Week of July 9, 2018 – Sprains and Strains

According to the Bureau of Labor and Statistics (BLS) sprains and strains consistently rank as one of most frequent - if not the most frequent - occupational injuries in both the government and private business sectors. In 2014, there were 420,870 of these cases requiring days away from work to recuperate. The incidence rate was 38.9 cases per 10,000 full-time workers, down from 40.2 in 2013. Workers who suffered sprains and strains needed a median of 10 days away from work, compared to 9 days for all other types of injuries or illnesses.

People use the words “sprain” and “strain” almost interchangeably, to describe everything from a twisted ankle to a pulled hamstring. But they’re not the same. A sprain is a stretch or tear in a ligament. Ligaments are bands of fibrous tissue that connect bones to bones at joints. A strain is also a stretch or tear, but it happens in a muscle or a tendon. Tendons link muscles to the bones.

Sprains usually happen when a person falls, twists, or is hit in a way that forces the body out of its normal position, thereby placing abnormal forces on joints, thereby causing bones to be moved out of position. The most common type of sprain is a sprained ankle. About 25,000 people sprain an ankle every day. Think of a runner who goes over a curb and catches his/her foot, twisting the ankle; or a baseball player who slides into a base and twists his knee. Wrist and thumb sprains are also common, particularly in sports like skiing, where it’s not unusual to fall and land on an outstretched palm.

Athletes in contact sports, like football, hockey, and boxing, have the biggest chance of strains. Even in noncontact sports like tennis, golf, or rowing, doing the same motions over and over can lead to strains of the hand and forearm. These injuries can happen when you work out at the gym, or they can happen at home or the workplace, especially if you do a lot of heavy lifting.

The signs of most sprains or strains are very similar: pain and inflammation, and sometimes bruising, at the injured area. Depending on how bad the sprain or strain is, the pain may be mild, moderate, or severe. The worse the sprain or strain, the harder it is to use the affected area. Someone with a mild ankle sprain may just favor that ankle slightly. A more severe ankle sprain may cause much more pain and make it tough or impossible to walk.

As one might suspect, sprains can be minor or quite serious, requiring professional medical care. If you have a sprain, your doctor may describe it in terms of “grade”:

- **Grade I** is stretching of the ligament or a very mild tear, with little or no instability at the joint.
- **Grade II** is a more serious but still incomplete tear, with some looseness in the joint.
- **Grade III** is a completely torn or ruptured ligament. This is not a broken bone, but can feel like one since it’s often impossible to put weight on the joint or use the affected limb because the joint isn’t stable.

Most people with mild sprains and strains can treat their injuries at home. However, more severe cases would require visiting a medical professional where such diagnostic procedures as an X-ray



## TerranearPMC Safety Share

may be necessary to verify that the condition is a sprain/strain rather than a fracture, while an MRI may be required to check on ligaments.

Although the degree of pain and swelling are usually the best indicators of how severe a sprain or strain is, this is not always the case. Some injuries, like Achilles tendon tears, may cause only mild pain at first, but are actually more severe. Seek medical attention if the pain and swelling does not diminish within 24 to 72 hours, or, obviously, if you cannot bear weight and symptoms get more pronounced.

The gold standard of care for sprains and strains is known as “RICE” therapy. It stands for:

- **Rest:** Don't put weight on the injured area for 24 to 48 hours. This includes not lifting with an affected wrist or elbow. If you physically cannot put weight on an injured knee or ankle, see your doctor.
- **Ice:** Put a bag of ice on the injured area for 10 minutes at a time, and then take it off for at least 30 minutes over the course of the first 3 days. Wrap the ice in a damp cloth or put it in a plastic bag. (Don't put ice directly on your skin). The cold constricts blood vessels and slows down the inflammatory process, which eases pain and swelling. But using ice for too long at a time can cause injury, so take breaks.
- **Compression:** You can either wrap an injured wrist, ankle, knee, or elbow in an elastic bandage, or buy a compression sleeve. Like ice, compression helps to keep the swelling down.
- **Elevation:** Lie down and place the injured area on a pillow, and raise it above the level of your heart. This will keep fluid from collecting in the area, so you don't have as much swelling.

During this time, you can also take mild anti-inflammatory medication (ibuprofen, acetaminophen, etc.) to curb pain. As the pain and swelling get better, you can cut down on RICE therapy and start to use the affected area again. That means using ice and compression less often, such as at the end of the day, as this is when swelling and pain tend to flare up. Of course there will be a desire to get active again, but don't rush it! There is a likelihood to reinjure the area. On the other hand, resting the injured area too long could limit mobility for an extended period.

The time frame for recovery depends on the severity of the injury and can vary from person to person. It may take just a few days for a slight sprain of an ankle to heal, or it may take months for a knee that needs surgery to reconstruct it. For most mild to moderate sprains and strains, you can expect to regain full mobility within 3 to 8 weeks. More severe injuries can take months for a full recovery.

It's best to rehab your injury gradually. Your doctor or a physical therapist can recommend certain exercises that can help you get back to your normal routine bit by bit, at a safe pace. For example, if you've sprained your ankle, you may begin by walking slowly on a flat treadmill, then move to an incline, then begin to jog. Someone with a sprained wrist may begin with range-of-motion exercises, and then move on to lifting very light weights. You can expect some discomfort during rehabilitation. But a sudden flare-up of severe pain is a signal to take a step back and move more cautiously.

**There is nothing worse than a sharp image of a fuzzy concept.**

Ansel Adams,