

## **Sprains, Strains, and Automobiles**

I truly don't know of any individual that I have encountered who has not had a sprain or strain of the finger, wrist, ankle, toe, or any of the joints, especially when doing some type of excursion in the outdoors. The ground is not a flat, even plane and there are always hills, valleys and rocks in our way. Many times we are involved in a beautiful sight or an activity and not paying attention to the ground. This frequently results in tumbles and spills which result in sprained ankles and strained toes, along with sprained and strained wrists and fingers.

## **Signs and Symptoms**

A sprain is defined by the twisting of a joint out of its normal range of motion to a point that causes pain and usually involves swelling. These can involve fractures. A strain is usually caused by a pulling or pushing motion and generally involves a tendon or muscle group. These also can include fractures, but rarely. For the sake of brevity, we are not going to list all the joints that are involved in sprains and strains. However the most common are the knees and ankles, and there are a set of rules, called the Ottawa rules, that will help you as a layperson diagnose whether or not you may or may not have a fracture to a knee or ankle. Please refer to [SurviveOutdoors.com](http://SurviveOutdoors.com) and look at fractured ankles and knees for Ottawa rules.

## **Treatment**

It is a myth that individuals who sprain an ankle should not remove their shoe. Shoes and socks must be removed from both feet when a sprained ankle is suspected. This is important because we have two extremities, two arms, two hands, two ankles and two feet, and we need to compare the injured area to the normal, comparing the amount of swelling and color. Is the injured area getting blood flow past the injured point? Is there sensation past the point of injury? Once a comparison is made, if there is any deformity and you are long way from getting back to a healthcare provider, attempts should be made to try to put the foot, finger, or wrist back in place, to normal anatomical position. Studies have shown this to be more effective and chances of causing damage down the road are far less, especially if you have a 2-3 day trek back to a healthcare provider. At that point, it is very important to immobilize and splint the area. There are a multitude of instruments that can be used for splinting. We have talked about this under first aid tips, anything from fishing rods to sticks to gun barrels. The SAM splint is lightweight and useful to carry in your pack. Once immobilized, if there is ice available, that would be very helpful. Elevate the area above the heart to decrease swelling. This is of the utmost importance as increased swelling causes more pain. Next is where the automobile comes in—the injured individual needs to be transported to a healthcare provider for assessment and x-ray if fracture or dislocation is suspected.

Ice or warmth? This question has been asked numerous times. Ice should be used for sprains and strains in the first 24-48 hours. After that, wet warmth. Ice, vaso-constricts and wet warmth vaso-dilates. So we are going to first use ice for the first 24-48 hours, elevate to decrease swelling and after that point, wet warmth has proved to be helpful.

Also in our outdoor first aid kit, I will carry Tylenol and Advil. It is totally safe to take three 200 mg. Ibuprofen as well as two Tylenol or Acetaminophen every 6-8 hours for moderate pain relief in an outdoor setting when nothing stronger is available.

Makeshift crutches are nice to have, to help relieve pressure on the extremity and to aid in walking.

Also remember when assessing your sprain and strains and treating them, please look for abrasions or bleeding which many times indicates a fracture. An open fracture means the skin is broken and the bone is fractured. That doesn't mean that the bone has to be sticking out of the skin. These are medical emergencies and the individual needs to be transported, and antibiotics need to be administered.

Good luck, walk smoothly and tread softly on Mother Earth.