

# Healthy Living

Patient Information from the American Chiropractic Association

## Sports Injuries

Participation in sports or exercise is an important step in maintaining your health. Exercise strengthens your heart, bones, and joints and reduces stress, among many other benefits. Unfortunately, however, injuries during participation in sports are all too common. Often, these injuries occur in someone who is just taking up sports as a form of activity, doesn't use proper safety equipment, or becomes overzealous about the exercise regimen.

The more commonly injured areas of the body are the ankles, knees, shoulders, elbows, and spine. Remember that you should discuss any exercise program with your doctor of chiropractic before undertaking such activities.

### Strains and Sprains

Although bones can sometimes be fractured with acute sports injuries, the most commonly injured structures are the muscles, tendons, and ligaments. Tendons attach muscles to bones, and ligaments attach one bone to another.

An acute twisting or overextension of a joint can lead to tears of muscles and tendons, called "sprains," and tears of ligaments result in "sprains." These tears range from mild to severe. In mild injuries, just a few fibers are torn or stretched. Severe injuries, where there is a tear through the full thickness of the structure, are most often considered unstable injuries and frequently require surgical intervention. The intervertebral disc, a ligament between the vertebrae of the spine that works as a shock absorber, can also be torn, resulting in a disc bulge and/or herniation.

Ankle sprains most often involve tears of one or more of the ligaments along the outside of the ankle. Knee ligaments, including the larger external supportive ligaments and the smaller internal stabilizing ligaments, can also be torn. The cartilage on the back of the patella (knee-cap) can also become eroded from overuse, leading to a condition termed chondromalacia patella.

### Tendinosis

In those who are training too much, overuse of a particular joint or joints in the body can result in pain and dys-



function. These injuries are called "overuse syndromes." A common overuse injury is tendinosis, also called tendinitis. In this condition, the tendon becomes inflamed from repetitive use. In the shoulder, the rotator cuff (a complex of muscles that stabilizes and moves the shoulder) becomes inflamed, resulting in rotator cuff tendinitis. Tennis elbow is another form of tendinitis that occurs along the outside of the elbow, most commonly in tennis players. In golfer's elbow, the tendons on the inside of the elbow are affected.

### Stress Fractures

Some athletes may experience a stress fracture, also called a fatigue fracture. This type of fracture occurs when an abnormal amount of stress is placed on a normal bone. This might occur in a runner who rapidly increases the amount of mileage while training for a race. Stress fractures also occur in people who begin running as a form of exercise but overdo it from the start, rather than gradually progress to longer distances.

One final common injury is worth mentioning, and that is shin splints. This overuse injury is caused by microfractures on the front surface of the tibia (shin bone). This is most often seen in runners, although other athletes can also be affected.

### Diagnosis and Treatment

Sports injuries are most often diagnosed from the history of the activity that brought on the pain, along with a physical examination. In some cases, x-rays are necessary to rule out a fracture. Magnetic resonance imaging (MRI) and diagnostic ultrasound are also used in finding soft-tissue injuries, like tendinitis and sprains.

Fractures require the application of some stabilizing device, such as a cast, after the bone is put back into

position. Rarely, surgical intervention is required. There is a relatively standard treatment protocol for most of the other overuse types of injuries. This protocol involves the following:

### Rest

Generally no more than 48 hours of rest and/or immobilization is needed, depending on the severity of the injury. In most cases, the sooner the person becomes active after an injury, the more rapid is the recovery. In fact, long-term immobilization can sometimes be harmful to recovery. Your doctor of chiropractic will guide this process, as too early a return to activity, choosing the wrong type of activity, or excessive activity can be detrimental.

### Ice or heat

Ice or heat can be helpful with pain reduction and tissue healing.

### Compression

Compression of the area may reduce the amount of swelling from the injury. Your doctor of chiropractic will determine if this will be beneficial in your case.

### Elevation

Elevation of the injured arm or leg above the level of the heart is thought to be helpful in reducing swelling.

### Pain relievers

Recent research has demonstrated that some non-steroidal anti-inflammatory drugs may actually slow the healing process by restricting the body's natural healing mechanisms, so they should be used sparingly.

### Joint manipulation

Recent research has shown us that, in some cases, joint manipulation can be helpful with pain reduction and more rapid recovery. Your doctor of chiropractic will determine if this procedure will be helpful in your case.

### A Word About Prevention

In many cases, sports injuries can be prevented. Proper conditioning and warm-up and cool-down procedures, as well as appropriate safety equipment, can substantially reduce injuries. Understanding proper techniques can also go a long way toward preventing injuries. Sufficient water intake is also an important preventive measure. ■

### Common Signs and Symptoms of Sports Injuries

Fractures can be recognized by acute pain and tenderness, along with swelling and possible bruising over the fracture site, often with visible deformity of the affected bone. It is a myth that if someone can move the joint near the pain, there is no fracture. Stress fractures generally result in a slower onset of pain that is made worse with activity.

Strains most commonly cause pain at the site of the injured tendon, particularly where it inserts into the muscle or bone. The muscle itself may also be painful. There may be some weakness and even muscle spasm. Pain is most severe with movement of the affected muscle or tendon. The area is also tender to the touch.

In sprains, pain and tenderness are felt over the affected ligament. Swelling of the joint, along with bruising, is also common, as is a reduced range of joint motion. If there is excessive motion and/or a visible deformity in the joint, this most often signifies a more serious, full-thickness ligament tear.

Tendinitis causes pain, tenderness, and swelling over the tendon, which is made worse by the motions that stress the tendon. There is also generally restricted range of motion, particularly in the direction of the tendon itself.

Chondromalacia patella results in knee pain, particularly behind the patella, along with a grinding or grating sensation. The pain is most often felt when running on an incline.



For more information on prevention and wellness, or to find a doctor of chiropractic near you, go to the Patient Information section on ACA's Web site at [www.acatoday.org/Patients](http://www.acatoday.org/Patients) or call 703 276 8800.

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