

## Top Five Soccer Injuries

First the men's soccer World Cup came to the U.S. in 1994. Then the U.S. women's national soccer team won the World Cup in 1999. The most popular sport in the world is getting plenty of attention in the U.S. these days, and more Americans than ever are playing it. Soccer is a great way to build endurance, improve speed, and stay fit, all while enjoying the camaraderie of a team sport. And soccer is "a relatively safe activity, with an injury rate of one-fifth to one-half of that in American football", according to Michael J. Asken, PhD, and Robert C. Schwartz, MD, in their 1998 article in *The Physician and Sports medicine*. But you can still get hurt. Soccer involves quick start-and-stop motions and physical contact, which can lead to injury.

Risk of injury is no reason not to play soccer, though. Soccer players just need to be aware of the risks and know what steps they can take to play as safely as possible.

### 1. Sprains

"Injuries to the ankle, lower leg, and knee (usually sprains) are the soccer injuries that occur most often," says William O. Roberts, MD, FACSM, a member of the medical advisory board for the USA Soccer Cup. "After ankle sprains, medial collateral ligament sprains are most common," Roberts says. The pivoting and lateral movements of soccer contribute to these injuries.

A good warm-up and careful may help prevent some sprains, says Cheryl Reed, ATC, LAT, a former varsity soccer player for the University of Vermont. To avoid unnecessary risk, always check the condition of the field before you play. Don't play on fields with holes, glass, or rocks.

### 2. Strains

Muscle strains can be caused by:

- Pulling a muscle too far in a direction it doesn't want to go
- Contracting a muscle hard against resistance
- Contracting a muscle hard when the muscle is not ready

"The most common muscle strains in soccer occur with groin muscles, hamstrings, and quadriceps," says Reed. A muscle strain won't send you to the emergency room, but it can be painful and can keep you off the field for a few days or weeks. Reed says strains occur frequently in soccer due to "constant stop and go movement, or taking a longer stride than muscles can handle".

Good flexibility can lower your chances of muscle strain. "Always stretch well after warming up. Focus on stretching the areas most susceptible to strain, but don't neglect other areas," Reed says. "The more flexible you are, the less likely you are to stretch beyond your capacity and pull or tear a muscle."

Reed says wearing well-fitted cleats with appropriate spikes (longer spikes in softer turf and shorter spikes on dry, hard turf) may also help prevent strains. On especially hard surfaces, she says you may want to wear a turf shoe with no spikes.

### **3. Fractures**

The majority of soccer-related fractures are also in the lower extremities, according to Jordan D. Metzl, MD, and Gary R. Fleischer, MD, in their 1999 article in the *Journal of Pediatric Care*. Fractures often occur as a result of contact, Roberts says, so wearing protective gear like shin guards is extremely important.

### **4. Knee injuries**

"Knee injuries constitute the most common type of major injury in soccer," say Metzl and Fleischer. Robert Leach, MD, editor of the *American Journal of Sports Medicine*, estimates that the medial collateral ligament, the meniscus and the anterior cruciate ligament (ACL) are the parts of the knee most often injured in soccer.

"Many knee injuries, especially ACL ruptures, occur away from contact," says Roberts. They are often the result of putting too much of a load on the knee joint during the sudden stops and starts of soccer, he explains. Therefore, proper footwear, good field conditions, and appropriate strength training are the keys to prevention. Reed suggests working on hamstring, quadriceps, and hip flexor strength in the weight room.

### **5. Head injury**

According to Metzl and Fleischer, head injuries, including dental, eye and brain injuries, constitute about 5% of soccer trauma. They explain that closed-head injury is most often the result of a collision between players. "Concussion occurs often when players try to head the ball and miss and collide with another player or a goal post," Roberts adds. While there has been some concern that repeated heading of the soccer ball leads to chronic brain injury, Asken and Schwartz point out that "the most comprehensive study to date does not suggest that repetitive heading alone causes long-term neurologic impairment".

Roberts explains that it's important to head the ball with proper form. A study of elite soccer players at the 1993 Olympic Festival showed that properly executed heading was not found to result in any concussive episodes. Asken and Schwartz explain, "correct heading involves use of the frontal bone to contact the ball, the neck muscles to restrict head motion, and the muscles of the lower body to position the torso in line with the head and neck..."

And always make sure you hit the ball; don't let the ball hit you, Reed says. Roberts recommends working to strengthen your neck muscles using isometric exercises. For example, use your hand to provide resistance against your head. Then use your neck muscles to turn your head right, left, forward and backward. To protect your mouth and teeth, wear a fitted mouth guard. You may also want to consider protective eyewear.

## **General prevention tips**

As with any sport, a good warm-up is important to an injury-free soccer experience. Reed recommends the following routine, which the Vermont soccer team practices faithfully:

Cardio: Start with a few laps to get your heart rate up.

Stretching: Focus particularly on the lower body and hips, and don't forget to stretch your neck gently.

Passing: Begin with short distance passing, then move gradually into longer distance drives.

Shooting: Work up from lighter, shorter shots on net to harder shots.

Sprinting: Include a few short distance sprints.

Finally, Roberts says, don't play if you are extremely tired and therefore more prone to injury. Hydration and good nutrition will help stave off early fatigue.

## ***Resources***

"Heading the Ball in Soccer: What's the Risk of Brain Injury?" by Michael J. Asken and Robert C. Schwartz. *The Physician and Sportsmedicine*, November, 1998.

["http://www.physsportsmed.com/issues/1998/11nov/asken.htm"](http://www.physsportsmed.com/issues/1998/11nov/asken.htm)

"Sports-specific concerns in the young athlete: Soccer," by Jordan D. Metzler and Gary R. Fleischer. *Journal of Pediatric Care*, April, 1999.

**American College of Sports Medicine**

["http://www.acsm.org/"](http://www.acsm.org/)

**United States Soccer Federation**

["http://www.us-soccer.com/"](http://www.us-soccer.com/)

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