



## Soccer Injuries

Soccer is one of the fastest growing youth sports in the U.S. It's great for improving heart health, coordination, balance, and agility. It also promotes overall fitness and teamwork.

Although it's a fairly safe sport, almost half a million soccer injuries are treated each year. Along with prevention, early intervention and treatment of injuries can help keep young players on the field.

### Common Injuries

Overuse injuries to the lower body are the most frequent injuries for soccer players. These include muscle strains, usually in the thigh, calf, or groin, as well as ankle injuries. Also common are shin splints and knee pain from swelling of the tendons and ligament sprains.

In addition, injuries can result from a sudden change in direction of the body over the knee or a kick to the leg. More serious problems, such as tears in cartilage or the anterior cruciate ligament (ACL), may require surgery.

Head and neck injuries are possible as well. Concussions, which can be due to player contact or a fall, range from mild to severe. Symptoms may show up right away or hours later.

### Causes of Injury

- improper training
- improper stretching
- improper strengthening
- lack of warm-up or cool-down
- overuse

### Treating Overuse Injuries

Overuse injuries can occur with great regularity in today's young athlete. They most commonly present as pain, swelling, and a decreased ability to perform actions like running, changing of directions, and kicking the ball. A thorough medical evaluation can determine the best way to treat this injury.

The experts at UPMC Sports Medicine's Young Athlete program can work with your pediatrician to evaluate and aggressively treat the injury to help prevent more serious long term programs.

After a period of rest, an athlete may need physical therapy or rehabilitation to regain strength and flexibility in the affected area. UPMC Sports Medicine can design a sport-specific exercise program when strength and range of motion return to pre-injury levels and pain is gone.

If surgery is needed, an athlete usually completes a rehabilitation program afterward and can return to the sport with medical clearance.

## Girls More Likely to be Injured

A girl's body structure makes her three times more likely than a boy to tear her ACL while playing soccer. Her hips are wider and her knees closer together, placing added stress on knee ligaments like the ACL.

To minimize this stress, a girl needs strong muscles in her midsection. Unfortunately, her muscles respond more slowly than a boy's to conditioning and training, in part due to the lack of a hormone that helps boys develop muscle.

In addition, the hamstrings (muscles in the back of the thigh) help protect the ACL under stress. Girls' hamstrings, however, contract slightly slower than boys'. The result? They're more likely to be injured as the thigh goes in one direction while the shin goes in another. Both girls and boys can prevent injuries by learning strategies to control their speed.

## Preventing Injury: Proper Landing and Cutting

The ACL provides stability for an athlete to land and pivot. When the front thigh muscles contract to help with stabilization, the ACL is stressed, increasing the risk of injury. Learning to use other muscles to help with stability can reduce the risk of an ACL tear by 82 percent.

When landing, the knees should be behind the toes and stacked on top of the ankles. Landing with a straight leg forces the knee to absorb four times the body's weight. The hips should be positioned as if the player is about to sit in a chair. The trunk/abdominal area should land flexed, not in an upright position. Eliminate side to side motion when landing, and land softly. If the feet "slap," the muscles are not absorbing the load.

Cutting or pivoting is a sudden change in direction, common in sports such as soccer and basketball. Often athletes, especially females, cut or pivot over a straight leg or cross over their legs to change direction. Proper cutting involves changing directions on the outside leg, the leg away from the direction the athlete wants to go.

## What is the Young Athlete Program?

UPMC Sports Medicine's Young Athlete Program brings together a network of specialists that provides individualized attention for injury prevention and management.

Our physicians and physical therapists use cutting-edge, science-based techniques to help speed recovery, and quickly and safely prepare the athlete to return to the field of play. Athletic trainers, sports performance coaches, and other experts focus on injury prevention, nutrition, conditioning, and activity-specific training.

Regardless of age or sport, the Young Athlete Program has the expertise, technology, and services to make a difference for your athlete. For more information or to make an appointment, call **412-432-3700** or visit [UPMC.com/SportsMedicine](http://UPMC.com/SportsMedicine).

Our partner, Centers for Rehab Services, offers your young athlete physical therapy services at more than 40 convenient locations. To find an office near you, or to make an appointment, call **412-432-3700**.

## More Tips

Your young athlete should:

- Have a pre-season physical exam that is specific to soccer.
- Warm up thoroughly. This includes bringing the heart rate up and stretching, especially the hips, knees, thighs, and calves. Cold muscles are more likely to be injured.
- Cool down after playing. Stretching again may help prevent injury.
- Avoid year-round playing to give the body a chance to rest and recover. Playing different sports helps ensure the same muscles aren't used all the time.