

Young Athlete Program: Gymnastics Injuries

UPMC Sports Medicine's Young Athlete Program brings together a team of sports medicine experts that provide individualized attention for injury prevention and management for young athletes.

The goal of the Young Athlete Program is not only to treat athletes when injuries occur, but to focus on prevention and performance training to help them reach their full potential.

Our team of experts use cutting-edge, science-based techniques to help speed recovery, and quickly and safely prepare the athlete to return to competition. Physical therapists, physicians, athletic trainers, sports performance coaches, and other experts focus on prevention, nutrition, conditioning, and sport-specific training, tailored to an athlete's age and level of competition.

Common Gymnastics Injuries

Gymnasts must be both powerful and graceful to perform skills and routines that are more difficult than what was required of their sport 20 years ago. Despite gymnasts' dedication to practice and perfect a skills as well as condition for their sport, injuries may still occur. In fact, gymnastics has one of the highest injury rates among girls' sports with nearly 100,000 gymnasts injured per year.

Some injuries, such as bruises and scrapes, are inevitable. Falls that result only in bruises and scrapes generally are not serious and don't require medical attention. Others are unpredictable and sometimes can be devastating. Gymnasts are taught how to fall and land safely to decrease the risk of damage to the spine, head, neck, or wrist.

Other injuries are the result of overuse or repetitive movement, often from kicking and turning on one side more than the other. This leads to muscle or flexibility imbalances, increasing the chance of injury. The gymnast can land in an awkward position, miss her footing on the beam or grip on the bars, or feel pain after practicing a skill over and over. These injuries may be more severe and could keep the gymnast from practicing or competing. Evaluation by a medical professional usually is advisable.



Gymnasts use their arms and legs, putting them at risk for injury to almost any joint in the body. Common injuries include wrist fractures, cartilage damage, anterior cruciate ligament (ACL) tears, knee and low back pain, spinal fractures and herniated discs, Achilles tendon strains or tears, ankle sprains, and shoulder instability. Injuries may result from player contact or a fall, and range from mild to severe. Symptoms may show up right away or hours later.

Causes of Gymnastics Injuries

- Insufficient flexibility
- Decreased strength in the arms, legs, or core
- Poor balance
- Imbalances in strength or flexibility (one side stronger than the other)

A gymnast can be a "righty" or "lefty." This refers to the leg they kick with first when performing handstands, cartwheels, or round-offs, or the direction they tend to turn in doing full turns or twisting. This can leave one side of the body stronger and more flexible than the other. Care should be taken to balance strength and flexibility on both sides.

This chart below shows what happens to a gymnast who normally kicks with the right leg when doing a handstand.

	Right side	Left side
Hip flexor strength	Stronger	Weaker
Hip extensors strength	Weaker	Stronger
Core stabilizers strength	Stronger	Weaker
Hamstring flexibility	More flexible	Less flexible
Hip flexor flexibility	Less flexible	More flexible

Preventing Gymnastics Injuries

Strength training is good for injury prevention. It also keeps gymnasts motivated by helping them progress to the next skill level.

Having a strong core provides the gymnast with a stable base for the arms and legs as they move in different directions. When the core (specifically the transverse abdominis muscle) contracts, it decreases the pressure placed on the lumbar spine. This muscle contracts when you try to draw the belly button toward the spine. Contracting this muscle while performing exercises on a therapy ball or stable surface will strengthen the core muscles. Other good core exercises include planks, bridges, or tuck ups while hanging on the bar.

Flexibility imbalances can occur in the thighs, calf muscles, and hips. Performing stretches several times a day and holding each stretch for 30 seconds will make a difference in flexibility.

Mental Training

Fear

Gymnasts are typically viewed as fearless. They not only walk across a four inch beam, but they perform flips and jumps while landing on the beam. It's natural for a gymnast to feel excited, nervous, or afraid when performing a new skill or competing. But if these feelings force a gymnast to lose their focus they may end up "bailing" during a skill (stopping part way through) or not notice that a foot or hand is in an incorrect position to complete the skill safely. It is important for coaches to be prepared to help the athlete land safely if this occurs.

Perfection

Gymnasts strive for perfection. This can wear on the athlete, causing frustration or lack of enjoyment. Parents should support and talk to their gymnast, but also let them know that if they no longer enjoy the sport it is okay to end participation.

Screening Young Athletes

Our team of sports rehabilitation experts provide injury prevention screenings to young athletes. These screenings can help uncover existing injuries and areas of weakness, and can help prolong participation in sports.

These 45-minute screenings include:

- Flexibility
- Strength
- Functional movement assessment

The results of the screening will help determine if a young athlete needs to consult with a physician, participate in physical therapy, or consider sport-specific performance training. UPMC Sports Medicine has the expertise and comprehensive services to support young athletes.

Contact the Young Athlete Program

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 **1-855-93-SPORT (77678)** or visit **UPMCSportsMedicine.com**.

 @UPMC Sports Medicine

 @UPMCSportsMed

 @UPMCSportsMed