

Young Athlete Program: Volleyball 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 Volleyball Injuries

Bump, set, spike. Volleyball has become an increasingly competitive and popular sport. Young athletes not only play for middle or high school teams, but also try out for traveling or league teams between seasons. Continuous play of one sport can lead to overuse injuries in the shoulders, knees, and other areas of the body.

A varied workout routine with proper rest periods will reduce the risk of overuse injuries. Taking part in a conditioning, strengthening, and flexibility program will increase power, endurance, and agility, which can help young athletes stay injury free and on the court.

Constant use of the arms can cause volleyball players to suffer from shoulder irritation and inflammation, specifically in the rotator cuff muscles. This may lead to rotator cuff tendonitis or even tears. Athletes also may encounter impingement syndrome when muscles or tendons become pinched during movement, resulting in pain or discomfort.



Knees are the most commonly injured part of the lower body. Repeated jumping can lead to patellar tendonitis or "jumper's knee." The patellar tendon attaches the patella (knee cap) to the tibia (shin bone). When this tendon becomes irritated or strained, the resulting injury is patellar tendonitis. Jumping also can result in tears of the ACL (anterior cruciate ligament), a ligament located at the inside of the knee that provides stability and the ability to sense the position of the lower leg. Ankle sprains also can occur from running, directional changes, and jumping during volleyball.

Causes of Volleyball Injuries

Most volleyball injuries are a result of overuse and overtraining. Playing on multiple teams during the year gives the young athlete less time for proper rest between practices and games.

In addition, when young athletes focus on one sport there is less cross training. This can bring about imbalances in the muscles, meaning that the muscles used all the time are stronger than others in the body. These imbalances can result from repetitive motions such as jumping, landing, and internal rotation of the shoulder during serves and spikes.

Lack of strength and flexibility in the core, shoulders, and legs can lead to poor form in the athlete's jumps and volleys, resulting in injury.

Poor landing technique is the most common reason for knee injuries in volleyball players. Athletes should land with their knees over their toes and their hips back. Landing with an increased knee bend or with the knees over the toes places more strain on the knees.

Knee and ankle injuries also are caused by a lack of balance or control of the body when jumping and landing. Body control not only decreases the chances of injury, but also increases the power of hits and serves.

Volleyball Injury Prevention

Volleyball requires a different type of endurance than other sports, such as long distance running. It is played in quick intervals that may last only 20 to 30 seconds; therefore, long cardiovascular workouts will not offer much benefit for volleyball players. A better option is interval training with cutting and directional changes to imitate play during game. Ladder drills, plyometrics (jumping exercises), shuffling, and shuttle drills are a few examples of cardiovascular training for volleyball.

Strength training for the core and legs will improve the athlete's balance and jump height. Planks, bridges, and squats with medicine balls are exercises that will target the core. Lunges, squats, and tuck jumps will increase leg strength.

Strength training for the rotator cuff and scapular muscles of the shoulders is also important to prevent overuse injuries. It increases the stability and strength of the shoulders, which is necessary for the repetitive movements of hitting, serving, and spiking the volleyball.

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**.



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