

Basketball and Volleyball

Acute and overuse injuries are common in jumping sports like basketball and volleyball. Acute injuries include bruises (contusions); cuts and scrapes (lacerations); ankle, knee, or finger sprains or fractures; shoulder dislocations; eye injuries; and concussions. Overuse injuries include patellar tendonitis (also called jumper's knee) or Osgood-Schlatter disease, spondylolysis (stress fracture of the spine), rotator cuff tendinopathy, stress fractures, and shin splints.

The following is information from the American Academy of Pediatrics (AAP) about how to prevent basketball and volleyball injuries. Also included is an overview of common basketball and volleyball injuries.

Injury prevention and safety tips

- **Sports physical exam.** Athletes should have a preparticipation physical evaluation (PPE) to make sure they are ready to safely begin the sport. The best time for a PPE is about 4 to 6 weeks before the beginning of the season. Athletes also should see their doctors for regular health well-child checkups.
- **Fitness.** Athletes should maintain a good fitness level during the season and off-season. Preseason training should allow time for general conditioning and sport-specific conditioning. Also important are proper warm-up and cool-down exercises.
- **Technique.** Athletes should learn and practice safe techniques for performing the skills that are integral to their sport. Athletes should work with coaches and athletic trainers on achieving proper technique.
- **Equipment.** Safety gear should fit properly and be well maintained.
 - **Shoes** should be in good condition, appropriate for the surface and laces tied.
 - **Ankle braces or tape** applied by a certified athletic trainer can prevent or reduce the frequency of ankle sprains.
 - **Knee pads** have been shown to reduce knee abrasions and contusions (bruises).
 - **Buddy tape** (tape around the injured finger and the one beside it) can prevent reinjury to an injured finger. X-rays should be obtained in all “jammed” fingers.
 - **Mouth guards** prevent dental injuries.

- **Protective eyewear.** Glasses or goggles should be made with polycarbonate or a similar material. The material should conform to the standards of the American Society for Testing and Materials.

- **Environment.** A safe playing area is clean and clear. Goalposts should be padded.
- **Emergency plan.** Teams should develop and practice an emergency plan so that team members know their roles in emergency situations. The plan would include first aid and emergency contact information. All members of the team should receive a written copy each season. Parents also should be familiar with the plan and review it with their children.

Common injuries

Ankle sprains

Ankle sprains, one of the most common injuries in jumping sports, can prevent athletes from being able to play. They often happen when a player lands from a jump onto another player's foot, causing the ankle to roll in (invert). They are more likely to happen if a player had a previous sprain, especially a recent one.

Treatment begins with rest, ice, compression, and elevation (RICE). Athletes should see a doctor as soon as possible if they cannot walk on the injured ankle or have severe pain. X-rays are often needed to look for a fracture.

Regular icing (20 minutes) helps with pain and swelling. Weight bearing and exercises to regain range of motion, strength, and balance are key factors to getting back to sports. Tape and ankle braces can prevent or reduce the frequency of ankle sprains. Tape and an ankle brace can also support the ankle, enabling an athlete to return to activity more quickly.

Finger injuries

Finger injuries occur when the finger is struck by the ball or an opponent's hand or body. The “jammed finger” is often overlooked because of the myth that nothing needs to be done, even if it is broken. If fractures that involve a joint or tendon are not properly treated, permanent damage can occur.

Any injury that is associated with a dislocation, deformity, inability to straighten or bend the finger, or significant pain should be examined by a doctor. X-rays are often needed to look for a fracture. Buddy tape may be all that is needed to return to sports; however, this cannot

be assumed without an exam and x-ray. Swelling often persists for weeks to months after a finger joint sprain. Ice, nonsteroidal anti-inflammatory drugs (NSAIDs), and range of motion exercises are important for treatment.

Knee injuries

Knee injuries commonly occur from cutting, pivoting, landing from a jump, or contact with another athlete. If the athlete feels a pop or shift in the knee, then it's most likely a ligament injury or knee cap dislocation. Anterior cruciate ligament (ACL) tears are more common in females than males.

Treatment begins with RICE. Athletes should see a doctor as soon as possible if they cannot walk on the injured knee. Athletes should also see a doctor if the knee is swollen, a pop is felt at the time of injury, or the knee feels loose or like it will give way.

Athletes who return to play with a torn ACL risk further joint damage. Athletes with an ACL tear are usually unable to return to their sport until after reconstruction and rehabilitation.

Patellar tendonitis (jumper's knee) is a common overuse injury seen from repetitive jumping and landing from jumps. It causes pain in the front of the knee with jumping, sometimes associated with a bump, and can be severe. It is treated with ice, stretching, NSAIDs, and relative rest.

Shoulder injuries

Shoulder injuries in volleyball can occur from repetitive hitting (spiking) or serving. Shoulder injuries in basketball can occur from diving or rebounding.

Athletes usually feel the shoulder pop out of joint when their shoulders are dislocated. Most of the time the shoulder goes back into the joint on its own; this is called a *subluxation* (partial dislocation). If the athlete requires help to get it back in, it is called a *dislocation*. Risk of dislocation recurrence is high for youth participating in these sports. Shoulder strengthening exercises, braces and, in some cases, surgery may be recommended to prevent recurrence.

Pain from repetitive use is common in volleyball, usually due to weak muscles of the shoulder blade and trunk. Often rehabilitation exercises and rest from excessive hitting or serving are all that is needed.

Eye injuries

Eye injuries commonly occur in sports that involve balls but can also result from a finger or another object in the eye. Any injury that affects vision or is associated with swelling or blood inside the eye should be evaluated by an ophthalmologist. The AAP recommends that children involved in organized sports wear appropriate protective eyewear.

Head injuries

Concussions can occur after an injury to the head or neck contacting the ground, equipment, or another athlete. A concussion is any injury to the brain that disrupts normal brain function on a temporary or permanent basis.

The signs and symptoms of a concussion range from subtle to obvious and usually happen right after the injury but may take hours to days to show up. Athletes who have had concussions may report feeling normal before their brain has fully recovered. With most concussions, the player is *not* knocked out or unconscious.

Prematurely returning to play after a concussion can lead to another concussion or even death. An athlete with a history of concussion may be more susceptible to another injury than an athlete with no history of concussion.

All concussions are serious, and all athletes with suspected concussions should not return to play until they see a doctor.

Remember

Basketball and volleyball injuries can be prevented when fair play is encouraged and the rules of the game are enforced. Also, athletes should use the appropriate equipment and safety guidelines should always be followed.

NOTES

The information contained in this publication should not be used as a substitute for the medical care and advice of your health care professional. There may be variations in treatment that your health care professional may recommend based on individual facts and circumstances.

Copyright © 2011 American Academy of Pediatrics

All rights reserved.

American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™