



# GUIDELINES FOR PEDIATRICIAN BASKETBALL

Online Issue 3

Visit the *Sports Shorts* Website at [www.aap.org/family/sportsshort.htm](http://www.aap.org/family/sportsshort.htm)

Basketball is one of the most popular sports for young males and females around the world. It is played indoors and outdoors, recreationally and competitively. In 2002-2003, approximately 450 000 females and 540 000 males participated on basketball teams at more than 17 000 US high schools. Millions of additional youngsters participate in basketball programs or play on their own. Although not considered a collision sport by most who play or watch, basketball has been shown to have a high frequency of injury.

## Injury Prevalence Data

- New injuries account for 88% of injuries in basketball, and the remaining 12% are reinjuries.
- Ankle/foot injuries are the most common (38%), followed by injuries to a lower extremity (15%), a knee (13%), the forearm/wrist/hand (11%), and the face/scalp (8%).
- Forty-five percent of injuries are sprains, 23% are general traumas, 16% are strains, and 8% are fractures.

## Injury Risk

- Most injuries are minor, but serious injuries can require surgery or casting; few (<5%) require surgery.
- There are significant gender differences in injury patterns (eg, anterior cruciate ligament [ACL] injuries are more common in female than male players for a yet unknown reason).
- The percentage of injuries is highest during games, but the total number of injuries is highest during practice.
- Risk of injury is greater during periods of increased training loads (eg, first 2 weeks of formal practice or immediately after a holiday break).
- Injuries are more likely to occur in the “key” (between the foul line and the basket).
- The most common injury involves the ankle, and knee injuries require the most time lost from activity.

## Fact Versus Fiction

- Although high-top athletic shoes have not been shown to reduce ankle injuries, athletes with a history of repeated ankle problems may benefit from a stirrup or lace-up brace in addition to an aggressive rehabilitation program (see *Sports Shorts* Issue 3 at [www.aap.org/family/sportsshort.htm](http://www.aap.org/family/sportsshort.htm)). Ankle taping has been shown to lose effectiveness after 5 to 10 minutes of activity.
- Osgood-Schlatter and Sindig-Larsen–Johansson diseases are types of knee apophysitis that occur during puberty. Jumper’s knee is a patellar tendonitis that usually occurs after linear growth is complete. All are thought to be caused by intense, repetitive jumping on hard, unyielding surfaces. Most respond to relative rest, ice, and guided rehabilitation. Strengthening and flexibility training for all the thigh muscles (quadriceps and hamstrings) is the key to rehabilitation (see *Sports Shorts* Issue 7 at [www.aap.org/family/sportsshort.htm](http://www.aap.org/family/sportsshort.htm)). Kneepads or a patella tendon strap may be beneficial. Rarely is immobilization or surgery needed. Knee effusion and/or decreased range of motion are reasons to consider imaging and/or referral to a sports medicine specialist.
- In the otherwise healthy individual, ligament laxity of the ankle has not been shown to increase the incidence of ankle sprains. Prophylactic taping is not routinely recommended.
- Hand/finger injuries can result in pain and stiffness that can last for years. Even trivial finger injuries should be evaluated carefully so that permanent disability is avoided or minimized. Radiographs are often required to evaluate for fractures (see *Sports Shorts* Issue 5 at [www.aap.org/family/sportsshort.htm](http://www.aap.org/family/sportsshort.htm)).
- Wearing custom-fitted mouth guards does not significantly affect rates of concussion or oral soft tissue injuries but can significantly reduce the morbidity and expense resulting from dental injuries.
- All youths involved in organized sports should be encouraged to wear appropriate eye protection. All functionally one-eyed athletes should wear appropriate eye protection.

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# GUIDELINES FOR PARENTS, ATHLETES & COACHES

## BASKETBALL

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Basketball is one of the most popular sports for males and females around the world. It is played on all levels, from the beach to the street corner to the professional arena. It provides recreation, competition, and exercise for millions of people. Although basketball is generally a safe activity, injuries do occur and, if improperly cared for, can lead to long-term problems.

### Injuries

- Most injuries are minor sprains or strains, but some (<5%) are serious and may require surgery.
- Stress fractures, broken bones, and ligament tears are more serious types of injuries that may require time off and medical evaluation.
- Ankles are the part of the body most frequently injured, but other areas such as the knees, fingers, eyes, and teeth can also be damaged.
- The percentage of injuries is highest during games, but a greater number of injuries happen during practices.
- There is a greater risk of injuries during periods of increased training loads (for example, the first 2 weeks of formal practice or immediately after a holiday break).
- Injuries are more likely to occur in the “key” (between the foul line and the basket).

### Fact Versus Fiction

- Although high-top athletic shoes have not been shown to reduce ankle injuries, athletes with a history of repeated ankle problems may benefit from a stirrup or lace-up brace in addition to an aggressive rehabilitation program. Ankle taping has been shown to lose effectiveness after 5 to 10 minutes of activity.
- In the otherwise healthy individual, being “double-jointed” or having “loose joints” has not been shown to increase the athlete’s chance of getting an ankle sprain. Routine taping is not recommended, but some athletes feel better when their ankles are taped, and this has not been shown to cause any problems.
- Knee pain is extremely common in the growing basketball player. Intense, repetitive jumping on hard, unyielding, surfaces frequently causes it. Most of the time, the pain will respond to rest and ice. Strengthening and flexibility training for all the thigh muscles (quadriceps and hamstrings) is key to rehabilitation and may help prevent knee injuries if performed for preseason training. Kneepads or a knee (patella tendon) strap may be beneficial. If an athlete cannot continue playing or there is swelling around the knee, he or she should be seen by a pediatrician or a sports medicine specialist.
- Hand/finger injuries can result in pain and stiffness that can last for years. X-rays are often required to look for a broken bone. Even trivial finger injuries should be evaluated carefully so that permanent disability is avoided or minimized.
- Wearing custom-fitted mouth guards while playing basketball does not significantly reduce the athlete’s chance of being knocked out or suffering damage to the lips or gums. However, mouth guards can greatly reduce the risk and expense resulting from tooth injuries.
- All youths involved in organized sports should be encouraged to wear appropriate eye protection. All functionally one-eyed athletes should wear appropriate eye protection.

