

Soccer safety: Clinical report helps pediatricians guide families on reducing risk

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Soccer remains the most popular sport in the world, and youth participation rates in the U.S. continue to rise.

It is estimated that participation in U.S. Youth Soccer programs increased 90% from 1990 to 2014, and nearly 4 million children participate in soccer annually. While the wide-ranging physical and psychosocial benefits of team sport participation are well-known, recent evidence suggests that injury rates in youth soccer may be increasing.

Pediatricians are in a unique position to help guide families in their decisions regarding sport participation and work with community organizations to provide safe environments for youth sport participation.

The updated AAP clinical report *Soccer Injuries in Children and Adolescents* highlights the evidence regarding the incidence and types of injuries that occur in youth soccer. It also provides recommendations for injury prevention and safety that may help guide pediatricians in the care of patients who participate, or are considering participation, in youth soccer. The report, from the Council on Sports Medicine and Fitness, is available at <https://pediatrics.aappublications.org/content/early/2019/10/25/peds.2019-2759> and will be published in the November issue of *Pediatrics*.

Youth soccer injuries

Although two recent studies suggest that emergency visits for soccer-related injuries have increased over the last two decades, overall injury rates in youth soccer remain lower than for a number of other contact sports and are particularly low for athletes under 12 years old. Among high school athletes, however, some evidence suggests that soccer participation may carry a greater risk of severe injuries and fractures than some other team sports, particularly among girls.

Youth soccer players can experience acute and overuse injuries that range from minor to career-ending. Acute injuries result most often from player-to-player contact and involve the knee and ankle, with sprains, strains and contusions being the most common injury types. Fractures represent less than 10% of all soccer-related injuries.

Anterior cruciate ligament (ACL) injuries are a significant injury among soccer players and are more likely among girls than boys.

Recent data suggest that concussion rates may be increasing among youth soccer participants as well, although it is unclear whether this is due to a higher number of sustained concussions or increased

awareness and recognition of the injury. Although most concussions occur during heading, the overwhelming majority of soccer injuries are due to contact with an opposing player rather than contact with the ball itself. It is unknown whether concussions or repetitive subconcussive impacts have negative long-term effects on cognitive function, but an emphasis on fair play, rule enforcement and proper heading technique may reduce the risk of concussion.

Injury prevention and safety

Preparticipation examinations remain a crucial element of injury prevention and overall medical care for young athletes and should be recommended for children interested in participating in soccer. Proper hydration, modification of activities during inclement weather, proper equipment and adherence to fair play rules are important risk-reduction strategies.

Neuromuscular training programs have been found to result in large reductions in future injury risk, with recent studies showing a 74% to 88% decrease in ACL injuries and a 56% decrease in noncontact lower extremity injuries.

Overtraining, stress and insufficient sleep have been found to be risk factors for injury in many sports, including soccer, and pediatricians and youth soccer coaches should be aware of the importance of proper recovery to promote the health of their athletes.

Pediatric health care providers can feel comfortable advocating for participation in soccer to promote physical fitness and the wide-ranging benefits of exercise. Knowledge of the incidence, management and prevention of common injuries in youth soccer will help improve the health and safety of young players as well as promote lifelong participation in the sport.

Dr. Watson is a lead author of the clinical report.

Resources

- [AAP video on preventing anterior cruciate ligament injuries](#)
- [Consumer Product Safety Commission guidelines for moveable soccer goals](#)
- [AAP policy statement "Climatic Heat Stress and Exercising Children and Adolescents"](#)
- [Parent Plus article "Heads up: Here's how to tackle injuries in youth soccer players"](#)

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