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# InMotion

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## Playground Safety Key for Youngest Athletes

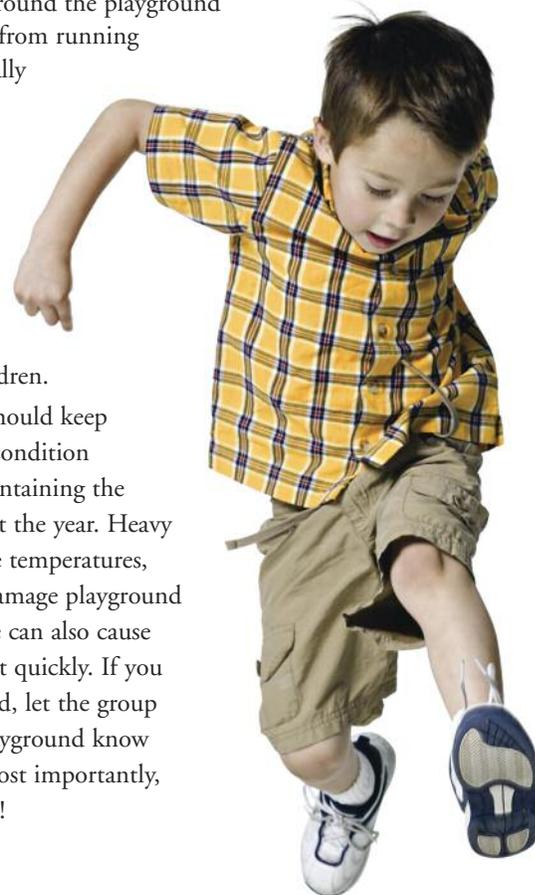
By Daniel Solomon, MD

**W**e form some of our earliest athletic experiences on playgrounds and on the blacktop. Unfortunately injuries occur with some frequency in these areas. The key to stopping some of the 250,000 annual playground injuries in the United States is prevention. Monkey bars, swings, and slides account for the majority of injuries, with monkey bars causing more than 75,000 doctor's visits annually and swings and slides causing around 50,000 injuries each. Here's a few tips to help prevent a trip to the emergency room:

- **Pay attention** to the equipment, age, and activities of other children and general condition of the playground. Often it is not only the equipment, but a child's behavior or actions that lead to injury.
- **Look** for loose, damaged, or missing supports, and exposed anchors, footings, nuts, bolts, or other connectors.
- **Keep an eye out** for bending, warping, rusting, or breakage of any components, or sharp edges due to wear or breakage.
- **Clean up trash** in the area (particularly glass or cans); don't allow play around environmental hazards such as roots, rocks, or poor drainage areas.
- **Keep your child** on age-appropriate and height-appropriate equipment.
- **Utilize playgrounds** that have surfaces constructed from appropriate softer material such as rubber or loose fill, such as double-shredded bark mulch, engineered wood fibers, sand, and fine or medium gravel of suitable depth. Unsuitable surfaces include asphalt, concrete, soil, packed dirt, grass, and turf.

- **Don't allow children under 3 to ride on slides in someone else's lap.** Their legs can get caught and twisted leading to lower leg fractures.
- **Look** for playgrounds with areas for active play such as swings separated from areas for quiet play like sandboxes. Play areas for preschoolers and older children should be kept apart as well.
- **Make sure you can see your child at all times.**
- **Look** for a barrier around the playground to prevent children from running into a street, especially near basketball or other ball courts.
- **Ensure** the landing area at the bottom of a slide or the area immediately surrounding a merry-go-round is free from other children.

Schools and cities should keep playgrounds in good condition by inspecting and maintaining the equipment throughout the year. Heavy rainfall, snow, extreme temperatures, and high winds can damage playground equipment. Heavy use can also cause equipment to wear out quickly. If you find a particular hazard, let the group responsible for the playground know as soon as possible! Most importantly, play safe and have fun!



# Athletic Trainers Important On and Off the Field

By Robert Gray, ATC



Having ATCs regularly on the field helps assess and treat injuries in the most timely of manners, keeping athletes safe.

Many people don't realize the skill level and importance of a Certified Athletic Trainer (ATC) being on the field at all times. These individuals are highly qualified, multi-skilled health care professionals who collaborate with physicians to optimize the activity level of patients across both age and care continuums.

The profession of athletic training encompasses the prevention, diagnosis, and intervention of emergency, acute, and chronic medical conditions involving impairment, functional limitations, and disabilities that keep athletes both on the field and off.

The ATC often works under the direction of physicians, as prescribed by state licensure statutes, and are members of the health care profession as recognized by the American Medical Association (AMA). ATCs must meet the qualifications set by the Board of Certification, Inc. and must adhere to the requirements of a state licensing board. Currently, athletic trainers are licensed or otherwise regulated in 47 states. To become a certified athletic trainer one must graduate from either an accredited baccalaureate or master's program. To earn the credential of "ATC," one must pass a comprehensive examination and must keep their knowledge and skills updated by participating in annual continuing education programs. Approximately 70 percent of the athletic trainers have either a master's or higher degree.

The certified athletic trainer is educated, trained, and evaluated in five major practice domains:

- Prevention
- Clinical evaluation and diagnosis
- Immediate and emergency care
- Treatment and rehabilitation
- Organization and professional health and well-being

The work settings for the athletic trainer often include the sidelines and training rooms in high schools, colleges, universities, and professional sports teams along with hospitals, rehabilitation clinics, corporate and industrial institutions, military depots, performing arts centers, and physician's offices.



## Variety of Options for Athletic Recovery Drinks

by Robert Brophy, MD



In the quest for performance and fitness, athletes and the public often turn to recovery drinks for a boost. Research into this area has generated useful information that can guide optimal consumption of these drinks.

Recovery drinks should include an adequate amount of carbohydrates to maximize recovery as well as protein. The optimal ratio of carbohydrate to protein is about 2:1, typically 0.8 g of carbohydrate and 0.4 g of protein per kilogram per hour for 4 to 6 hours.<sup>1</sup> For example, a 20 oz bottle of Gatorade, has 34 g of carbohydrate. A 176 lb athlete should drink approximately two Gatorades per hour to meet the carb recommendations.

Electrolytes are also important, with an optimal concentration of 0.3 to 0.7 g of sodium per liter.<sup>1</sup> The 20 oz bottle

of Gatorade has 270 mg of sodium at a concentration of just over 0.45 g per liter. Recovery drinks are not limited to specially formulated beverages, however. Coconut water has been shown to be similar to commercial recovery drinks.<sup>2</sup> More recently, chocolate milk has been shown to be as effective, and perhaps more effective, as a recovery drink.<sup>1,3</sup> Other commercial drinks with higher protein content are coming on the market. However, the use of specific amino acids and antioxidants has not been proven to be particularly effective although research is ongoing.

A closely related topic is the consumption of energy drinks such as Red Bull or Full Throttle. While the consumption of caffeine, more traditionally in the form of coffee or tea,

has long been known to have potential benefits for performance, recently there has been a significant increase in the consumption of specially formulated energy beverages for athletes and the general public. These are often displayed in the same area as sports recovery drinks but are not the same product. The benefits are less well established and the risks greater with energy drinks, particularly related to heart issues. Recent recommendations from the Mayo Clinic do not support the use of energy drinks during sporting activities.<sup>4</sup>

Research is ongoing into how drinks can provide optimal benefit while minimizing potential health risks. However, the use of both recovery and energy drinks is more often driven by advertising than science. Athletes and the general public should use caution when interpreting claims about the advantages of specific drinks. Nevertheless, commercial sports drinks as well as chocolate milk can be a healthy, helpful addition to speed recovery and improve performance.

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### About AOSSM and *In Motion*

As a world leader in sports medicine education, the American Orthopaedic Society for Sports Medicine (AOSSM), we have designed the publication to highlight relevant information for multiple age groups from exercise and rehabilitation to nutrition and psychology.

This important educational tool is published quarterly and distributed electronically.

AOSSM members can add their practice name and logo to *In Motion*. Personalizing *In Motion* is an easy way to get pertinent, patient-friendly sports medicine information to your patients with just a click of a mouse. For more information, please e-mail Lisa Weisenberger at [lisa@aossm.org](mailto:lisa@aossm.org) or contact the Society at 847/292-4900.

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## Get the Waterskis Out and Be Safe This Summer

By Ken Fine, MD

Waterskiing and wakeboarding are exhilarating water sports where the athlete is pulled by a motorboat while holding on to a rope. A water skier stands up on either two skies or one ski (slalom), while a wake boarder puts both feet into bindings on a single board, with both feet pointing sideways similar to positioning of the feet in snowboarding. It has been estimated that there are more than eight million water skiers and more than three million wake boarders in the United States. In order to keep these sports as safe as possible, there are certain precautions that should be taken.

### Injury Types

Most injuries from waterskiing and wakeboarding are minor, including cuts, bruises, lacerations, and sprains. Injuries to the head and neck are more common in wakeboarding and injuries to the hip, knee, and other parts of the lower extremities are more common in waterskiing. Between 2000 and 2007, there were more than 18,000 wakeboarding injuries and more than 52,000 waterskiing injuries in the United States. More serious injuries include head injuries such as concussions as well as eardrum ruptures.

While rare, catastrophic injuries, including amputations and death, do occur. Most of these injuries are caused by collisions between the boat and the athlete, and the most devastating injuries are from

a propeller. As in any water sport, drowning is also a risk.

### Prevention of Injuries

Proper conditioning and training can prevent many of the more common injuries. Stretching, strengthening, and overall conditioning can decrease the risk of sprains and strains. One key tip, especially for beginners, is to let go of the towrope when falling in order to avoid being dragged through the water in a compromised position. Skiers should also be taught to keep the front of their skis above the water in order to avoid getting the front of their skis stuck and to keep their knees flexed. It is important that wake boarders attempt tricks commensurate with their abilities.

Proper equipment is also critical with bindings being tight enough so that skis and wakeboards do not spontaneously fall off. Because of the occurrence of head injuries in wakeboarding, helmets might also prevent injury. This recommendation is somewhat controversial, but helmets should definitely be used when wake boarders are using rails, sliders, or other fixed objects to facilitate tricks. Wearing some sort of flotation device can also help prevent drowning, especially if a skier is injured or loses consciousness from a head injury.

Waterskiing and wake boarding are fun warm weather sports and can be safe as long as proper training and precautions are taken.

