



Adolescent Athletes and Dehydration

Blake Butler, PT
Physical Therapist
St. Francis Physical Therapy

Now that school is out and summer is here, kids everywhere are getting into the full swing of their summer sports and activities. With the hottest and stickiest weather still to come, it is imperative that your child and adolescent athletes are properly hydrated while competing in the sun and heat. Our primary mechanism for maintaining a normal body temperature during exercise in the heat is the evaporation of sweat. Rigorous exercise in the heat can lead to profuse sweating and excessive water loss placing an athlete at risk for thermoregulatory dysfunction. Children produce more metabolic heat per unit of body mass than adults and thus are much less efficient at regulating their core body temperature placing them at increased risk for heat-related illness.

The three primary syndromes (in order of severity) are: heat cramps, heat exhaustion and heat stroke. Heat stroke is a very real medical emergency that, if not treated quickly, has a high mortality rate. Also, dehydration translates to decline in performance. If you become thirsty during a sporting activity, it is too late. You are already dehydrated and your performance will start to suffer.

The best way to prevent heat-related illness is to reduce the known risk factors:

- athletes should begin exercise well-hydrated and consume cold water frequently during exercise
- clothing should be lightweight (more skin exposure leads to greater available evaporative surface)
- preseason conditioning and 1-2 week acclimatization to activity will further reduce the risk of heat-related illness

Although cold water is the recommended beverage for proper hydration, carbohydrate-electrolyte beverages before and/or during activity may improve performance. Studies have shown that by adding flavor (e.g. grape), sodium chloride, and carbohydrates in amounts similar to sports drinks increased voluntary consumption by 45% or more among 9-14 year-old boys exercising under hot conditions.

The most important thing to remember is to drink frequently before you get thirsty when performing moderate to strenuous exercise (especially in hot conditions), take frequent rest breaks when able, and be aware of the signs and symptoms of heat illness.