



PARENTS' HEALTHY HYDRATION GUIDE

Preventing Heat-Related Illnesses BY BROOKE DE LENCH

About the Author:

Brooke de Lench is a youth sports parenting expert and the author of the new book *Home Team Advantage: The Critical Role* of Mothers in Youth Sports (HarperCollins) and the founder and Editor-in-Chief of MomsTeam.com: The Parents Trusted Youth Sports Source. She is the mother of triplet sons and lives in the Boston area.

Heat illness is one of the most preventable of all injuries in youth sports. Most young athletes need assistance (and constant reminders) to keep hydrated properly, so parents can play an important role in helping kids stay in the game safely. Kids who are well hydrated are often the best performers as they're able to maintain stamina and endurance throughout the game.

In extreme cases, health related illnesses can result in death.

Deaths from heat stroke occur most in football. Twenty-one high school football players died of heat stroke between 1999 and 2006, the overwhelming majority in the first four days of preseason practice when players are not acclimatized to heat, intensity/duration of practice, or their uniform. But any athlete exercising vigorously in the heat (long-distance runners, tennis and soccer players), especially those with eating disorders, congenital heart disease, diabetes, and those who are obese, are at risk of heat-related



HEALTHY HYDRATION TIPS

Here are some steps you can take to reduce the risk your child will suffer a serious or catastrophic heat illness in hot and humid weather:

- Make sure your child has become **acclimated** to the heat before starting preseason practice or vigorous exercise in the heat.
- Make sure your child is properly hydrated before, during and after sports (see chart). Two out of three children are dehydrated before practice even starts. Because children do not instinctively drink enough fluids to stay hydrated, it is up to you to make sure they get enough to drink. Kids need to drink from their own water bottle on a schedule rather than in response to thirst. This is because by the time they say they are thirsty, they are *already* dehydrated. You need to remind your child to drink 5 to 9 ounces (10 to 18 one-half ounce gulps) every twenty minutes during exercise, depending on weight. If you have a younger child, give him a water bottle with marks on the side showing how much he should drink at a time.
- Make sure your child recognizes the warning signs of dehydration and heat illnesses (see sidebar) and understands just how important it is to **speak up** if he has any of these symptoms (as with concussions, silence can be deadly).
- If your child is playing football, make sure the program is following new pre-season football practice guidelines issued by the American College of Sports Medicine (see sidebar)

Not only is it important that you monitor the quantity of water or sports drink your child needs to ensure adequate hydration and prevent heat stroke, but that you monitor the quality as well. Countless children become seriously ill each year from drinking from the bottle of a teammate infected with a contagious disease such as the flu, mononucleosis, or hepatitis, from drinking contaminated water or containing high levels of lead, such as from a hose or school water fountain. Many states ban the practice of providing drinking water from hoses that are not raised above the ground because bacteria from the ground can get it to the hose and multiply. The federal Lead Contamination Control Act of 1988 (LCCA) requires schools to identify, repair or remove water coolers or bubblers with toxic levels of lead (after a study showed that numerous water coolers and bubblers, including those in the boys' and girls' high school locker room, had water with excessive lead levels, I led an effort to recommend that the high school in my town to turn off the bubblers until a more comprehensive solution was found to the problem). The LCCA does not require schools to

monitor the water from the showers which are a common place to fill drinking water containers. With the large amounts of water that athletes need to drink it is best to make sure the source of the water is in compliance. In February 2006, The Environmental protection Agency released a new guide to help schools reduce lead in drinking water:

3Ts for Reducing Lead in Drinking Water in Schools. (Training, Testing, Telling). The guide provides the information schools need to identify potential sources of lead in their facilities; monitor school drinking water for elevated lead levels; resolve problems if elevated lead levels are found; and communicate about their lead control programs. The guide is available on the internet at www.epa.gov. NOTE: THE ABOVE ARTICLE HAS BEEN ADAPTED FROM HOME TEAM ADVANTAGE.

HYDRATION FOR AGES 6 TO 12:

BEFORE SPORTS

Drinking fluids prior to exercise appears to reduce or delay the detrimental effects of dehydration.

- 1 to 2 hours before sports: 4 to 8 ounces of cold water
- 10 to 15 minutes before sports: 4 to 8 ounces of water

DURING SPORTS

• Every 20 minutes: 5 to 9 ounces of a sports drink, depending on weight (5 for a child weighing 88 pounds, 9 ounces for a child weighing 132 pounds)

AFTER SPORTS

Post-exercise hydration should aim to correct any fluid lost during the practice. Within two hours: at least 24 ounces of a sports drink

for every pound of weight lost

HYDRATION FOR AGES 13 TO 18:

BEFORE SPORTS

Drinking fluids prior to exercise appears to reduce or delay the detrimental effects of dehydration.

- 1 to 2 hours before sports: 8 to 16 ounces of water
- 10 to 15 minutes before sports: 8 to 12 ounces of water

DURING SPORTS

• Every 20 minutes: Between 5 and 10 ounces of a sports drink, depending on weight

AFTER SPORTS

Post-exercise hydration should aim to correct any fluid lost during the practice.

Within two hours: at least 24 ounces of a sports drink for every pound of weight lost

WARNING SIGNS:

Signs of dehydration:

- Dry lips and tongue
- Sunken eyes
- Infrequent urination or small volume
- Bright colored/dark urine or urine with a strong odor
- Apathy or lack of energy
- Tires easily
- Irritability

Signs of impending heat illness:

- Weakness
- Chills
- Goose bumps on chest/upper arms
- Nausea
- Headache
- Faintness
- Disorientation
- Muscle cramping
- Reduced or cessation of sweating

Signs of heat cramps, the mildest form of heat illness:

- Thirst
- Chills
- Clammy skin
- Throbbing heart
- Muscle pain
- Spasms
- Nausea

Signs of heat exhaustion, a more serious heat illness which may require medical attention:

- Nausea
- Extreme fatigue
- Reduced sweating
- Headache
- Shortness of breath
- Weak, rapid pulse
- Dry mouth

Signs of heat stroke, a *life-threatening* medical emergency in which body's temperature-regulating processes cease functioning requiring immediate action and which, left untreated, can result in death.

- No sweating
- Dry, hot skin
- Swollen tongue
- Visual disturbances
- Rapid pulse
- Unsteady gait
- Fainting
- Low blood pressure
- Vomiting
- Headache
- Loss of consciousness
- Shock
- Excessive body temperature with an excessively high rectal temperature (over 105.8° F.)







PRE-SEASON FOOTBALL PRACTICE GUIDELINES

To reduce the risk of heat illness in pre-season football practice, the American College of Sports Medicine issued new guidelines in 2004 recommending the following:

• Limited practice duration: Football practices should be a maximum of three hours long for the first week (this is *total* length of practice, including warm-up and cool-down periods), with the practice length increased gradually over 2 week period to allow players to become acclimatized to heat.

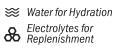
• Weigh-ins. Players should be weighed before and after practices. Since the volume of sweat loss varies by child, this is the most accurate way to determine how much fluid an individual athlete has lost during practice (and needs to replace).

• Lighter clothing. During the first week of practices, players should wear light colored, lightweight cotton or mesh shorts with helmets and shoulder pads only (not full uniform). Athletes should be given a chance to remove their helmets whenever possible (i.e. during instruction, water/cool-down breaks).

• Frequent water breaks. Players should be given cool-down/fluid breaks in a shaded area at least every 30 to 45 minutes or more frequently, depending on heat and humidity level. Each athlete should drink a minimum amount of fluids before returning to practice. Sports (*not* "energy") drinks are recommended instead of water because they replace electrolytes lost in sweat and contain carbohydrates for energy. Fluids should *never* be restricted.

• **Close monitoring.** The staff, including the athletic trainer, should be on the lookout for signs of heat illness. A "buddy" system should be used, with players monitoring each other. If heat illness is suspected, the player should immediately be removed from practice. If heat stroke is suspected, the player should immediately be cooled down; wet towels applied to head and neck, hosed off with cold water or possibly immersed in a tub of ice water until EMS personnel arrive.

• Re-hydration. After practice, athletes should be required to re-hydrate to replace fluids lost.



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