

**Good Hydration is BOTH a Health and Performance Issue  
Carbohydrate Intake is A Performance Issue  
They Can Be the Difference in Winning and Losing**

**Are Sports Drinks Useful and Better Than Water?  
Should the Coach be Proactive?**

**1. Hydration and energy replacement are 2 different issues, but both can affect how your players perform.** Dehydration (the lack of adequate water in the body) is a serious matter and can cause illness or stroke. Running out of energy will affect a player's performance, but isn't life threatening. The 2 issues are often discussed together because they can both arise due to strenuous exercise, especially on a hot day.

**2. Why is this important to youth coaches?** It's important because it's both a health issue and a performance issue. No coach wants to allow a player to become ill due to the coach's unintentional neglect or ignorance, but that is what could easily happen if dehydration occurs. Energy replacement isn't a health issue, but it is a performance issue. Coaches who understand hydration and the need for energy replacement, and who take some simple steps, will give their team an advantage over teams that don't, assuming they are fairly evenly matched (phrased differently, if the opposing coach is proactive about hydration and energy replacement and you aren't, then your team is at a disadvantage). You can't control a lot of things, but this is one thing you can control that can make a difference between winning and losing, and it's something you should do for health and safety reasons and for the good of your players.

**3. Why not just rely on the kids or parents to do it?** Does that work? It never worked for me. I think this is too important an issue to rely on kids to bring their water, and what do you do if they forget? Not let them play? Tell them tough luck? Just watch them get dehydrated? In addition, soccer is a team sport, so if one kid isn't playing well it will affect the team. As coaches we spend many hours practicing things that might not ever pay off. Being pro-active about hydration and energy replacement will have a definite benefit and is time well spent.

**4. Why is hydration important and how can a player avoid dehydration?** Dehydration (the lack of adequate water in the body) is a serious matter and can cause illness or stroke. In addition, it will affect a player's performance.

When you exercise and sweat you lose water from your body (you can literally lose weight) and if you don't replace the water you will become dehydrated (see below for symptoms and factors that can contribute to it). Thirst is a symptom of dehydration... you should NOT wait until you are thirsty to drink water. It takes the body at least 20 minutes to absorb the water, so don't think you can wait until a player is dehydrated and then quickly fix the problem. This is something you must stay in front of.

If a player becomes dehydrated, drinking water or a sports drink won't immediately solve the problem because it takes time for the body to absorb the fluids. If a player is dehydrated, they should rest and drink fluids until they recover. The best fluid for hydration is plain water because it is absorbed fastest, but it isn't that simple. To avoid dehydration fluids must be drunk BEFORE thirst occurs (thirst is a symptom of dehydration). It can take 20 minutes for water to be absorbed and the time can vary by person and situation. See the guidelines from Gatorade below and articles number 1 and 3 below for guidelines for fluid intake before, during and after practice and games.

**5. What do you recommend?** First of all, I'm not sure anything is necessary for players younger than age 8. For older players who are actively practicing or playing, I recommend the following:

a. Coaches and parents should be pro-active and not only bring water to games and practice but insist that players **drink it before, during and after the game, and drink it before they are thirsty.** This is important not only for health but for performance.... your team will play better if they are "hydrated". (Everyone seems to agree on this).

b. Have players drink plain bottled or tap water at least 20 minutes BEFORE the game so they are hydrated. I recently read an article that says a study by the University of North Carolina found that it takes 20 minutes for 8 ounces of water to hydrate the body. The point was that you need to drink it before you really need it. In the study they tested triathletes. Those who drank 24 ounces of water at least 20 minutes before the run averaged 1 minute 19 seconds faster in the run than those who drank the water right before the run. Water drank right before the run didn't have enough time to be absorbed for optimal benefit. (Everyone seems to agree that this is a good idea.)

c. During the game until halftime, about every 15 minutes have the players drink about 3 to 7 ounces (depending on their weight) of water or a diluted sports drink such as Gatorade that contains sucrose and not high-fructose corn syrup. (This is my opinion based on my research.)

d. Based on what I read, I recommend against giving players fruit or fruit juice at any time prior to or during a game or practice. First, some children are allergic to some fruit, especially oranges. Second, it's messy and creates a mess for someone to clean up. Third, it is full of sugars and if they eat the fruit it has to be digested. Fruit juice apparently doesn't have any more benefits as fast energy than sugared drinks, but it does have potential problems. Here is what the American Academy of Pediatrics says: "drinking too much juice can contribute to obesity, the development of cavities (dental caries), diarrhea, and other gastrointestinal problems, such as excessive gas, bloating and abdominal pain."

e. At half time, if players need energy, give them some full strength sports drink (say 3 to 7 ounces) that doesn't contain high-fructose corn syrup. Unless you know of a better one, I recommend Gatorade Thirst Quencher (ideally prepared from the powdered mix, but my opinion is that the liquid is better than Powerade). If you feel that provides too much sugar, dilute it with water. OR, as an alternative, give them some candy such as Skittles (sugar and corn syrup), Creme Savers (sugar and corn syrup) or Smarties (dextrose). Limit the amount so they get about 4 to 8 grams and have them also drink water – the research seems to indicate that digesting too much candy might cause a slow down in the absorption of water, but I'm not sure about that. (This is my opinion based on my research.)

f. Let the Goalie take a squirt water bottle into the goal and leave it in the back of the goal...that is allowed.

g. Tip for a hot day: Buy a garden sprayer at Home Depot or Lowe's (a new one, not a used one), wash it out good and run water thru it, and taste the water yourself to be sure it's clean. Put cool water in it and spray the player's arms at half time and when they are subbed. I did this and it really seemed to help cool them down. Recruit a parent to do this.

h. **A VERY important warning:** Do NOT put a long-sleeved Goalie jersey on a player when it is really hot...they will overheat. The rules don't require a special Goalie jersey, only a different colored shirt, so you can use a T-shirt or put a mesh "Pinnie" over the normal shirt.