

Stay Hydrated, Stay in the Game

Fall is setting in and the heat is heading out, but there are still some hot days ahead. It is important that athletes stay hydrated to keep performing at a high level and to stay healthy. Here are some easy tips to follow on how to ensure proper hydration and to stay fueled on the field.

What you need to know:

- Younger adolescents should drink 3-8 fluid ounces of water every 20 minutes of sport participation
- Older adolescents should drink up to 10-12 fluid ounces of water every 20 minutes of sport participation
- Check the athlete's weight before and after sport, for every pound lost 16-20 fluid ounces of fluids are needed to properly rehydrate.
- Sports drinks are helpful energy sources when sports last around 90 minutes or longer, otherwise, water will work.
- When there are multiple practices or games in a day, fully rehydrating between events may be too much liquid for the stomach to handle. Follow in-game hydration guidelines and hydrate some between events, then use the weight check method at the end of the day to see what else is needed.
- For multi-event days try to get a snack that has a high glycemic index and contains a total of 40+ grams of combined carbohydrates and protein, but a minimum of 8 grams of carbohydrates and 10 grams of protein are needed to activate the accelerated nutrient absorption post activity. Consume within 30-60 minutes post activity. The snack can be solid or liquid.

The details:

1) Drink during games or practice whenever you get a chance, not just when you are thirsty.

Thirst typically sets in at a 2% loss in body weight/water weight. When there is greater than a 2% loss in body weight during an athletic event performance starts to decrease. Relying on thirst alone may allow the athlete to drop into a dehydrated state. Adolescent athletes have been found to sweat 1 L (33.8 fluid ounces) per hour of sport and older adolescent athletes have been found to sweat in excess of 2.5 L per hour of sport. Consuming this volume of fluids during activity may cause an upset stomach so a combination of fluid intake during the game/practice and proper post-activity hydration is needed. During activity 3-8 fluid ounces of water every 20 minutes in younger adolescents and up to 10 to 12 fluid ounces of water every 20 minutes in older adolescents are recommended.

2) Check weight and slightly overhydrate after practices or games.

Checking an athlete's weight before and after a game or practice can help give a good estimate of the volume of fluids needed to rehydrate for the next day. 16 to 20 fluid ounces (up to 24 fluid ounces in some cases) of fluids are needed for every pound lost during activity to regain hydration. The excess fluid intake is needed to counterbalance the bolus of urination that will occur with the high volumes of fluids being consumed after activity. Getting these fluids in is most important when there is going to be another bout of physical activity in less than 12 hours, when another sport event won't be happening for 12 hours or more athletes should be encouraged to drink fluids, but specific volumes don't usually need to be monitored.

3) Sports Drinks?

Sports drinks provide some electrolytes, but more importantly carbohydrates (fuel) during exercise. Sports drinks are designed to optimize carbohydrate absorption into the body during activity without upsetting the stomach or stealing vital energy for digestion needs. Sports drinks are recommended if activity will be lasting around 90 minutes or greater, otherwise water will typically do the trick. In situations where sports drinks are warranted there should be a combination of water and sports drinks consumed, not just sports drinks alone.

4) How to stay hydrated and fueled on tournament or multi-event days?

For hydration, trying to drink the high volumes recommended to regain hydration post activity in section 2 may cause stomach upset. It is best to follow the guidelines in section 1 during activity and then drink a tolerable amount of fluids between events in order to remain hydrated without upsetting the stomach. At the end of the day, check the athlete's weight and use the hydration methods in section 2 to make up for the fluid loss during the day.

If there is not going to be a practice or game within 24 hours after the last event then eat and drink normally. When there are multiple events in a day fuel becomes more important. There are endless recommendations and foods that can be found to help stay fueled, but here are some of the basics. After exercise (including games and practices) there is a 30-60 minute window where the body absorbs nutrients at an accelerated rate. In this time frame athletes need to consume a snack to help recover best. This snack should include a combination of carbohydrates and proteins and be fairly low-fat (fats can slow nutrient absorption). There has been a lot of research on proper carb to protein ratios and there are many studies finding the same outcomes with ratios ranging from 1 carb : 1 protein to 3 carb : 1 protein. The more important factor is what kind of carbohydrate. The key here is **high glycemic index carbohydrates**. A quick google search will find massive lists of these, but basically a high glycemic index carb will be absorbed quickly and a low glycemic index carb will absorb slowly and remember the goal is fast absorption. When you search you are looking for foods that have a glycemic index of 70 or higher. Then they need to be paired up with some protein (or check to see if there is already protein in the foods). In terms of volume the snack needs to be just that, a snack. It should not be upsetting the stomach or making the athlete feel slow. There should be at least a total of 40+ grams of combined carbohydrates and protein, but a

minimum of 8 grams of carbohydrates and 10 grams of protein are needed to activate the accelerated nutrient absorption post activity. This snack could be liquid or solid.

Remember, these are some basic guidelines. There are more advanced methods of fluid and nutrient monitoring and there are also various recommendations on how much or how little nutrients are needed. Stay hydrated, stay healthy, stay in the game!



Resources:

- National Athletic Trainers' Association Position Statement: Fluid Replacement for the Physically Active. 2017
- Hydration in the Pediatric Athlete – How to Guide Your Patients. Bergeron, M. 2015.
- National Strength and Conditioning Association resources.