

Importance of Sports Hydration

At the beginning of the season, before athletes are heat acclimated, excessive heat and physical activity can result in fluid losses of up to 3L/hr. (Riebl and Davy, 2013)

It is not uncommon for an athlete to lose 6-10% of body weight in sweat loss. (Popkin, D'Anci & Rosenberg 2010) Evaporation of sweat from the body results in cooling of the skin. However, if athletes are not drinking enough water to compensate for the sweat loss, especially during vigorous physical activity in the intense heat, **dehydration** can easily occur.

Early signs of dehydration include:

\triangleright	increased fatigue	\succ	cramps	\blacktriangleright	reduced cognitive
\triangleright	reduced endurance	\succ	irritability		function (concentration,
\succ	reduced motivation	\succ	anxiety		alertness, and short-term
\triangleright	increased perceived	\blacktriangleright	depression		memory)
	effort	\blacktriangleright	altered thermoregulatory		
\triangleright	headaches		capability		
Mature signs of dehydration include:					
\succ	migraines	\succ	heartburn or upset	\succ	back and joint pain
\succ	Constipation		stomach		

Roll of Electrolytes

Athletes who lose copious amounts of fluids through sweat require more than plain water to replenish hydration. The body loses salt and other minerals while sweating intensely. The results of hyponatremia (a dangerous drop in the sodium levels in the blood), include: headache, vomiting, swollen hands and feet, restlessness, undue fatigue, confusion, disorientation, and wheezing. As sodium levels drop further, the chances of swelling of the brain increase and can cause seizures, coma, brain stem herniation, respiratory arrest, and even death. (Sawka, Burke, Eichner, Maughan, Montain, Stachenfeld 2007)

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Recommendations

- > Throughout the day, ensure your child is drinking pure, filtered water
- > Avoid dehydrating caffeinated drinks, sugary drinks, and fruit juices
- > Know and watch for the early signs of dehydration
- > Assess your child for dehydration (see below)
- Add a few pinches of unrefined sea salt (Pink Himalayan, Celtic Light Grey Sea Salt, Redmond's, etc.) to your child's water bottle to replenish sodium and other electrolytes lost during practice. It is unlikely they will notice the added salt as, during periods of excessive sweat loss, it is natural to crave salt.

Simple Hydration Test:

Have your child stand with their hands at their sides. Look at and feel the veins in their hands. Keeping your child's arm straight out in front of their body and slowly raise their hand to the level of their heart. The veins should stay largely the same. If the veins shrink or disappear, your child's hydration status is likely inadequate.

Replacement Electrolyte Drink:

- ≻ 64 oz water
- 3-6 pinches of unrefined sea salt
- > 20 drops of Trace Minerals ConcenTrace Trace Mineral Drops
- ➤ juice of half a lemon

**Please note: The amount of water needed varies per individual. It is often said that urine should be clear and colorless as a sign of adequate hydration; however, colorless urine is an indicator of over-hydration. Too much water can flush much needed electrolytes from the body, which can be just as detrimental as dehydration. Urine should be clear, however, it should be straw colored or pale yellow - not colorless.

References:

- 1. Riebl, S. K., & Davy, B. M. (2013). The Hydration Equation: Update on Water Balance and Cognitive Performance. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4207053/
- 2. Popkin, B. M., D'Anci, K. E., & Rosenberg, I. H. (2010). Water, Hydration and Health. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2908954/
- 3. Sawka, M. N., Burke, L. M., Eichner, E. R., Maughan, R. J., Montain, S. J., Stachenfeld, N. S. (2007) Exercise and Fluid Replacement. Medicine & Science in Sports & Exercise. American College of Sports Medicine. DOI: 10.1249/mss.0b013e31802ca897

