

## Hot Topics in Sports Medicine

### Over Hydration

For quite some time, athletes have been advised on what to do about fluid replacement and preventing dehydration, muscle cramps, heat exhaustion, heat stroke and other negative health consequences when exercising in the heat. However, there has been a recent focus on the other side of the issue—the consumption of too **much** fluid.

Over hydration, also called water intoxication, is a condition where the body contains too much water. Prolonged periods of excessive drinking may cause an increase in blood fluid volume which leads to a lower blood sodium concentration. This can result in behavioral changes, confusion, drowsiness, nausea, vomiting, weight gain, muscle cramps, weakness/paralysis and risk of death. In general, over hydration is treated by limiting fluid intake and increasing the salt (sodium) that is consumed. If over hydration is suspected, a doctor should be consulted for appropriate testing and treatment.

Fluid intake during exercise should never exceed sweat loss and the basic recommendation is that athletes should not consume more than one quart of fluid per hour. To minimize dehydration, athletes should weigh (nude) before and after exercise and then drink enough fluid to return body weight to the pre-exercise level before the next workout. In general, one pint (16 oz.) of fluid is needed for each pound of weight lost during exercise.

The rapid dilution of blood sodium levels from normal may lead to a syndrome called hyponatremia, a potentially life-threatening medical condition. During prolonged or intense exercise, blood levels of sodium can be diluted by excessive fluid intake alone or in combination with a sodium deficit due to high losses of sodium in the sweat. Underlying low kidney function and diabetes can also be a factor in the development of hyponatremia. Symptoms of hyponatremia are similar to dehydration, exertional heat exhaustion and exertional heat stroke and may include confusion, disorientation, headaches, nausea, vomiting, loss of appetite, impaired coordination, muscle cramps and muscle weakness. Complications of severe hyponatremia include swelling in the brain which can result in seizures, coma and cardiorespiratory arrest.

It is important to note that one can be hyponatremic without being sick or in any danger, true in the majority of cases. Having modest hyponatremia is like having slightly elevated blood pressure. It's not good, one is still alive and probably does not even know they have it.

Recommendations for prevention of hyponatremia include ingesting the correct amount of fluid for the activity (the most important method) and consuming adequate salt through diet or beverage consumption.

*Source: GA Athletic Trainers Association and Exercise Science Professionals*