

All-Navy Sports: Hydration

Hydration for All-Navy Sports

Arguably, water is the most effective sports performance enhancer. Dehydration by just two percent of your body weight will make you slower, weaker and less able to focus on your sport. For a 150-lbs athlete, this is a loss of just three pounds during a training session! According to the American College of Sports Medicine, athletes can dehydrate by up to 6% during exertion in extreme heat conditions even when water is available to them!



Fortunately, dehydration is easily preventable. One of the best ways to stay adequately hydrated is to know your sweat rate and to replace the sweat while you're losing it. A simple method to estimate your sweat rate is to weigh yourself naked before a 60 minute training session and again after your training session. The training session should emulate the intensity and temperature that you'll exert on race or game day. For every pound of weight lost you should add 16 ounces of fluids per hour to your next training session. For example, if you lost one pound in your hour long workout, add four ounces of fluid every 15 minutes to your next workout to prevent excessive water loss (a mouthful is about 1 fluid ounce). Four ounces every 15 minutes equals 16 fluid ounces per hour.

Example

- **150 lbs athlete plays basketball for 60 minutes and drinks 20 fluid ounces while playing.**
- **Weighs 149 lbs after practice despite drinking the 20 fluid ounces.**
- **Athlete needs an additional 16 fluid ounces to reduce/prevent weight lost during the next 60 minute practice or game.**

***This basketball player needs a total of 36 fluid ounces per 60 minutes in similar temperature.**

Divide 36 fluid ounces by 4 to find out how much fluid should be consumed every 15 minutes.

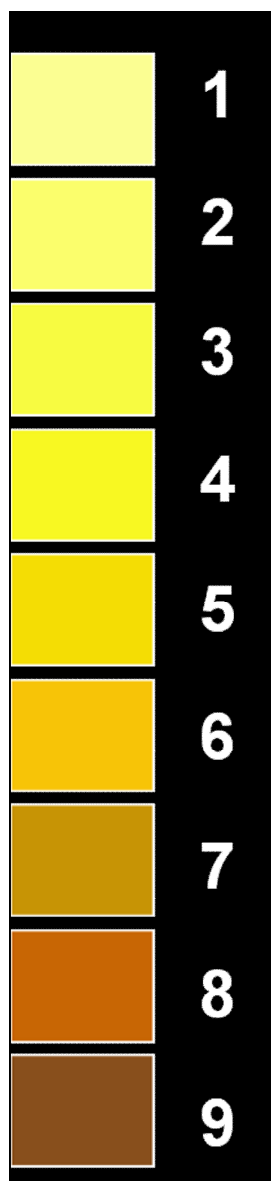
9 fluid ounces should be consumed every 15 minutes to minimize dehydration.

- It's important to note that individual sweat rates change with seasons, climate, clothing worn, intensity of training, individual sweat rates and age.
- Avoid gaining weight from water consumption while exercising. Excessive water consumption can lead to a condition called hyponatremia or water toxicity (low sodium levels from dilution of sodium). Add sports drinks, blocks, beans or gels to workouts lasting longer than an hour.

All-Navy Sports: Hydration cont.

It is inevitable that at some point in training or competition, an athlete will lose weight due to poor planning or a rapid change in climate. If this happens, a good recovery strategy to replace lost fluids is to consume 16-24 fluid ounces for every pound lost. Water is fine, but low-fat flavored milk is a great recovery beverage too. Chocolate or strawberry milk is a great way to rehydrate with necessary fluid and electrolytes while also providing fast absorbing carbohydrate and muscle repairing protein, not to mention calcium, vitamin D, B-vitamins and more! If an athlete is lactose intolerant, flavored soy milk, lactose free cow's milk or a lactase supplement (enzyme which breaks down lactose) can be used. Popular recovery bars and beverages are also convenient and helpful, but real food is still the best performance aid.

When you're not training, aim to drink at least one fluid ounce for every two pounds of body weight. Thus, the 150 lbs athlete should drink approximately 75 fluid ounces per day. Again, this may not be as accurate in hot climates or during certain seasons. A simple, yet relatively reliable method to determine your hydration status is to observe your urine color. It should resemble a light yellow color such as hay. If you're looking at the color chart below, your pre-exercise urine color should be the color that is consistent with number 3. If you're darker than this, closer to five or six, you need to consume two to three cups of fluid before engaging in activity (a cup is 8 ounces). After consuming a couple of cups of fluid, recheck your urine color. It important to also check your urine color again after activity. If you hydrated properly, it should still be consistent with a color less than six. Activity is not an excuse to dehydrate. Proper precautions need to be followed.



Monitor Your urine

- Pre-exercise urine should be about a 3
- If your darker than a 5 or 6, increase liquid consumption

Types of Fluid

Choosing the right fluid for your practice or competition has never been more confusing. With waters, flavored waters, sports drinks, vitamin enhanced waters, soft drinks and many other

options available, athletes can easily become overwhelmed. Gone are the days of water only or water and sports drink. Or are they? Well, it depends. A quick and easy formula to remember is, if you're activity is going to be less than an hour, then water-only is fine. Just be sure to eat a meal or snack within a couple of hours of beginning the activity. If your activity is going to be longer than an hour, your body needs electrolytes and fluid plus carbohydrate. This is where sports drinks have made their mark and rightly so. They are convenient, they taste good and they are effective at providing the needed nutrients, but that doesn't mean they're required! Food is a great source of electrolytes and carbohydrate. If you're sport has a half-time or you get time sitting on the bench, pack granola bars, peanut butter and jelly sandwiches, fruit, crackers and almost anything else that you know your body can tolerate during sport. Any of these

snacks and water will work just fine at providing you with the necessary nutrients to keep you going.

Remember that there are some times when your body just can't keep up with hydration needs because of the weather. The situations in the graph to the right highlight some of the times when you or your teammates are at a greater risk of having a heat incident such as dehydration or heat stroke. When a diligent hydration schedule is not followed, dehydration can occur.

Risk Factors for Heat Illness

- 2-a-day workouts
- 80+ degrees F
- 40%+ Humidity
- Un-acclimated
- Dehydrated
- Warrior Mentality
- Some supplements such as fat-burners



There are three levels of dehydration: mild, moderate, and severe. Several cups of water and a well-balanced meal will cure most cases of mild dehydration. If a person is moderately dehydrated, symptoms include very dry mouth, sunken eyes, and poor skin turgor. Poor skin turgor is when the skin does not bounce back quickly when lightly pinched and released. Severe dehydration symptoms include a rapid pulse, low blood pressure, cold hands and feet, rapid breathing, blue lips, confusion, or extremely lethargic behavior. If you suspect moderate dehydration accompanied by fever, vomiting, or diarrhea, it is extremely dangerous and should be monitored closely. Electrolyte solutions and freezer pops are especially effective and are available at most pharmacies. Sport drinks contain a lot of sugar and can cause or worsen diarrhea, which can lead to severe dehydration. If you suspect severe dehydration, you must get to a hospital immediately. Intravenous fluids will quickly reverse dehydration.

If you don't know your sweat rate:

- **Drink at least 16 ounces of water about 2 hours before activity.**
- **drink another 4-8 oz. of fluid 5 to 10 minutes prior to activity.**
- **During activity, drink 8 oz of fluid every 15 - 20 minutes.**
- **Afterward be sure to drink 16-24 oz of fluid for every pound of body weight you lost.**

***It is important to eat a snack or drink sports drink when exercise or sweating exceeds 60-90 minutes.**