

The Importance of Hydration

The human body is more than 70 percent water, and this fluid carries out almost every function that is vital for life. It is used to maintain internal body temperature, lubricates joints, and removes waste from the body (“Hydration”). Water is constantly being used, and therefore lost, throughout the day, so it is incredibly important to replenish the supply as much as possible. Hydration is simply the combining of water with another substance, in this case the body (“WordNet”). Practicing good hydration can lead to a faster and more productive digestive system, can help fight off illness, and keep vital organs like the heart, brain, kidneys, and liver working efficiently (“What Are the Benefits”). When hydration is mentioned, the first thing that comes to mind is athletes and their fluid intake, but it is just as important to examine how to stay adequately hydrated during everyday activities.

There are countless beverages available that claim to be the best at rehydration. Water however still reigns supreme as the best choice for replenishing daily losses of fluid (“Proper Hydration”). It contains 100 percent of what our bodies need to replace what has been used. Also, most water has some slight trace of other minerals that can help to replace what trace amounts were used throughout the day. Juice comes to mind as another logical idea for a hydration beverage. However, just because juice is made with water does not guarantee it will hydrate like water. The fruit sugar, or fructose, within juices is very high and reduces the rate of water absorption so it takes longer for cells to receive the needed amount to be hydrated (“Proper Hydration”). Coffee and tea are other beverages made up of mostly water but have no true value for hydration. The caffeine within these are not particularly hurtful, but cause more frequent urination, which takes away from the water within the body. The scientific reasoning behind this is that coffee and tea act as diuretics, which causes more water to be pulled from the blood

stream by the kidneys that in turn fill up quicker, causing the aforementioned problem of more frequent urination.

Energy drinks are the most infamous of all drinks geared toward energy boosts. They contain Taurine, which acts to boost the kick of the caffeine and make you feel more alert. Other notable ingredients in energy drinks aimed at increasing energy levels are ginseng, guarana (a natural herb meant to have the same effect as caffeine), and sugar, lots and lots of sugar. According to Brian in his article, “Energy Drinks: Ingredients and Dangers”, sugar makes the body feel full even when it is not. The huge amounts of sugar in energy drinks makes the body feel full and in turn prevents the brain from signaling that it needs more fluid for hydration. Also, energy drinks are meant to mess with the body’s chemistry to allow the drinker to feel more alert. Like alcohol, energy drinks can have different effects on different body types. Some people may feel no side effects while others can feel jittery to the point that they have uncontrollable seizures. Therefore drinking energy drinks is as much as alcohol. In some schools, like the Westfield High School in Virginia, have taken the initiative to ban energy drinks as it has had negative effects on their athletes. During a soccer game, some players had to leave the field via ambulance because of respiratory distress, nausea, and vomiting (“School Tells Energy Drinks”); proving that energy drinks can have potentially harmful side effects.

Among energy drinks on the list of inadequate hydration beverages rank soda and alcohol. Sodas, for example, have very little healthy aspects about them to begin with and chock full of carbohydrates, sugar, and caffeine (“Proper Hydration”). Each of these in excess inhibit the body’s ability to absorb water so having all in one drink will end up reversing the process of rehydration. Finally, alcohol has even more carbohydrates than soda, doing nothing more than dehydrate the body. As one site sarcastically puts it, “alcoholic beverages are better for hydration

than, say, seawater, but that's about it" ("Proper Hydration"). Case in point, for everyday activities and fluid loss, water is the single best beverage for hydration.

Why haven't sports drinks, like Gatorade and Powerade, been mentioned yet on the list of hydration beverages? The answer is because they are exactly as they are labeled: sports drinks. They offer more benefits to athletes doing rigorous physical activity than to non-athletes who just need to replenish slightly diminished water supplies. The main components of a sports drink are water, sugar, and electrolytes. Water is the main ingredient because the point of a sports drink is to hydrate. Sugar, or glucose, is added since our bodies break this down to create energy, a helpful addition for athletes who need to keep going. Finally, electrolytes, like sodium, potassium, calcium, magnesium, and phosphate work at the cellular level to regulate water flow between the membrane and body and need to be replenished since they are lost through sweat ("Sports Drinks"). To gain the most benefit from what sports drinks have to offer, it's generally recommended that they be consumed before, during, or after high intensity activity for more than an hour. Athletes like marathon runners, football players, and similar strenuous activity competitors use more carbohydrates, sodium, and potassium than those engaged in normal intensity workouts ("Effectiveness of Sports Drinks"). Sports drinks provide calories and sugar for more energy, electrolytes to replace those lost through perspiration, and other vitamins to increase the effectiveness of cells during respiration.

There still are some negatives to sports drinks which must be observed and taken into account in planning the proper hydration for the body. Since sports drinks are high in sugar like high fructose corn syrup, used for flavoring, it can cause insulin levels to spike. If this occurs it's possible to contract cancer, diabetes, and other diseases. However the chances of this happening

are very rare and shouldn't deter any rigorous athlete from pursuing sports drinks as a hydration beverage.

Different athletes should observe different schedules for remaining hydrated. For endurance athletes, like runners, swimmers, and cyclists, it's recommended to start hydrating adequately at least one week before an event, with the two days prior being the most critical ("Proper Hydration"). Unlike other athletes, more water will be lost because the length of the exercise far exceeds those of normal athletes. During their event, they need to be sure they are replacing key electrolytes, as they will prevent muscle cramps. For general athletes, there are three parts to hydrating: before, during, and after. Before any of them even begin to work out, they should begin drinking some fluid, about 8-10 ounces, fifteen minutes before exercise. Secondly, while exercising, another 8-10 ounces should be consumed at about fifteen minute intervals. Finally, after you exercise, weigh yourself to determine how much weight in water was lost. Once determined, drink about 20-24 ounces for each pound lost. Since endurance athletes will lose far more water throughout their exercise, they should observe slightly different guidelines.

If at all an athlete or non-athlete does not sufficiently hydrate them self, they could become dehydrated. Simply put, dehydration is the depletion of the body's water supply (WordNet). Luckily, it's relatively easy to spot the signs of dehydration both while exercising or carrying out daily routines. The easiest and most effective gauge for determining your hydration level is to examine your urine. If it is lightly colored, that means it's diluted with water and your body is trying to flush out the excess, signaling you are hydrated. However, if it is dark colored, that means that there are more waste products since the body does not have efficient supplies of water to fill their place, thus signalling dehydration. Other signs of dehydration include

dizziness, muscle cramps, vomiting, or dry mouth (“Athletes”). Not heeding these signs can lead to even more severe dehydration, which can have crippling effects on your health. Heat illness can occur during this point and has three stages: heat cramps, heat exhaustion and heatstroke (“Athletes”). Heat cramps are the least damaging of the three and include painful muscle spasms in the abdomen, legs, and arms. With heat exhaustion, one can expect to feel incredibly faint or weak, a rapid rise in pulse, and excruciating headaches. Finally, if your heat illness is allowed to progress to heatstroke, you could expect to experience abnormally high body temperature, rapid breathing, delirium, loss of consciousness, or even crippling seizures. If these are left untreated, heatstroke could possibly lead to death, a high price to pay simply for not drinking enough fluid to stay hydrated.

When I participate in sports, especially football, my coaches stress to no end the importance of drinking our fluids. They would constantly remind us to go home and drink up on water so we could recover and be at full capacity tomorrow for practice. Generally this would include a short speech on staying away from sodas, and especially those heart-attacks-in-a-can: energy drinks. Thankfully, I have always heeded their warning and never had to experience dehydration. What I have realized though is that there really isn’t a considerable difference between drinking Gatorade and water to stay hydrated while practicing. I do however tend to drink more of the sports drink because it has flavor, which ends up bringing more liquid into my body.

On a daily basis, my favorite beverage to drink when I’m thirsty is milk. It’s always cold and has a little more taste than water. I drink about six to eight pints a day because milk is a staple in all my meals. I don’t plan on cutting down or drinking more milk but after my research I plan to drink more water since I seem to not drink as much as I should. When I was at West

Point and Boys' State over the summer, I had to carry a water bottle with me constantly. I never realized how thirsty and how often I really needed or wanted a drink of water until then. Since water is not always at my side in my everyday life, I tend to neglect the quick minute where I wish I could have a drink. I've come to just ignore my body's need for water and just drink it once I feel parched. I could definitely strive to drink more fluid and stay as hydrated as my body wants me to be.

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