

Hydration – How Much Water is Enough?

Introduction

Water: life depends on it. But how much water is enough?

When we want to lose weight, one of the first things mentioned is that we should drink 8 glasses of water a day. What about when we are working outside on hot and humid days? Do we need more? How much water is really needed not only to quench thirst but for optimal health?

Come to think of it, could we really survive after a hedonistic night, on a rooftop in Las Vegas, in the broiling summer heat for a day without water as was portrayed in 2009 movie The Hangover? A hangover would be the least of your problems!

Water and Biology

We all learned in basic biology that our bodies are mostly water. To be a little more precise, water makes up one-half to one-third of the average person's weight. When we come into the world and into early childhood, water makes up 70% of our bodies. As we age, that number decreases (women's bodies are 52-55% water and men's bodies tend to be 60% water). If more of our weight is from fat, there is a lower percentage of water.

For a 150 pound man, there are 10 gallons of water in his body. 6-7 gallons are actually in the cells; roughly 2 gallons are around the cells, and just less than 1 gallon is in the bloodstream. These proportions allow the body to operate efficiently.

What is De-hydration?

Generally speaking, de-hydration is when there is not enough water in the body; a water deficit. When this occurs, the water moves from inside the cells and into the bloodstream to maintain the blood volume and pressure. If you start to feel dizzy, that is an indication that your body is not as able to maintain this pressure. If no water is forth-coming, there can be damage to the internal organs – the kidney, liver, and brain are particularly susceptible to these changes. More immediate symptoms include: dry mouth, muscle cramps, heart palpitations, the eyes quit producing tears, and inability to sweat.

How Much is Enough?

So what about those eight glasses of water a day? We need 1 milliliter of water for each calorie (a measure of energy) that we use each day. Nutrition guidelines use 2000 calories as an average amount of energy used daily when determining recommended daily allowances of various minerals and food ingredients. 2000 calories equates to 67.6 ounces of water per day – thus the requirement for 8 glasses daily. For normal activity, if we use that as a guideline, we can prevent de-hydration and the onslaught of other health issues such as the development of kidney stones.

Is it likely that we can drink too much water? For most individuals, there is no difficulty getting rid of any excess water – it is much harder for the body to conserve the water that it needs.

Water Sources

The liquid in our body comes from the food we eat, and by drinking water, fruit juices, and caffeine free tea and coffee. However, it is important to know that all liquids are not equal. Caffeinated beverages (coffee, sodas, tea drinks) and alcoholic beverages are diuretics - so you end up urinating most of the liquid you have consumed.

Where Does the Liquid Go?

We lose between a pint and several gallons of water a day through urination – all depending on the body's needs. Another 1.5 pints evaporate from our skin or are exhaled through our lungs – just from normal activity in a day. When we are not feeling so well, we can lose over a gallon of water from diarrhea or vomiting.

There is more evaporation (okay, we sweat more) on hot days and when we exercise – so we need to increase the amount of water we take in. The amount of increased sweat varies by individual, but can be as much as 8 liters! When we are in climates with low dew points, we may not feel hot and realize the need for additional fluids. In these cases, by the time we feel like we need a drink, we are already de-hydrated. If your pee is bright yellow, you need to drink more water!

Can I Over Hydrate?

Not likely. Remember, the body is much better at getting rid of excess liquid than conserving it. You would have to drink more than six **gallons** of water a day on a regular basis to exceed the body's ability to excrete the excess liquid (assuming normal kidney function, of course). If you are drinking that much water in a short time, you will want to pay attention to your electrolytes. These help the body maintain the right concentration of minerals and water in the cells. This can also be a concern if you are sick and lose excess liquid through diarrhea or vomit – if you replace the liquid only through water, the minerals are diluted.

Don't Count On Movies for Accuracy

So the poor bridegroom in Las Vegas would NOT have been able to quickly recover and make it back for his wedding. Dehydration can cause lasting damage to your kidneys, liver, and brain and is very easy to prevent. Drink your eight glasses of water a day – and if you are working outside or sweating, increase that amount. It really is that simple.

References

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