## Hydration - Everything You Need to Know!

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How much water are we supposed to be drinking and what is the best way to consume this amazing liquid? 8 cups, 12 cups, every 20 min, every hour, cold, hot, infused, purified, spring water, Evian, Fuji, sip, gulp, the list goes on. We all have our opinions, but to be honest hydration is different for everyone. Lets start with water itself. Our bodies are composed of varying amounts of water ranging from $60-80 \%$ with the highest percentages being in the heart, lungs, brain, muscles, and blood. Every biochemical reaction in our body needs water. It bathes every cell in and ultimately allows life to occur. It is made up of one positively charged oxygen and two negatively charged hydrogen atoms; it is because of these charges that it is able to create an inter molecular force between other molecules and creating a network helping send information forwards. Water is able to dissolves nutrients and gases the body needs, while taking away wastes. It uniquely repels fats which helps create compartments in the body that are necessary for different purposes (every cell membrane is fat based!). Need I say more - water is essential for life!

## Signs \& Symptoms of Dehydration:

- Increased thirst, which may be confused with hunger, especially a craving for sweets
- Dry mouth / bad breath (less saliva can lead to increased bacterial growth)
- Fatigue
- Headache
- Dizziness / low blood pressure
- Poor memory and reduced visual motor skills
- Dark urine and /or decreased urination
- Constipation
- Muscle contractions (as calcium and potassium cannot be transported in and out of the muscle tissue without water present)
- Chronic nerve pain (again the nerves require the movement of calcium and potassium across their membranes in order to fire properly)
- Joint pain (water helps bring protein and nutrients to the synovial fluid and takes away waste; chronic dehydration can lead to joint pain)


## How much water do I need?

Everyone is going to be different so pay close attention to the signs and symptoms above, but on average women should aim for about 8.5 cups pre day and men 11.5 cups. A quick rule of thumb is to drink half your weight in ounces; so, if you weigh 120 lbs drink 60 ounces or 7.5 cups and if you weight 200lbs drink 100ounces or 12.5 cups.
The maximum amount the kidneys can process per hour is one liter, so don't drink all your daily water requirements in one go! I typically recommend patients to drink a large glass of water first thing in the morning to help the kidneys flush any toxins and wastes your body has liberated over night. Then during the day drink about 1/2-1 cup per hour (4 large gulps). If you are exercising intensely you should be having 2-3 cups of water per hour at approximately 20 min intervals.

## How much is too much?

--> more than 1 liter / hour is too much! This only causes extra work for your body, especially your kidneys. Another thing to watch for is hyponatremia (low salt levels in the blood). If you are sweating extensively you really need to be using an electrolyte solution, preferably with magnesium! See the recipe below:

## Better than Gatarade Electrolyte Recipe:

- $1 / 8$ tsp no salt-salt (potassium chloride) Option: instead use a high potassium juice: carrot, pomegranate, orange, or tangerine
- $1 / 8$ tsp sea salt (sodium chloride)
- $1 / 2$ cup pure fruit or vegetable juice
- 1 L purified water
- 200mg Magnesium Bysglycinate (optional)

Mix together and drink during periods of excessive sweat / dehydration.

## 7 Hydration tips:

1. Try herbal teas instead of coffee, green, or black tea.
2. Infuse your water with a cinnamon stick, strawberries, cucumber, mint, etc. to give it extra flavour as well as a few minerals. Personally, I love using a cinnamon stick.
3. It is ok to have a few sips of water with your meals, but a glass or two may interfere with the digestive process; wait 1-2 hours until hydrating again.
4. Buy a water bottle you love that is $1-2$ liters. I prefer clear so I can see how much water is left. Carry it with you all day long periodically checking in and taking a few gulps (4 gulps / hour is optimal!).
5. A straw will help you drink water more quickly - try it you will be surprised! Also, if you or your little ones have trouble swallowing supplements try dropping them into a glass of water and use a bubble tea straw to suck them up.
6. Reduce intake of ice-cold water unless in a hot yoga class or are experiencing a fever. Scientific studies show that cold water acts on the vagus nerve to slow down the heart rate as well as reduce body temperature.
7. If you are drinking water, but still do not feel hydrated try an electrolyte solution (see the recipe above!).

## References:

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