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# HYDRATION: *the drop hollows out the rock*

Small, but regular hydration can have long-lasting effects



# The power of water



One of **nature's most potent forces** is **water**. It has sculpted valleys, carved rivers through rock, and formed the earth's very features over millions of years. Water, however, changes not only the environment but also each and every cell, organ, and function in our body.

More than **60%** of the **human body** is made up of **water** (*73% of the heart and brain and roughly 83% of the lungs, 64% of the skin, 79% of the muscles and kidneys, and 31% of the bones*), which is important in every process from **digestion** and **detoxification** to **mental clarity** and **emotional well-being**.

[The Water in You: The Water in Human Body](#)



Source: Own collection



**Exercise: Take a minute to focus on yourself. Are you a cactus or a waterfall? Is your body indicating any sign of dehydration?**



# The importance of hydration



**Water balance** is crucial for **homeostasis**, with most intake occurring through food and drink and about 10% generated during cellular metabolism. The kidneys play a key role in regulating water output, adjusting urine concentration based on the body's hydration needs. *Antidiuretic hormone* (ADH) aids in retaining water by enhancing kidney reabsorption when hydration is low.

## ROLE OF PROPER HYDRATIONS:

Regulating body temperature

Improved physical performance

Preventing against infections

Keeping joints lubricated

Delivering nutrients to cells

Keeping proper functions of organs

Enhanced cognitive function

# Water balance



Dietary consumption, degree of physical activity, age, health, and environmental factors all affect water balance. Deficits and excesses can happen even though the total body water balance is strictly controlled throughout the course of a day.

## Dehydration

**Causes:** Insufficient fluid intake, excessive fluid loss from sweating, vomiting, diarrhea, or medical conditions like diabetes.

**Risks:** Dehydration can result in electrolyte imbalances, reduced blood pressure, kidney stones, urinary tract infections, and heatstroke. Chronic dehydration may contribute to organ damage

**Symptoms:** dry mouth, extreme thirst, dark urine, fatigue, dizziness, and confusion. Severe cases may cause fainting, rapid heartbeat, or shock

VS

## Overhydration

**Causes:** Excessive water intake without electrolyte balance, medical conditions like kidney issues or heart failure, or hormonal imbalances that limit fluid regulation (e.g., syndrome of inappropriate ADH secretion).

**Risks:** Overhydration can dilute electrolytes, leading to hyponatremia (low sodium levels), brain swelling, seizures, and in extreme cases, death.

**Symptoms:** nausea, vomiting, and headache. Severe cases can lead to confusion, seizures, and coma.

# Does only water count?



When you're thirsty, **water** is always the best option. However, there are other choices as well:

- **Coconut water** which is rich in electrolyte;
- **Herbal teas** like peppermint, hibiscus;
- **Diluted fruit juices** without added sugars;
- **Milk** both dairy and plant-based options (like almond or oat milk) contain electrolytes and protein, aiding hydration and recovery;
- **Isotonic drinks** replenish water and electrolytes lost during intense physical activity.

## Myth - buster

*Tea and coffee are dehydrating*

Both contain caffeine which increase the urine production. However, the effect is temporary because is soon after consumption. Caffeinated drinks do not cause dehydration if consumed in moderation (up to 300–400 mg of caffeine daily). This indicates that consuming up to four cups of brewed coffee per day has no effect on your level of hydration.

Moreover, **coffee** is a **source** of vitamin B2 (riboflavin), **magnesium**, polyphenols including chlorogenic acid and quinic acid.

Coffee

# Hydrating food

## Fruits:

- ✓ watermelon,
- ✓ strawberries,
- ✓ melon,
- ✓ oranges,

## Vegetables:

- ✓ cucumbers,
- ✓ celery,
- ✓ tomatoes,
- ✓ zucchini,

**can contain even up to 90–95% water.**

Moreover, yogurts (Natural and Greek) provide water and electrolytes such as calcium and potassium.



# Take care of your hydration



place stickers reminders  
use phone alarms turn it into challenge or game  
use hydration apps  
keep water bottle nearby  
use reusable, fancy water bottle

## What's one change you can make to stay hydrated?

celebrate milestones drink glass of water in the morning  
use bottle with time markers  
add fruits/herbs to water



# References and find out more!



- [The Water in You: The Water in Human Body](#)
- Riebl, S., Davy, B. (2013). The Hydration Equation: Update on Water Balance and Cognitive Performance, ACSM's Health & Fitness Journal, 17(6):21–28.
- The Nutrition Source [Coffee](#)
- Anatomy and Physiology [Water balance](#)

**Thank you 😊**



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