



**Mind Body Balance**  
Your Global Fitness And Well-Being Studio

### **Waters function in our body:**

- Regulates body temperature
- Carries oxygen and nutrients to cells
- Lubricates joints and protects spinal cord
- Flushes out waste products through kidneys and liver
- Serves as the medium for all energy reactions in the body
- Cushions organs and tissues
- Promotes digestion and helps prevent constipation
- Transports minerals throughout cells of the body

### **Dehydration's Effect on the Cardiovascular System**

- Decrease in Cardiac Output
- Decrease in Heart Filling
- Decrease in skin blood flow
- Increase in heart rate
- Decrease in blood volume
- Decrease in blood plasma osmolality
- Decrease in stroke volume
- Increase in blood viscosity
- Decrease in plasma volume

# Water: Do we take it for granted? Do we really understand how important it is?

## Basic Facts:

Water is the most abundant part in our body, we are made up of 50%-60% water. Water controls numerous functions in the body (see side bar). It is a necessity for all digestion and absorption functions plus it lubricates mucous membranes in the gastrointestinal and respiratory tracts.

Water is the medium for most chemical reactions in the body, especially metabolic reactions involved in energy production. What does our body use as coolant to help regulate temperature during exercise, fever, hot environments, etc.? Water! What cushions between joints, the spinal cord and the brain? The components are mostly Water!

## Water Storage?

Water is stored in Intracellular fluid or extracellular fluid compartments. What does that mean? Intracellular or (ICF) is inside a cell and extracellular or (ECF) is outside the cell. The ICF accounts for about 65% of our body's water supply and ECF accounts for about 35% and is made up of blood plasma and lymph, which serves as a transport medium for waste and nutrients throughout the body.

Minerals such as chloride, potassium and sodium participate in the maintenance of ICF and ECF levels and this process is overseen by hormonal messages from the brain and the kidneys. So lets say a molecule becomes too concentrated in a fluid compartment, it will pull water from the other compartment to dilute itself. For example, have you ever eaten pizza and been very thirsty. The sodium in the sauce, cheese and meats accumulates in the ECF pulling water from the ICF and our cell sensors says to the brain "We are dehydrating please send fluids." So the brain or the hypothalamus sends a signal to us "Hey start drinking some water."

Pretty neat! I bet you wont ignore that signal again!

## What really should our water intake be?

Start with what we lose every day. Everyday we lose close to a liter of water from breathing, perspiring and bowel movements. The average adult urine output is about 1.5 liters a day. So the Institute of Medicine lists Adequate Intake of total water for a sedentary man and women (19-50 years) is 3.7 liters and 2.7 liters per day.

Drinking fluids represents about 81% of total water intake and 19% of water being provided by foods. So the actual intake of fluid is 3 liters for men and 2.2 liters for women. Men are advised to drink 13 cups of



fluids (101.4 oz) of beverages / drinking water per day. Women are advised to drink 9 cups per day (74.4 oz) of beverages / drinking water per day. For girls 14-18 years 9.5 cups (77.7 oz) per day and boys 14-18 years 10 cups (81.1 oz) per day.

## Dehydration

Signs of dehydration are light headedness, headache, loss of appetite, flushed skin, dry and sticky mouth, fatigue, dry eyes, muscle weakness, burning sensation in the stomach, dark urine with a strong odor. As it worsens — clumsiness, sunken eyes, dim vision, muscle spasms, etc.



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## F.A.Q. About Water

### **1. Why do you need to drink more water with air travel?**

Airplanes have less moisture because of the recirculated air. Couple this with high altitudes and you have water loss through evaporation. Make a general rule of thumb to drink a cup of fluid for every hour flying.

### **2. Why do men have a higher percentage of water in their bodies than women?**

Because men have a larger mass of muscle and muscle is about 75% water.

### **3. Sometimes I sweat a lot and sometimes I don't sweat at all while working out. Why is that?**

It can be very different depending on the differences in environment such as heat, humidity, the intensity of your workout, duration you worked out, mode of exercise, your type of clothing, etc.

### **4. How much water can be lost in an hour of exercise?**

A light workout in a cool environment your sweat rate is about 3.4 oz. A vigorous workout in a hot environment your sweat rate is about 100 oz.

### **5. How does age affect hydration?**

As we get older we lose our ability to detect hydration simply by the feeling of thirst. So older adults really need to monitor their fluid intake, especially if you relocate to warmer or dryer location.

## Water and Health/ Disease?

There are studies that have been done that may link dehydration to such diseases as: Kidney stones, Cancer of the Bladder and lower Urinary Tract, Colo-rectal Cancer, Breast Cancer and Clinical Health.( i.e., diarrhea, vomiting, climatic stress) Our hydration affects mental and physical performance as well. Take on the lifestyle change today to start adding water back into your routine.

## Endurance Exercise and Hydration?

The American College of Sports Medicine (ACSM) newest position on fluid replacement is to emphasize three key components: Pre-hydrating before exercise, Hydrating during exercise, and Re-hydrating after exercise.

**Pre-Hydrating** is making sure that before any activity is started you have the proper level of hydration in the body. This can begin about 4 hours prior to the event.

**Hydrating during the event:** The goal is to prevent excessive water loss or disparities in electrolyte balance to the working muscle cells.

**Re-hydrating:** The goal is to replace any fluid loss during the event.

Water is found all over our environment and we couldn't exist without it. Len Kravits is quoted as saying "The unique properties of water place limits on our physiology and anatomy while simultaneously providing the opportunities for physical activity, exercise and life. We know a great deal about the substance we depend on, yet there is still so much more to learn about the mysterious molecule we call water."

Source: The science of water: Nature's most important nutrient authored by Len Kravitz PhD IDEA Journal 2008

Thank you Charles Bagwell, owner of Zerwell Energy, Inc. for inspiring me to write about water!



## Up-Coming Events at Mind/Body: Balance:

**Intuitive Eating Tele-Conference**

**Get A Grip/ Aging Gracefully Tele-Conference**

**Diabetes Education Tele-Conference**

**All Events are limited space only! Please call Kim today at 734-777-5927 to reserve your spot today and to find out more details.**

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