



## The Role of Water in the Body

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Water is the primary chemical component of the life.  $\frac{3}{4}$  of the earth's surface is covered with water and human beings are about 65%. Every one of our body's tissues and organs, as well as every one of the body's sustaining processes, such as thinking, nerve function, cellular communication, blood circulation, temperature regulation, digestion, locomotion and elimination, requires water in order to function properly. The necessity of water, its role in health and life and its ability to stimulate and support healing is immense.

### *Properties of Water*

Most people take water for granted. They see it as a simple basic substance; nothing could be further from the truth. Water is one of the most versatile and complex substances in nature. Its properties include:

**Neutral Component:** The water molecule is electrically neutral. It contains both positive and negatives charges. This makes a hydrogen atom always available to "stick" to another element in order to balance its energy. Water plays an essential role in maintaining the acid-alkaline balance within the body. Whenever this balance is disrupted chemical reactions within the body are disrupted resulting in symptoms or the development of disease. The optimal pH level of water is about 6.5-6.8, or slightly acidic.

**Versatile:** Water is the only substance that is found as a gas, liquid, and solid in the normal temperature ranges found on the Earth's surface. The water molecule is in permanent motion and is perpetually exchanging energy with whatever it comes in contact with.

**Universal Solvent.** Water can dissolve more substances than any other liquid - that's why it is essential not only for many metabolic functions, but also for life on earth. As water circulates it dissolves rocks, minerals and all organic materials, providing salts and oxygen to all living bodies. Water is the primary means by which chemicals, hormones and nutrients are dissolved and transported throughout the body.

**Redox Potential** indicates whether the water has the capacity to donate electrons to the body. Available electrons in water provide energy to the body by way of cellular respiration and an oxygen-dependent process known as the Krebs cycle. The body needs electrons to make necessary chemical reactions happen. Electrons also come from food, but it is essential that we drink water to provide energy-rich electrons to help replenish and maintain the high proportion of water our body needs.

**Resistivity** is a measure of the mineral content of water. Ideally, water will have a resistivity of at least 6,000 ohms, which indicates a fairly low mineral content. Minerals from water are poorly absorbed compared to those found in our foods, so water with a high mineral content can put undue stress on kidneys and other organs and tissues in the body.

**Buoyancy:** Water gets denser as it cools (like most things) but only down to 4° C (39.2° F) and then its density decreases as the temperature continues to go down and it freezes. That is why ice floats on water. Imagine what would happen with sea life without this water feature.



# Naturopathic Foundations

**Heat Capacity:** Heat capacity is the ability to gain or lose heat without changing form (go from solid to liquid or liquid to gas). Water has the highest heat capacity of all common liquids and the highest latent heat capacity of any common substance. Latent heat capacity is determined by the amount of extra energy you have to put into a liquid to change its state from solid - liquid - gas. This property of water makes it an effective coolant for the human body via evaporation or perspiration, extending the range of temperatures in which humans can exist.

## *Why Is Water Essential?*

Every system in the body depends on water. When you're born you are about 90% water as an adult that percentage drops to about 60%. The average water content of different parts of the body is as follows: muscles 75%, blood 82%, lungs 90%, brain 76% and bones 25%. With disease the amount of water within the body decreases. The following are some of the physiological functions that water serves in the body:

***Moistens tissues:*** Water provides a moist environment for all mucous membranes including the ear, mouth, nose and throat tissues. It lubricates joints and is the base for saliva and all other fluids.

***Protects organs and tissues:*** Every single living cell is made up of water (intracellular fluid) and is surrounded by water (extra cellular fluid). Water acts to cushion and support organs and tissues.

***Increases overall energy:*** The chemical properties of water make it the primary energizer of all functions in the body. It manufactures hydroelectric energy at the cell membranes all over the body, particularly in the neurotransmitter system. Water transfers its hydrolytic energy to elements as they are broken down so that the body can use them. Water is also the adhesive that bonds cells membranes. Therefore, it plays an all-encompassing role in energy metabolism and the physiologic functions of the body.

***Cellular transmission:*** Through its hydrolytic properties, it breaks down all elements to their primary constituents for absorption into the system for further use, for example, proteins to amino acids, starch to sugar, and fats to fatty acids. Water dissolves minerals and other nutrients to make them accessible for transport to every cell in the body.

***Cellular Communication:*** Thoughts, emotions, nervous system transmission thought to be transmitted by water. Making water the primary mode of cellular communication.

***Regulation of Body Temperature:*** The heat capacity of water controls the regulation of body temperature through perspiration and sweating and by shivering.

***Excretion of Toxins:*** There are a number of ways the body eliminates toxins including urine, bowels, sweat, breath and menses and water is the primary constituent of them all. The presence of water is responsible for flushing out toxins and waste products.



# Naturopathic Foundations

## *Assessing Water Imbalances*

Water is an element of movement. It is responsible for flowing movement within the body. It facilitates transformation, change and the ability of the body to cleanse. It is associated with nurture, compassion and intuition.

A mere 2% drop in your body's water supply affects physiological and energetic functions of the body. It is estimated that the majority of people are mildly or chronically dehydrated. Mild dehydration manifests as fatigue, lack of energy, headache, dry mouth, chronic pain, constipation, muscle weakness, excessive thirst, dizziness and light-headedness

Chronic Dehydration is associated with heartburn, arthritis or joint pain, lower back pain, high blood pressure, heart attacks, high blood cholesterol, migraines, asthma, colitis pain, diabetes and depression.

On a more energetic level, the lack of water is associated with a sense that a person is stuck, that their life is not flowing very easily, it is associated with a sense of heaviness or congestion or a loss of creativity or desire for nurturing. Water imbalances often show up physically as issues with weight, lack of movement within the body either at a cellular or physical level.

Whenever there is a literal or figurative sense of a lack of water it is best to start with drinking water, initiating flowing movement, water exercises or body work.

Water, on its own, is one of the safest and most effective healing tools available.