The human body consists of 60-80% water, depending upon age and hydration status. This water is continuously replaced largely by the water we drink and less so from the food we eat. The rate of this replacement is increased in athletes and active people. The average inactive person drinks about 2 liters of water per day while athletes may drink 6-11 liters on training days. Therefore, we are what we drink! If we drink polluted water, we become polluted people and suffer an increased burden of degenerative disease, cancer, and developmental disorders! In addition, it has been estimated that nearly 20 million people will acquire an infectious disease from contaminated water in the U.S. each year.

A recent expose by the New York Times revealed that most of our water supply in the U.S. has been polluted by various small and large industrial processes. The ongoing “Toxic Waters” theme can be found at http://projects.nytimes.com/toxic-waters.

The EPA has admitted that the Clean Water Act and Safe Drinking Water Act have failed to accomplish their goal of establishing healthy water for the U.S. population due to inadequate regulatory limits and the inability to effectively enforce the regulations that do exist and prosecute violators. Some drinking water, in fact, meets the criteria for waste water or even toxic waste!

Therefore, it is up to the individual citizen to protect oneself. To this end, a brief discussion of water sources and filtration technology follows.

**Water Sources:**

**Spring Water:**
Spring water is groundwater which passes through various geological strata and material (sandstone for example) to become surface water. Sandstone and other materials act as filters and help to improve the purity of the groundwater and balance mineral content. Water is an important source of numerous trace minerals necessary for health. Spring water, therefore, has the potential to be of optimal water quality with little to no harmful contaminates or micro-organisms and ideal concentration of healthy minerals.
However, spring water is hard to come by and the bottling and transport of spring water to the consumer greatly diminishes the preferability of this source (see bottled water below). You can check to see if there is a spring water source near you at www.findaspring.com. If you find a local spring, ensure that the water is periodically tested and contains no contaminants (springs can be contaminated like all other groundwater and surface waters). Store this water in glass or stainless steel containers, not plastic.

Municipal Water:
Municipal water typically originates from surface water sources (rivers, lakes, reservoirs, etc.) and is treated primarily to remove micro-organisms and organic material. This treatment is generally effective in eliminating the risk of infectious disease from drinking municipal water, but some micro-organisms may occasionally persist (cryptosporidium being the most common). Outbreaks occasionally do occur from municipal water contamination.

The most concerning pollutants present in municipal water, however, are disinfection byproducts and fluoride fortification. Disinfection byproducts include trihalomethanes (like chloroform), chloramines, haloacetic acids, bromates, aldehydes, and others. Though usually present in trace amounts, evidence suggests that many of these compounds are carcinogenic and chronic exposure may be harmful. Some municipal water treatment plants are beginning to use cutting edge technology such as microfiltration and UV treatment, which results in fewer disinfection byproducts, but this technology remains quite rare.

It is advisable that each individual get to know the water sources and disinfection technology used for preparing one’s drinking water. Fluoride fortification is a controversial issue but the evidence is equivocal in demonstrating the anti-cavity benefit of fluoridated water and the potential risks of thyroid disorders and bone cancers, though small, argue against this practice. Further, dental caries are much more effectively prevented with low glycemic and alkaline nutrition as well as regular dental care. Recently, trace levels of pharmaceuticals have been found in municipal water sources.

In order to minimize the impact of these disinfection byproducts, any persisting micro-organisms, fluoride, and drugs on health, filtration of municipal water is recommended at the tap or for the whole house. See filtration technology below.
**Well Water:**
Well water consists of groundwater with or without additional water treatment. Well water can contain natural and anthropogenic contaminates that are extremely harmful to health. Arsenic, heavy metals, and radon can be naturally present in the groundwater. Surface water contamination from industrial sources (agriculture, manufacturing, mining, etc.) can become groundwater contamination as well and may include pesticides, fertilizer byproducts, nitrates, microorganisms, and various chemicals. Human activity can also be involved in exacerbating natural contaminates. Recently, for example, surface mines in Bangladesh, India, were found to be the source of the cities’ tragic history of severe arsenic poisoning.

It is recommended that all well water be tested by a water specialist for both naturally occurring and anthropogenic contaminates. Depending upon the findings, more involved mitigation technology may be needed. At the least however, it is recommended that all well water used for drinking be filtered. See filtration technology below.

**Bottled Water:**
Much of the bottled water commercially available to consumers is actually municipal water, packaged in plastic bottles, extremely marked-up, and branded. Therefore, drinking municipal tap water is just as good and much more affordable. Further, water sitting in plastic bottles, and transported in high heat environments, becomes contaminated with various plasticizers and other chemicals which leach from the bottle. Many of these compounds (BPA, phthalates, dioxins, etc.) are known to have harmful consequences. Therefore, bottled water is generally discouraged.

There are some brands of bottled water, however, which do originate from pristine springs and are packaged in glass bottles. These are preferable brands of bottled water and reading the label is necessary to distinguish these higher quality waters from competitors.
Common Filtration Technologies:

**Carbon filtration:** Carbon filters offer the most cost-effective and least wasteful filtration option. Whole house systems are available to filter all household water or at the tap drinking water filters can be used. The later are inexpensive and easy to install. An example of one brand is the PUR water filters found at most hardware stores. Carbon filters do a good job in removing most organic pollutants, industrial chemicals, and micro-organisms. Further, they leave the mineral in the water. Water is an important source of several trace minerals necessary for health. Carbon filters generally work well for filtering municipal water. However, some viruses can pass through carbon filters and some contaminants such as arsenic, heavy metals, and fluoride are not adequately removed if these pollutants are present at significant levels. Carbon filters are generally not adequate for well water.

**Reverse Osmosis:** Reverse osmosis uses a semi-permeable membrane which only allows H2O to pass through. Therefore, RO filters are highly effective at eliminated nearly all pollutants and would be the best choice for well water and or municipal water with concerning levels of contaminates. It is also the best choice for those wishing to remove fluoride from municipal water. The major limitations of RO filtration is the expense of the systems, the labor of installing them, the enormous amount of water wasted (50-80% of filtered water), and the removal of healthy minerals. It is recommended that those drinking RO water take a trace mineral supplement and, of course, eat a diet rich in vegetables. A reasonable approach to better conserve water is to use RO only for drinking water and a carbon filter for other household uses.

**Love for water:**

The water on our planet becomes the water within us and we are fully dependent upon this water for the continuation and quality of our lives and all life. Potable fresh water is not an endless resource and is not provided by nature at any given moment or in all habitats. Water is something to thirst for and then relish and ration when it is available. The loss of humility toward nature is one reason we have the terrible pollution and scarcity of water we see today. The absence of any perception of being dependent upon nature’s self-purification and replenishment of life giving fresh water may eventually leave us dying of thirst. Millions of people around the globe only have access to polluted and unsanitary water. Death from water-borne infections is the leading cause of death in children. Meanwhile, golf courses in the desert spray higher quality disinfected water on the grass. When we use water, every drop needs to be seen as life supporting nourishment. Don’t waste it. Be thankful it is there for you and
conserve it and ration it. We need to live where we live and not attempt to turn our surroundings into a tropical rainforest.

Rounding Out Our Water Ecology

1. Use somatic wisdom, be sensitive to thirst, and drink to thirst. Does water sound good? If yes, then drink some!
2. Know municipal sources and your regional watershed: Know where your water comes from and understand how weather, seasons, climate change, anthropogenic modification (dams, reservoirs, aqua ducts, etc.) and water use affect your local water.
3. Avoid manufactured drinks: Only harm can be found here.
4. Drink tea, organic: If needing a change from water, tea is a great option. Of course look for local, organic teas if possible.
5. Careful with caffeine and alcohol: Moderate your intake and look for local organic options.
6. Let your lawn reflect the local ecosystem. Use native plants and do not rely upon sprinklers and watering for maintenance. Consider xeroscapes, avoid fertilizers, herbicides, pesticides, etc. Don’t try to keep up with the Joneses.
7. Shower and bath only as needed. Daily showering is not always necessary. Showers can be extremely brief for rinsing off sweat or dirt. Let skin oil and healthy microflora nourish the body and moderate cutaneous physiology. Avoid excessive use of soaps and scrubbing. Avoid anti-microbial soaps and soaps or products with additives and fragrances. Use glycerin based soaps and products with simple natural ingredients. Avoiding excessive hygiene and allowing skin oils to remain balanced will dramatically reduce the need for moisturizers and other skincare products. If these are used, use 100% natural and raw moisturizers like shea butter.
8. Swim! In the ocean, a lake or pond, a river. Do this frequently.