

ALKALINE WATER: If You Fall for This "Water Fad", You Could Do Some Major Damage

By Dr. Joseph Mercola

Clean, pure water is a cornerstone of good health. Your body is mostly water, so the ongoing intake of water is essential to your every function. It's common knowledge that most water sources are now polluted, but there is tremendous confusion about what kind of drinking water is the most health promoting, and what kind of home water treatment produces the best drinking water. Today, too many people are choosing soda instead of pure water as their primary beverage, and the health of an entire culture is at risk.

The number one source of calories in the US comes from high fructose corn syrup primarily in the form of soda. Americans drink an average of one gallon of soda each week, and this excessive fructose consumption is a driving force behind obesity and chronic degenerative disease in this country. The most practical and economical strategy to combat obesity and chronic disease is to replace all sodas and other sweet beverages with pure water. The trouble is, most public water supplies are loaded with hazardous contaminants, such as disinfection byproducts (DBPs), fluoride, and pharmaceutical drugs, to name just a few.

Nevertheless, you DO need to make water your beverage of choice if you want to be healthy - but it should be purified water. But beyond water filtration, there's also the issue of pH - alkaline versus acidic water. There are quite a few astonishing health claims being made about alkaline water, but are they true? Most of them are not.

The theory behind alkaline water is, in a nutshell, that alkaline (ionized) water is a powerful antioxidant with surplus electrons that can "mop up" the dangerous free radicals you have coursing through your veins. Marketers claim alkaline water can correct excess acidity in your tissues, which can then prevent or reverse cancer, arthritis, and other degenerative diseases.^[1]

Recently I interviewed Houston Tomasz on this topic. He's a 10-year veteran in the water filtration industry and this article expands on some of the items that we discuss in our interview. The segment is part of a much longer interview that we will air in future issues. Additionally, I have interviewed two other experts on this topic and they both agree that ionizers that produce alkaline water are not your best choice.

'Snake Oil on Tap'

When I posted a comment on my Facebook page, announcing I was interviewing Houston, I asked for questions and the most popular question by far was whether or not to drink alkaline water.

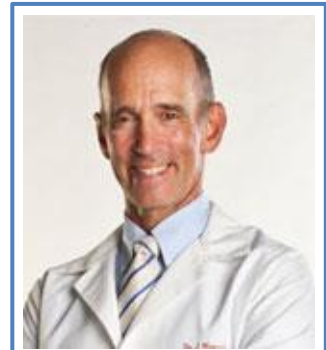
Many alkaline water enthusiasts are convinced its powers are unparalleled and will vehemently defend it. I am also certain that many will post vigorous objections to my position, and that is their choice. It is also my choice and responsibility to provide information on a system that many people are relying on to provide health benefits that I feel are unjustified. One cannot look at the alkaline value alone to determine the value of the water. While many of the best waters should be slightly alkaline, it has much more to do than pH alone.

There are a plethora of testimonials and so-called scientific studies on the Internet claiming alkaline water will cure you every ill. Many consumers, struggling to make sense of the scientific jargon, eventually throw up their hands in frustration. The reality is, most of the circulating information is distributed by clever marketers, with very little scientific validity to back up their claims.

Complicating matters is the fact that most water alkalizers are being marketed by multi-level marketing (MLM) companies with less-than-stellar ethics. They sell you a very expensive machine, for which you get a good discount if you sign up as a rep, and once you're part of the MLM, you can't very well change your mind about its benefits (especially if you're going to sell the units) - even if you realize that the alkaline water is no longer "working" for you.

I have been personally approached many times and encouraged to sell these systems and there would have been large revenue streams had I chosen to do so, but I would never promote anything that I would never use personally, and I can assure you that I would never use most of the machines on the market that produce alkaline water as a regular source of water.

Some people experience an initial "high" when they start drinking alkaline water. This can easily be attributed to detoxification, and the fact that they are likely just becoming better hydrated. Detoxification is about the only benefit of this type of water, and this benefit is limited to very SHORT TERM USE (no more than a week or two). I will elaborate on what is known about alkaline water, but first you'll need a basic understanding of the properties of water and a few definitions.



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Types of Water Available to You

As I will review in a future interview with Houston, there are many reasons why you want to avoid drinking tap water, or as Daniel Vitalis, a raw water enthusiast, refers to it: “tap liquid.” He believes calling what flows from your unfiltered tap “water” is being overly generous, and I would have to agree.

In terms of types of water, here are some basic definitions to keep in mind:

- **Purified water:** Water that is physically processed to remove impurities (e.g., distillation, deionization, reverse osmosis, carbon filtration, etc.)
- **Distilled water:** Water that is boiled and evaporated away from its dissolved minerals, and then the vapor is condensed.
- **Bottled Water.** This water is typically from a spring or has gone through reverse osmosis before it is bottled. However, some brands are simply bottled tap water that may or may not have gone through any additional filtering.
- **Alkaline water:** Water that has been separated into alkaline and acid fractions using electrolysis, which takes advantage of the naturally occurring electric charges found in the magnesium and calcium ions in the drinking water industry.
- **Deionized or demineralized water:** Water in which the mineral ions (salts such as sodium, calcium, iron, copper, chloride and bromide) have been removed by exposing it to electrically charged resins that attract and bind to the salts.
- **Hard and soft water:** Hard water is any water containing an appreciable quantity of dissolved minerals; soft water is treated water in which the only cation (positively charged ion) is sodium.

Understanding pH

The concept of the acidity or alkalinity of your body - or of water - is based on the pH scale. So it's necessary to have a basic understanding of what pH is.

pH is simply a measure of the concentration of hydrogen ions. In fact, the acronym “pH” is short for “potential of hydrogen.” The higher a liquid's pH, the fewer free hydrogen ions it has; the lower its pH, the more free hydrogen ions it has. One pH unit reflects a tenfold change in ion concentration - for example, there are ten times as many hydrogen ions available at a pH of 7 than at a pH of 8 ^[iii].

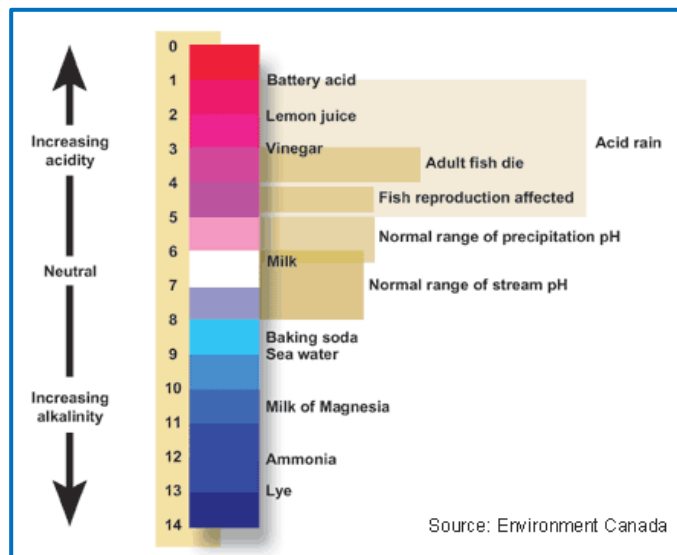
The pH scale goes from 0 to 14, and a pH of 7 is neutral. Anything with a pH below 7 is considered acidic, with battery acid being the most extreme example, around 1. Anything with a pH above 7 is alkaline (or basic), with lye at the top of the scale, around 13. ^[iii]

Natural water on our planet ranges in pH from 6.5 to 9.0, depending on surrounding soil and vegetation, seasonal variations and weather, and even time of day responses to sunlight. Human activities further influence the pH of our water, from the barrage of toxic industrial pollutants.

According to an educational website called [Water on the Web](#):

“Pollutants in water can cause it to have higher algal and plant growth, as a result of increased temperature or excess nutrients, causing pH levels to rise. Although these small changes in pH are not likely to have a direct impact on aquatic life, they greatly influence the availability and solubility of all chemical forms in the lake and may aggravate nutrient problems. For example, a change in pH may increase the solubility of phosphorus, making it more available for plant growth and resulting in a greater long-term demand for dissolved oxygen.”

Most aquatic animals and plants have adapted to life in water with a very specific pH, and will die from even slight changes. **A pH below 4 or above 10 will kill most fish**, and very few animals can tolerate waters with a pH below 3 or above 11 ^[iv]. With living systems being so sensitive to changes in pH, it should come as no surprise that YOU, as another living organism on this planet, would be sensitive to your water's pH as well.



Guidelines for the pH of Your Drinking Water

So, what are the recommendations for optimal drinking water pH? The WHO (World Health Organization) has published a nearly-600 page document called “[Guidelines for Drinking-Water Quality](#).”^[v] In this voluminous tome, you would expect to find everything you’d ever want to know about your drinking water, right? Well, everything EXCEPT a pH recommendation - *there are no health-based guidelines for pH!* They state that pH usually has “no direct impact on consumers,” yet they also write pH is one of the “most important operational water quality parameters.” They do recommend your water pH be in the range of 6.5 to 8.0 so as not to corrode your pipes - and they’re NOT talking about your body’s plumbing:

“Alkalinity and calcium management also contribute to the stability of water and control its aggressiveness to pipe and appliance. Failure to minimize corrosion can result in the contamination of drinking water and in adverse effects on its taste and appearance. Failure to minimize corrosion can result in the contamination of drinking water and in adverse effects on its taste and appearance.”

It appears that the WHO is more concerned about the pipes in your house than the pipes in your body. Most likely the optimal pH of the water you were designed to drink is somewhere between 6.5 and 8. Above or below this level may have other purposes, such as disinfection, but I would be careful drinking water outside of these ranges.

Alkalinity Research I: Flora and Fauna

Although the research is clear that highly alkaline water has detrimental effects on plants and animals, there are not many studies with humans. A review of the literature turns up a variety of anecdotal evidence about the importance of pH to various living organisms, however, and as you might expect, optimal pH varies, depending on the organism.

The scientific literature indicates pH is important for nutrition and vitality. For example:

- [Michigan State University studied greenhouse growth media](#) (including the pH of that media), finding it is extremely important for the media pH to be properly adjusted prior to planting. Too high of a pH (greater than 6.5) increases the chances of micronutrient deficiencies. Too low of a pH (less than 5.3) results in calcium and/or magnesium and/or manganese toxicity.^[vi]
- [Ohio State University Extension Service](#) reports that alkaline water affects a plant’s ability to obtain nutrients from the soil and can alter the soil’s pH over time.^[vii]
- [An ecological study in the Netherlands](#) found that an influx of alkaline water led to the demise of a native plant called *Stratiotes aloides* L.^[viii]
- Fish chronically exposed to alkaline soft water exhibit signs of stress (sometimes fatal), while fish in alkaline hard water experienced no such adverse effects, according to [a study at the University of British Columbia](#).^[ix]

If you are a gardener, you can view a helpful illustration of the environmental effects of pH in your own garden. If your pH is low, your hydrangea produces pink flowers, but if your pH is high, you’ll get blue flowers. But what about us bipeds?

Alkalinity Research II: Humans

There has been a great deal of debate about battling cancer by making your body alkaline. This has become a focus of interest as cancer rates have skyrocketed (along with many other chronic, debilitating diseases), while our bodies have become more acidic from our processed-food diets. The scientific research about the benefits of alkalinity is by no means conclusive.

pH appears to have a major influence on cell mitochondria:

- Normal cells die under extremely alkaline conditions. [A study published in the *Journal of Biological Chemistry*](#) found that alkalosis (rising cellular pH) causes alkaline-induced cell death as a result of altering mitochondrial function.^[x]
- [Another study out of Cornell University](#) states that antioxidants have not proven to be effective against many neurodegenerative diseases, and they state it may be a result of how the mitochondria operate within the cell in certain pH conditions.^[xi]

There are some scientific studies that really *argue against alkalinity*, at least with respect to preventing or treating cancer. Consider the research by Robert Gilles, who has studied tumor formation and acidity.^[xii] According to Gilles, tumors, by their very nature, make themselves acidic - even in an alkaline cellular structure. In other words, they make their own acidity.

Scientists who are in the process of developing prototypes for potential new anticancer agents that selectively [kill tumor cells by interfering with the regulation of intracellular pH](#), have found that alkaline treatments do NOT have the desired effect - *but strongly acidic treatments do*.^[xiii]

Talk about fighting fire with fire - they are fighting acid-loving cancer cells with acid! LESS alkalinity inside a cancer cell seems to be what you want, not more. So, all of those salesmen promising alkaline water will lower your cancer risk are completely clueless when it comes to what the scientific research actually shows.

Even more interesting is a [2005 study by the National Cancer Institute](#), which revisits the use of vitamin C (ascorbic acid) to treat cancer. They found that, in pharmacologic doses administered intravenously, ascorbic acid successfully killed cancer cells without harming normal cells.^[xiv] This is yet another example of cancer cells being vulnerable to *acidity, as opposed to alkalinity*.

It's clear that the relationship between alkalinity and cancer has been grossly oversimplified by those jumping to premature conclusions - and of course by those trying to profit off your fear. The bottom line is that alkaline water isn't cancer's magic bullet.

Balance Is Key

As is true with many things, in the end it's a matter of balance. **Water that is too acidic or too alkaline can be detrimental to human health and lead to nutritional disequilibrium.** This was demonstrated in a [Swedish well water study](#) ^[xv], which found both pH extremes to be problematic. Your body simply was not designed to drink highly alkaline water all the time.

So I believe it's best to be VERY careful when it comes to something as foundational as the water you drink on a daily basis. If you get it wrong, you could really cause yourself some major damage. It makes sense that you are designed to drink water that occurs naturally, which excludes alkaline water with pH levels of 8 and above.

And if you drink alkaline water all the time, you're going to raise the alkalinity of your stomach, which will buffer your stomach's acidity and **impair your ability to digest food**, as low stomach acid is one of the most common causes of ulcers. This can open the door for parasites in your small intestine, and your protein digestion may suffer. It also means you'll **get less minerals and nutrients over time** - in fact, some of these health effects can already be seen in hardcore alkaline water drinkers.

Alkalinity is also potentially a problem because it is antibacterial, so it could potentially **disrupt the balance of your body's beneficial bacteria.** ^[xvi]

Living Water

What you want is pure water - water that is clean, balanced, and healthful, neither too alkaline nor too acidic. Ideally, the pH of your water should be somewhere **between 6 and 8**. And some of the most healthful waters in the world - that which emerge from mountain springs - are actually acidic in the range of 6.5 and would absolutely be my preference if it were readily available. This mountain spring water is 'structured' in a way that is not well understood. I hope to have more information about structured water in the near future. If this is something that interests you there is a web site, [FindaSpring.com](#), where you can find springs in your local area.



That is "living water," which is living in the same way that raw food is "living food." One reason I am such an advocate for eating plenty of fresh, organic raw food is for its biophotons. Biophotons are the smallest units of light, which are stored in and used by all biological organisms - including you. Vital energy finds its way into your cells from the biodynamic foods you eat.

In the same way that raw foods are alive with biophoton energy, natural water is "alive" in a similar way. If you really want to alkalinize your body, it would seem wise to encourage it with the highest quality water possible, which is obtained from vegetable juice. Green vegetable juices will help your body normalize your body's pH naturally. If this is new to you and you are interested in more information, you can review my juicing manual for free.

I cannot think of "living water" without thinking of the visionary work of Dr. Masaru Emoto, the Japanese researcher who experimented with the crystal forms of water. What he discovered is that different forms of energy influence water's ability to organize into beautiful crystal forms.^[xvii] He demonstrated that **water crystallization depends on the natural health of the water**. He found that water from natural springs, healing water sources, etc., formed beautiful and complex crystalline geometries - like snowflakes. Water that had been distilled or polluted lost its inner order, and its ability to crystallize was profoundly disturbed.

You wouldn't want to eat dead food... so why would you want to drink dead water?

Optimizing Your Body's pH: Back to Basics

The typical American diet is loaded with sugar and processed foods, which throws off your body's ability to optimize your pH. Although your body has mechanisms to buffer your pH, many of you are likely living in a state of low-grade acidosis from eating too many low-quality processed, devitalized food. Our

ancestors had no problems with pH because they ate a pre-agricultural hunter-gatherer diet, rich in plant foods and high-quality meats, and devoid of grains. You can optimize your body's pH by eating like your ancestors did - a diet rich in raw, organic, whole foods - and this will help your body achieve homeostasis.

Remember, there is no one-size-fits-all nutrition plan that works for everyone, which is why "Nutritional Typing" is so helpful. Determining your nutritional type will help you narrow down the foods that are best for YOUR body's individual chemistry. A diet that makes one person "acidic" may make another person "alkaline," so there is no one single universal food list for perfect pH.

For example, protein types can "over-alkalize" their systems by consuming too many dark green vegetables, which can worsen rather than improve their health, in spite of the many beneficial phytonutrients in leafy greens. (I am very familiar with this mistake as it's one I made prior to understanding nutritional typing!) I want you to be aware of just how important it is to understand your body at a deeper level. Your body is a complex, multi-faceted biochemical system that is unlikely to respond well to shot-in-the-dark treatments, like alkaline water.

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