



# Benefits of Alkaline Water



by Peter L. Kopko, D.C., and other contributors



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## Introduction

Due to the industrial excesses of modern society, our water has been “treated” with so many chemicals in order to make it “safe” that it has been rendered a lifeless, tasteless liquid. Chemically, it is still  $H_2O$  but the positive qualities of water found in nature have been lost. Ironically, many of the chemicals used to make our lifeless water “safe” such as chlorine make our water toxic!

The good news is that toxic, lifeless water can be restored to its healthy natural form. By filtering out toxins, and ionizing water you can transform tap water into the healthy ionized water that is found only in a few places on Earth. Ionized water is charged with antioxidant hydroxyl ions, which have a negative electrical charge. This kind of water is experienced in nature at Hawaiian waterfalls. In the presence of those falls, you can smell the negative ions coming off the water and mixing with the air around you. It is a beautiful experience that invigorates you with every breath.

The hydroxyl ions generated by water ionizers and given off naturally by Hawaiian waterfalls are antioxidants. Water ionizers concentrate needed minerals, such as calcium, potassium and magnesium in water during the ionization process. This process returns water to its natural state, identical to water found in glaciers.

When water is ionized its surface tension is reduced, the static “stickiness” created by chemicals used to “treat” water is eliminated. This process is known as micro-clustering and it makes ionized alkaline water actually become “wetter” than ordinary water by reducing the number of water molecules that are linked together! Alkaline water provides better hydration than tap water, bottled water and reverse osmosis water. None of them have had the naturally hydrating effect of the micro-clustering that comes from ionization. This wonderful, wetter water can improve health and even improve flavors in cooking and enhances the tastes of drinks like coffee and tea.

I am most concerned with its health applications. People need to drink more water. We are clearly a dehydrated society. Next to the air we breathe nothing is more needed by the human body than water. Why not drink the best water available and at the same time embrace a technology that eliminates the ecological disaster of plastic water bottles by creating healthy water in your home or office?

Peter L. Kopko, D.C.,  
Chief Science Advisor



# The Benefits of Alkaline Water

## **Restores the pH Balance in the Body**

Alkaline water can neutralize the acidity of the body caused by stress, modern diet, air pollution and many bottled waters. One of the ways the body protects itself from being destroyed by acids is by storing the acid in fat cells. A higher pH in the body reduces the need for fat and cholesterol to protect the body from damaging acids.

## **Weight Loss**

Research by Dr. Robert O. Young, author of *The pH Miracle for Weight Loss*, suggests that the epidemic of obesity in the industrialized world is result of acidity in the body.

## **The body creates fat cells to trap and neutralize acids in the system.**

- The modern diet of meats, grains and beverages, such as coffee, tea, soft drinks and alcohol is extremely acidic.
- Some acids are voided through urination, defecation and perspiration, but many acids remain in the system.
- Excess acids in the body break down healthy tissue, so the body protects itself by creating a natural buffer of fat.
- Fat cells bind to acids. Some fat cells are voided from the system, but many fat cells are stored in the body, resulting in weight gain.

Traditional weight loss methods are doomed to fail.

- Reducing portion size of meals only minimally decreases acid intake.
- Reducing calories will not decrease the acidity of the body—and may increase it if large amounts of acidic beverages are included.
- Reducing fats in the diet will not reduce the acidity of the body or result in weight loss.
- Increasing the intake of meat will increase the acidity in the body.
- Exercise increases the production of acids, such as lactic acid. Many acids are released through perspiration, but some are retained by the system, causing pain in muscles.



Drinking alkaline water releases fats and creates weight loss.

- Alkaline water can reduce the body's acidity and stop fat storage.
- Micro-clusters of ionized water help flush acid and toxins from the system.
- Once fat cells are not needed to store acids, the body will eliminate them—the fat melts away.

A healthy body causes weight loss, not the other way around.

- A healthy, non-acidic body will return to its natural, ideal weight.
- Freed of toxins, the body's cells, tissues and organs achieve a healthier state.
- A detoxified, non-acidic body has more energy and vitality.

"Your body can—and will—let go of the excess fat," writes Dr. Young. "If your food and drink are alkaline (meaning, in basic chemistry, the opposite of acid), all that acid-binding fat will just melt right off. There will be no need for the body to hold on to it anymore."<sup>1</sup>

1. Young, Dr. Robert O., *The pH Miracle for Weight Loss*. New York: Grand Central Publishing, 2005, p. 15.





# Alkaline Water Helps Slow Aging

Alkaline water is negatively charged and an “antioxidant.” Antioxidants reduce cellular and DNA damage caused by free radicals.

## **Getting older and aging is not the same thing.**

- Getting older relates to the passage of time.
- Aging relates to the breakdown of tissues in the body.
- The outward signs of aging include wrinkles, sagging and gray hair.
- Getting older by itself does not cause aging.

## **Aging is the result of damage to bodily tissues by organic acids and by active oxygen (free radicals).**

- Organic acids in the body break down tissues, causing aging and age-related diseases.
- Common waste products in the body such as acetic acid, carbonic acid, fatty acids, lactic acid and uric acid have been linked to aging.
- Active oxygen (free radicals) causes oxidative damage to molecules within cells of the body.
- Free radicals are associated with numerous diseases, including arthritis, atherosclerosis, Alzheimer’s disease and diabetes.

**Drinking ionized alkaline water can help neutralize acids and scavenge free radicals in the body.**

- Drinking ionized alkaline water causes the stomach to produce bicarbonates, which are absorbed into the blood stream and can neutralize acids.
- Ionized alkaline water contains active hydrogen, a proven scavenger for active oxygen.
- Active hydrogen is produced using electrolysis, the process used to ionize drinking water.

“As we start to lose bicarbonates in our blood, around age 45, we begin to age physiologically,” writes Sang Whang, author of *Aging and Reverse Aging*. “All we have to do to stop aging and maintain good health is to recharge bicarbonates to the blood.”<sup>2</sup>







# Alkalinization and Osteoporosis

## **Osteoporosis, a Consequence of the Acid-forming Western Diet, versus the Beneficial Effects of Alkalinization**

*Peter L. Kopko, D.C*

In October 2004, the U.S. Surgeon General Richard H. Carmona, M.D. issued a report on the topic of bone health. He warned Americans that by 2020, one in two Americans over the age of 50 will be at risk for fractures from osteoporosis or low bone mass. In the U.S. today it is estimated that 10 million people over the age of 50 have osteoporosis, and another 34 million have osteopenia (low bone mass) and are at risk for developing osteoporosis. According to the National Institutes of Health (NIH), osteoporosis accounts for an estimated 1.5 million fractures annually in the U.S. In fact, it is estimated that 1 in 2 women and 1 in 8 men will suffer an osteoporosis-related fracture in their lifetime.

Other findings in the report include:

- About 20 percent of senior citizens who suffer a hip fracture die within a year of that fracture.
- About 20 percent of individuals with a hip fracture end up in a nursing home within a year.
- Hip fractures account for 300,000 hospitalizations each year.
- The direct care costs for osteoporotic fractures alone are already up to **\$18 billion each year**. The number is expected to increase if action to prevent osteoporosis is not taken now. If this is not alarming enough,

according to this report, osteoporosis is a silent condition because many Americans are unaware that their bone health is in jeopardy. In fact, four times as many men and nearly three times as many women have osteoporosis than report having the condition. One of the most dangerous myths about osteoporosis is that only women need to worry about bone health. Further, osteoporosis affects men and women of all races.



All researchers and health care providers agree that the key to treating this potentially life threatening and disabling condition is prevention. Early intervention is considered to be the best way to stop osteoporosis. Intervention includes recognition of risk factors and modifying or eliminating them as well as making lifestyle changes. Here are two of the leading risk factors:

- Chronic acidemia from protein-rich, meat-based diets.
- Chronic acidemia from the over consumption of carbonated soft-drinks, coffee and alcohol.

It is my opinion after 26-years of clinical experience that absent the side-effects of certain prescription medications, which are certainly a risk factor for osteoporosis, the underlying primary risk factor is **chronic acidemia**. It has been well documented that the traditional Western diet of protein-rich foods and the over consumption of soft-drinks, coffee and alcohol can lead to a chronic low-grade metabolic acidosis. This diet increases the net dietary acid load, lowers the pH of the blood and acidifies the urine.

### **So what can we do on a daily basis to combat this chronic acidemia?**

In my practice I recommend drinking ionized, micro-clustered alkaline water along with dietary changes, exercise, calcium and Vitamin D supplementation. Why alkaline water? Every time the body suffers from low-grade metabolic acidosis, the body must regain its balance to avoid becoming sickened. The blood pH level must remain in a very narrow range, or organ systems and enzyme functions that are critical to health become at risk for failing. The body defends itself from becoming too acidic by leaching calcium out of the bones which provides an alkaline buffer which counters the acidity. I call this process the "Tums effect". It is analogous to taking Tums when your stomach is upset. Tums is primarily calcium just like your bones. When your body uses the calcium in your bones like Tums day after day, your bones get leached out, and your calcium bank gets depleted. Once the calcium in your bones becomes depleted you develop osteoporosis.

## **The Acid-forming Potential of Food**

The traditional Western diet is highly acidifying. According to Sang Whang, an engineer, scientist, inventor who is recognized as an expert on anti-aging and alkalinity, drinking one glass of cola with a pH value of 2.5 could lower the blood pH to dangerous levels if it were not for this bone calcium buffer. In fact, without this bone calcium leaching mechanism, one would need to drink 32 glasses of alkaline water to neutralize one cola's acidity, according to Sang Whang.

Researchers Remer and Manz developed a system for calculating the acidifying potential of foods in the body. The acidic potential of foods is measured as their **Potential Renal Acid Load (PRAL)**, which refers to the amount of acids produced that the kidneys must try to dispose of. Fats and oils have a relative value of zero; they do not produce an acidic load on the kidneys. As the PRAL goes up in positive numbers, so goes up the potential acid load. Negative numbers represent an alkaline effect.

- Milk and Dairy Products: +1.0 to +23.6
- Meat and Meat Products: +9.5
- Fish: +7.9
- Grain Products: +3.5 to +7.0
- Vegetables: -2.8
- Fruits and Fruit Juices: -3.1

We all know that it is very important to drink good clean water every day to maintain health. Why not optimize that mandatory requirement for excellent health by **drinking ionized, micro-clustered alkaline water** and mitigate the ill effects of acidic foods and help reverse the progression of conditions like osteoporosis?



# Alkalinization and Detoxification

## **How Alkalinizing the Body Promotes Detoxification**

*Peter L. Kopko, D.C.*

The Western diet, rich in proteins from meat, dairy products and processed grains, has been shown to create a medical condition called *metabolic acidosis*. Acidosis taxes the organs and systems of the body. The fact is, most Americans have highly acidic urine which is a symptom of acidosis. The majority of patients that have been tested in my office that are not vegetarians run a urine pH of 4.5-5.5 which in my opinion is overly acidic.

## **What happens when the body becomes too acidic?**

Metabolic acidosis most often results from the over ingestion of acidic foods. The breakdown of proteins in the body creates acidic byproducts which must be eliminated by the kidneys. This problem is further complicated by the ingestion of tap water, which itself has been found to be at best neutral or a pH of 7 and often acidic or below a pH of 7. When the body is in a chronic state of metabolic acidosis our liver detoxification mechanisms are compromised. The liver enzymes which are involved in detoxification are referred to as phase I and phase II detoxification liver enzymes. These enzymes are highly pH sensitive and are responsible for the chemical biotransformation of toxins into water-soluble metabolites for excretion in the urine. The pH sensitivity of phase I and phase II detoxification liver enzymes cause them to become compromised when

the body suffers from metabolic acidosis. The detoxifying effects of enzymes in the liver are enhanced by alkalizing the urine to a pH of 7.1 to as high as 8.3.

This very same process is performed every day in emergency rooms to accelerate the excretion of ingested poisons by the kidneys. In hospital emergency rooms, poisoning victim's lives are saved by injecting them with intravenous sodium bicarbonate to alkalize the urine to a pH of 7.5 to 8.3. The way urine alkalization detoxifies is called ion trapping. Higher alkalinity of the kidneys chemically draws toxins in and traps them; the kidneys can then process them for excretion.

Most poisons and toxins are acidic and weak acids; therefore by creating a more alkaline physiological environment, we can enhance and accelerate the detoxification process on an ongoing, daily basis. It is the chronic acidification caused by metabolic acidosis which hinders the body's ability to detoxify itself.

### **What can we do to alkalize our bodies?**

Drink alkaline water daily to greatly enhance the physiological processes responsible for attaining and maintaining the proper blood pH balance and urine alkalinity. Most people today are aware that they need to drink more water, but the importance of the water's pH though has not been emphasized enough. You can enhance the body's alkalinity by drinking 6-8 glasses of alkaline water daily.

## How to get alkaline water

You need a home water filtration system that not only filters water, but **adjusts the pH as well**. Home water ionizers accomplish this. These systems also micro-cluster water so that the large, 15- molecule clusters normally found in tap water are reduced to hexagonal-shaped clusters of six molecules. As you may recall, the process of microclustering actually makes water “wetter” and allows for better hydration and delivery of nutrients to the cells. Another positive aspect of ionizers is that they create hydroxyl ions, which are natural anti-oxidants. These water-borne antioxidants help neutralize free radicals and slow down the aging process.



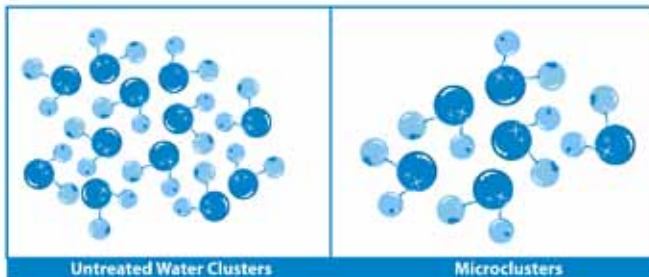




# Benefits at a Cellular Level

## Alkaline Water Provides Superior Hydration and Nutrition at the Cellular Level

- Negatively charged alkaline water neutralizes free radical positive ions.
- Ionization breaks clusters of water molecules into smaller micro-clusters, reducing the size of the clusters from the 11-16 molecules in standard water to just 5-6 molecules in ionized water. Smaller clusters pass through cell walls more easily and hydrate the cells more quickly.
- Faster hydration allows the body to regulate its temperature more efficiently.
- Micro-clusters of mineral-rich ionized water also deliver nutrients more efficiently to the cells.







# The New Sports Drink

## **The New Sports Drink: Alkaline, Ionized, Micro-clustered Water**

*Peter L. Kopko, D.C.*

The process of drinking water before and during exercise is referred to as pre-hydration and hydration respectively. According to the American College of Sports Medicine, the purpose of pre-hydration is to start an exercise activity in a euhydrated state—where the body is normally hydrated and plasma electrolyte levels have normalized.

Pre-hydration should be performed several hours before exercise to enable fluid absorption and allow urine output to return to normal levels. The goal of drinking water during exercise is to prevent excessive water loss—or dehydration—through sweat. Monitor your average water loss during exercise by calculating your body's sweat rate. This can be estimated by measuring total body weight before and after exercise. For approximately one pound of body weight lost, estimate one pint or eight ounces of water lost. Prevent water loss in excess of 2 percent of your total body weight to avoid dehydration.

Studies that were originally performed in the 1940s have shown that dehydration resulted in impaired athletic performance. More recent studies have demonstrated performance loss at dehydration levels of *less than 2 percent of body weight*. Research proves that even mild to moderate

dehydration reduces aerobic endurance performance and results in increased body temperature, heart rate, perceived exertion and possibly increased reliance on carbohydrates as a fuel source. Dr. Judelson, et al., in a study published in October, 2007, demonstrated that dehydration significantly decreased resistance exercise performance as would be performed commonly in a gym with weights or machines.

Clearly, drinking water before and during exercise is important. The composition of this fluid replacement has also gone through many changes. Conventional wisdom for many years was that salt (sodium) needed to be added to the water to replace sweat- lost sodium. Recently, scientists have arrived at the conclusion that most people eating the standard Western diet have consumed too much salt and that it does not need to be replaced during workouts when exercise lasts less than two hours. The main question before researchers today is: what's the best water to replace exercise-induced water loss though sweating?

When exercising you are consuming more oxygen, and metabolizing energy through muscle work these processes create free radicals, lactic acid and a mild metabolic acidosis.



Drinking alkaline, ionized, micro-clustered water can help ameliorate all three of these exercise-induced acidic by-products. Alkaline water by definition contains alkaline forming minerals like calcium, magnesium, potassium and sodium. Water that has been ionized has been shown to act as a free-radical scavenger. Ionized water by definition has more negatively charged hydroxyl ions than tap or filtered water. Ionized water has the ability to give up these extra negative charges and may help act as a free-radical scavenger. Lastly, when water is micro-clustered it may be absorbed at a faster rate. This can help with general rehydration.

It is recommended that you drink 400-600 ml of water 2 hours before exercise and 150-300 ml every 15 to 20 minutes of exercise, varying the volume depending on your total body weight and sweating rate.

### **pH Balance Energy & Diet Drinks**

Originating in Japan in the early 1960s, energy drinks such as Red Bull are sold in 134 countries worldwide. Global sales have surpassed \$10 billion a year in 2010. Along with energy drinks, the popularity of diet soda continues to grow amid concerns about it causing obesity. About 59 percent of Americans say they drink diet soda, and worldwide sales have surpassed \$20 billion a year. Sales of sports drinks, which originally were designed to help athletes rehydrate, total \$3 billion a year. Each of these beverages contributes to acidity in the body.

### **Energy drinks cause dehydration and increase bodily acid.**

- The key ingredient in most energy drinks is caffeine, often from guarana or yerba mate.
- Caffeine is the source of much the energy boost, but it also causes dehydration. To rehydrate, you need to drink two cups of water for every cup of energy drink consumed.
- Energy drinks are extremely acidic. For example, Red Bull has a pH level of 3.26, almost 10,000 times more acidic than pH neutral water.<sup>1</sup>

### **Diet soda has been linked to weight gain and acidity.**

- A 2008 study at Purdue University found that rats on diets containing the artificial sweetener saccharin gained more weight than rats given sugary food<sup>2</sup> perhaps because the body does not receive a signal to “rev up” the metabolism.<sup>3</sup>
- An eight-year study with 1,550 participants conducted at University of Texas Health Science Center, San Antonio, found that drinkers of diet soft drinks had a greater risk of gaining weight than drinkers of regular soft drinks.<sup>4</sup>
- Diet soda is even more acidic than energy drinks. Diet Coke has a pH level of 3.57, more than 10,000 times more acidic than pH neutral water.<sup>5</sup>

## **Sports drinks are designed for athletes exercising more than two hours.**

- Sports drinks contain electrolytes, carbohydrates and other nutrients meant to be burned up through extended periods of exercise.
- Most sports drinks have between 13 and 19 grams of sugar per eight ounce serving. Drinking sports drinks without working out increases caloric intake.
- Sports drinks are even more acidic than energy drinks and diet soda. Gatorade has a pH level of 2.95, more than 10,000 times more acidic than pH neutral water.<sup>6</sup>

Americans are spending billions of dollars each year on beverages that may provide a short-term boost but also increase the likelihood of gaining weight and increasing acidity in the body. A better solution is to hydrate frequently with ionized alkaline drinking water, which hydrates better than diet soda and energy drinks and helps to neutralize the acidity of the body.

1. Young, Dr. Robert O., *The pH Miracle for Weight Loss*. New York: Grand Central Publishing, 2005, p. 125.
2. "A Role for Sweet Taste: Calorie Predictive Relations in Energy Regulation by Rats," Susan E. Swithers, PhD and Terry L. Davidson, PhD, Purdue University; Behavioral Neuroscience, Vol. 122, No. 1.
3. American Psychological Association (2008, February 11). Artificial Sweeteners Linked To Weight Gain. Science Daily.
4. Abstract 1058-P. Sharon P. Fowler, MPH, University of Texas Health Science Center School of Medicine, San Antonio.
5. Young, Dr. Robert O., *The pH Miracle for Weight Loss*. New York: Grand Central Publishing, 2005, p. 125.
6. Young, Dr. Robert O., *The pH Miracle for Weight Loss*. New York: Grand Central Publishing, 2005, p. 125.





# Acidity and the American Diet

The human body creates acid every day as a by-product of metabolism. In addition, acid is introduced into the system through eating and digestion. Many secreted and digested acids are swept away by the blood stream, filtered out by the kidneys and released from the body in the urine. Other acids leave the body through perspiration. Your body can only process a certain amount of acids, however, so it is possible to overload the system and for the body to become acidic.

## **The American diet is extremely acidic.**

- Meat, including beef, pork, chicken and turkey, is acidic.
- Dairy, such as milk, butter and cheese, is acidic.
- Grains, such as rice and barley, are acidic.
- Beverages, such as coffee, tea and soft drinks, are very acidic.
- Simple carbohydrates, such as potatoes, pasta and bread, contain large amounts of acids.



### **Acidity in the body is related to disease.**

- Acid reflux is a painful condition that occurs when acidic stomach liquid backs up (refluxes) into the esophagus causing irritation, inflammation and damage to the lining of the esophagus.
- High cholesterol occurs when the body produces excessive amounts of cholesterol to neutralize large amounts of acids in the blood stream before they damage living cells.
- Heart disease is the result of cholesterol build-up in the coronary arteries that reduces the blood flow to the heart muscle. As stated above, cholesterol forms to protect the arterial wall from acidity in the blood.
- Fat is produced by the body to trap and neutralize acidic waste in the body. As Dr. Robert O. Young, author of *The pH Miracle for Weight Loss*, puts it, "The body retains fat as a protection against the overproduction of acids produced by the typical American diet....Your fat is actually saving your life."
- Inflammatory related diseases, such as allergies, arthritis, fibromyalgia, psoriasis and even stroke, are related to low-grade metabolic acidosis.

**Drinking alkaline water can help restore the body's pH balance and reduce its acidity.**



# Alkaline/Acidic Score of Food

## **Alkalinization and the PRAL Score of Food**

*Peter L. Kopko, D.C.*

Measuring the pH (alkalinity or acidity) of water is easy: you simply place 2-3 reagent drops in an ounce of water and look at the color of the water. Measuring the pH of solid foods is much more difficult. Today, there are two basic methods for calculating the pH of foods.

The first method is known as ash analysis. This method requires food stuff to be incinerated at a high temperature. The ashes are analyzed for mineral content. Acidic anions in food include chloride, phosphorous, sulfates and other organic acids. Basic/alkaline cations in food include sodium, potassium, calcium and magnesium. The problem with this method is that it did not take into account the bioavailability of the food's constituents. It was in a sense an *in vitro* (in a laboratory) test as opposed to an *in vivo* (in life) analysis.

In 1995, two researchers, Dr. Thomas Remer and Dr. F. Manz, developed a new way to measure the acid/base effect of specific foods on the human body. This pH measuring tool is referred to as the Potential Renal Acid Load (PRAL). The PRAL of an ingested specific food is determined by measuring the acidity and ammonium appearing in the urine and then subtracting out the measured urinary bicarbonate. This method yields a net acid excretion score based on

direct measurements of the urine. Previous to the implementation of the PRAL score method, ash analysis was utilized.

The PRAL method is far superior to ash analysis in that it takes into effect the digestion and absorption of a food and its direct effect on the kidneys and urine. However, in my opinion, the PRAL method has some limitations as well in that a specific food may elicit a pH homeostatic balancing mechanism and that would influence the end result in the urine. This may be evidenced by the PRAL score of coffee. Nevertheless, the PRAL method remains the best method to date.

Let's calculate a total PRAL score for an average Western diet meal. Take 250g (about ½ lb.) of chicken. The PRAL value for chicken is 8.7 per 100 grams. We have 250 grams which is 2.5 times 100, so we multiply 8.7 by 2.5 which equals +21.75. Add ½ pound of potatoes, that would be -4 times 2.5 which equals -10. Add 8 oz. whole milk, so multiply 1.1 by 2.5(8 oz. equals about 250g), which equals +2.75. The total for the meal would be +14.50. That is a highly acidic load and typical of the average American diet. Using other typical foods yields the same acidic story. It is not until you incorporate several servings of vegetables and fruits and limit the amount of meat, poultry and fish before you reach a net alkaline PRAL score. Go back to the PRAL table above and look at the food group averages. The whole story is there. Meats, grains and dairy products are all highly acidic. Vegetables, fruits and nuts are all alkaline. Interesting isn't it? All the foods you have always been told to eat because they are healthy are alkaline forming!



**Here is an example of a PRAL food chart:**  
*(Each score is based on a 100g portion of food)*

<b>FOOD GROUP AND CATEGORY</b>	<b>PRAL Score</b>
<b>MEAT , MEAT PRODUCTS &amp; FISH</b>	
<b>MEAT AND MEAT PRODUCTS AVERAGE</b>	<b>9.5</b>
Lean Beef	7.8
Chicken	8.7
Canned, Corned Beef	13.2
Frankfurters	6.7
Liver Sausage	10.6
Lunch Meat	10.2
Lean Pork	7.9
Rump Steak	8.8
Salami	11.6
Turkey Meat	9.9
Veal Fillet	9.0
<b>FISH AVERAGE</b>	<b>7.9</b>
Cod Fillet	7.1
Haddock	6.8
Herring	7.0
Trout	10.8
<b>MILK, DAIRY &amp; EGGS</b>	
<b>MILK AND NON-CHEESE AVERAGE</b>	<b>1.0</b>
<b>LOW PROTEIN CHEESE AVERAGE</b>	<b>8.0</b>
<b>HIGH PROTEIN CHEESE AVERAGE</b>	<b>23.6</b>
Buttermilk	0.5
Low Fat Cheddar	26.4
Gouda Cheese	18.6
Cottage Cheese	8.7
Sour Cream	1.2
Whole Egg	8.2
Egg White	1.1

Egg Yolk	23.4
Hard Cheese	19.2
Ice Cream	0.6
Whole Milk	1.1
Whole Milk Pasteurized	0.7
Parmesan Cheese	34.2
Processed Cheese	28.7
Whole Milk Yogurt w/Fruit	1.2
Whole Milk Yogurt Plain	1.5
<b>SUGAR AND SWEETS</b>	
<b>SUGAR AND SWEETS AVERAGE</b>	<b>4.3</b>
Milk Chocolates	2.4
Honey	-0.3
Cake	3.7
Marmalade	-1.5
White Sugar	-0.1
<b>VEGETABLES</b>	
<b>VEGETABLES AVERAGE</b>	<b>-2.8</b>
Asparagus	-0.4
Broccoli	-1.2
Carrots	-4.9
Cauliflower	-4.0
Celery	-5.2
Chicory	-2.0
Cucumber	-0.8
Eggplant	-3.4
Leeks	-1.8
Lettuce	-2.5
Mushrooms	-1.4
Onions	-1.5
Peppers	-1.4
Potatoes	-4.0
Radishes	-3.7
Spinach	-14.0
Tomato Juice	-2.8
Tomatoes	-3.1
Zucchini	-2.6

FRUITS, NUTS, AND JUICES	
<b>FRUITS, NUTS, AND JUICES AVERAGES</b>	<b>-3.1</b>
Apple Juice	-2.2
Apples	-2.2
Apricots	-4.8
Bananas	-5.5
Black Currants	-6.5
Cherries	-3.6
Grape Juice	-1.0
Hazelnuts	-2.8
Kiwi Fruit	-4.1
Lemon Juice	-2.5
Orange Juice	-2.9
Oranges	-2.7
Peaches	-2.4
<b>Peanuts</b>	<b>8.3</b>
Pears	-2.9
Pineapple	-2.7
Raisins	-21.0
Strawberries	-2.2
<b>Walnuts</b>	<b>6.8</b>
Watermelon	-1.9
GRAIN PRODUCTS	
<b>BREAD AVERAGE</b>	<b>3.5</b>
<b>FLOUR AVERAGE</b>	<b>7.0</b>
<b>NOODLES AVERAGE</b>	<b>6.7</b>
Mixed Grain Rye Bread	4.0
Rye Bread	4.1
Mixed Grain Wheat Bread	3.8
Wheat Bread	1.8
White Bread	3.7
Comflakes	6.0
Rye Crackers	3.3
Egg Noodles	6.4
Oats	10.7
Brown Rice	12.5



White Rice	1.7
Rye Flour	5.9
White Spaghetti	6.5
Whole Grain Spaghetti	7.3
Wheat Flour	8.2
<b>LEGUMES</b>	
<b>LEGUMES AVERAGE</b>	<b>1.2</b>
Green Beans	-3.1
Lentils	3.5
Peas	1.2
<b>FATS AND OILS</b>	
<b>FATS AND OILS AVERAGE</b>	<b>0</b>
Butter	0.6
Margarine	-0.5
Olive Oil	0.0
Sunflower Oil	0.0
<b>BEVERAGES</b>	
<b>ALKALI RICH AVERAGE</b>	<b>-1.7</b>
<b>ALKALI POOR AVERAGE</b>	<b>0</b>
Draft Beer	-0.2
Pale Beer	0.9
Stout Beer	-0.1
Coco-Cola	0.4
Cocoa	-0.4
Coffee	-1.4
Mineral Water	-1.8
Red Wine	-2.4
Tea	-0.3
White Wine	-1.2

## References

1) Remer and Manz, J. Am Diet Assoc. 95: 791-797, 1995.





## ORP and Alkaline Water

### **A Paleo-Biological View of the Oxidation-Reduction Potential (ORP) and How it Relates to Alkaline, Ionized, Microclustered Water**

*Peter L. Kopko, D.C.*

A very simple and at the same time complex event took place approximately 2.5 billion years ago. This is when a special form of bacteria called blue-green algae learned how to use sunlight to strip hydrogen off of water and combine it with carbon dioxide to make sugars—the origin of photosynthesis. But what does this have to do with oxidation-reduction potentials? The answer is the creation of oxygen.

A by-product of photosynthesis is the formation of free oxygen or  $O_2$ . As the predominant blue-green algae utilized photosynthesis and stripped hydrogen off water, the “waste gas” produced was oxygen. At this stage of the planet’s development, oxygen was a new comer. At first, it was bound to oxygen-hungry minerals like iron and silicon and then absorbed into solution in the oceans. Once these reservoirs were full it began to accumulate in the atmosphere, fundamentally changing the chemistry of the planet forever. And it is this chemistry that we are interested in.

Chemistry is essentially the science of moving electrons around. A chemical bond between two atoms is actually a pair of electrons shared by the atoms, and a chemical

reaction is the movement of electrons from some bonds to others. In any chemical reaction, the bonds between certain atoms are broken and at the same time new bonds are formed in the resulting chemicals. Chemists call this a coupled oxidation and reduction reaction. The bond that gives up its electrons is oxidized (oxygen added to it) and the bond that received the electrons is reduced. When it comes to human physiology and life itself it is better to receive electrons than to give them. The theory of aging is that we age as cells lose electrons and become oxidized. This happens when free radicals strip away electrons from cells causing them to “rust”. The rusting of metal, the browning of a cut apple and the aging of human cells whether they be skin cells or heart cells are all examples of free radical oxidation.

### **How to fight ageing**

The game of survival is to not get oxidized to death, literally. We can take anti-oxidants like Vitamin C, Vitamin E, etc., all of which are free-radical scavengers. These substances give up electrons and help restore the cells and molecules to a healthy state. What is amazing is that drinking water can do the same thing

Ionized, alkalized, microclustered water has free electrons available to do free radical scavenging. This is referred to as the negative ORP or oxidation-reduction potential. The ORP potential of alkaline water is a measure of its ability to neutralize free radicals. The higher the negative number, the more powerful the antioxidant effect is. Alkaline water produced by water ionizers has strong ORP power, so it can protect cells in the body from the aging effects of free radical oxidation.



# Snowflakes and Restructured Water

## **Snowflakes and Restructured Water** **The Hexagonal Connection**

*Peter L. Kopko, D.C.*

A snowflake has six arms or six sides, which by definition makes it hexagonal. While pentagonal patterns (five sided) abound in living forms, the mineral world favors twofold, threefold, fourfold, and sixfold symmetry. The hexagon is a “close-packing” shape that allows for maximum structural efficiency. It is very common in the realm of molecules and crystals, where pentagonal forms are almost never found. Steroids, cholesterol, benzene, TNT, vitamins C and D, aspirin, sugar, graphite – all show sixfold symmetry. The most famous hexagonal architecture is built by bees, wasps and hornets. So what does this have to do with restructured water?

Restructured water is water that has been ionized, micro-clustered and alkalinized. The hexagonal connection lies in the fact that microclustered water is water that has become “wetter.” In other words, when the surface tension of a liquid is reduced, the liquid becomes more “liquid.” In the case of restructured water, ordinary tap or processed bottled water, which has 13-16 molecules per cluster is reduced to 6 molecules per cluster. Water beads up on a surface because of high surface tension. The ability of a water spider to “walk on water” is due to the high surface tension of the water. Restructured microclustered water is just the opposite. It has tiny clusters and less surface tension which

makes it ideal for drinking and optimal absorption. It is believed that natural glacial water has the optimal cluster size at six. Why?

It is a fact of physical science that as a liquid or gas cools, the molecules contract and become more organized, as in a crystal or solid. Conversely, as you heat a liquid or solid, the molecules expand and become more disorganized, (a gas). As water chills and approaches freezing, it contracts and forms ice crystals, which are composed of six water molecules. This appears to be nature's way of best organizing water into ice crystals. It is my opinion that nature's chosen hexagonal pattern is the most efficient geometric pattern for receiving, storing and transmitting energy from water molecules to other molecules, specifically living tissues. Remember: Nature is already using this pattern in bio-chemicals like steroids, cholesterol, sugar, vitamin C, etc., why not water? Water molecules apparently can retain information. It is my opinion that many homeopathic remedies work on this premise and that their "information" is stored and transmitted via water molecules. Furthermore, as glacial six-sided water crystals melt, they produce, in my opinion; naturally microclustered hexagonal water.

The technology of ionization through electrolysis creates microclustered water with a predominance of clusters with six molecules. Experiments have been done on this water with NMR (nuclear magnetic resonance) instrumentation shows the hexagonal nature of restructured water.

Unless you live next to a glacier, an ionizing, microclustering, alkalizing water machine is your best bet for getting water in its natural form.



## Is Alkaline Water ‘Natural’?

### **Is “Machine Made” Ionized, Microclustered, Alkaline Water ‘Natural’?**

*Peter L. Kopko, D.C.*

Some companies make water ionizing “sticks” which use chemicals, crystals and other additives to restructure water. They claim that their “additive” restores water to its “perfect, natural” state, and that it is more natural than running water through a “machine.” They further claim that they possess a technology and a “proprietary substance” that they add to the water to accomplish this.

Their methods are not found in nature yet they criticize all other water technologies as being unnatural and therefore potentially harmful or just wrong. Some claim that alkaline water would be harmful to someone who is already physiologically overly alkaline, but the fact is nearly all people are acidic.

Medical literature is replete with references that allude to the consequences of the Western Acidogenic Diet as being overly acidic, producing a low-grade, chronic metabolic acidosis. By far the average meat-based diet eating person is overly acidic. There is no real argument here. This is an attempt to discredit a concept by finding the single subclass that would not benefit. A weak argument at best. Furthermore, our product has several different settings to fine tune the level of pH required based on their present state of health, diet and other factors like urine and saliva pH.

People today are not in a perfect state of health. They are in an “unnatural” state of health. Cardiovascular disease, cancer, diabetes, osteoporosis, do I need to go on? What is “natural” about defibrillating a dying heart? Nothing, but please defibrillate mine if it stops! I once treated an 81 year old on fifteen different medications including blood thinners that were causing horrible spontaneous bruising. As a doctor of chiropractic, darkfield microscopist and nutritionist for over 25 years, I can tell you with authority that eating some oranges, the natural way, would not have remotely addressed this unnatural drug bruising side-effect. Drinking alkaline water returned that person to a natural state of health.

According to some skeptics, purifying, alkalizing, ionizing and microclustering water with a machine render it harmful or useless. Quite the contrary. The Japanese have used this technology and water for decades with great success. Medical and veterinarian peer reviewed literature is replete with evidence of its beneficial uses.

Skeptics claim that by ionizing water you are trying to turn it into a “food.” This is the weakest of all arguments. A similar argument could be made that when adding more fruits and vegetables to one’s diet, thus increasing antioxidants, you are using food as a medicine. What’s wrong with that? Let food be your medicine. If ionizing and alkalizing water adds beneficial alkaline minerals (calcium, magnesium, potassium) and increases its antioxidant potential, which it does, if that makes it a “food,” so be it. They further claim that when water becomes a “food” it takes longer to



be absorbed. Taken literally, this is true. Tap water is more quickly absorbed than soup broth. However, through darkfield microscopy we have objectively demonstrated repeatedly that in a person with evidence of red blood cell hypercoagulation (blood sludge), in as little as 30 minutes with the ingestion of 3/4 of a liter of ionized, alkalized, microclustered water, was able to reverse the hypercoagulation. This is evidence of the water being rapidly absorbed.





# The Truth About Alkaline Water

## **The Truth About Alkaline, Ionized, Microclustered Water**

*Peter L. Kopko, D.C.*

Let's begin by making one thing perfectly clear: "pure water" cannot be alkalized or treated with electrolysis. Pure water by definition is mineral-less or de-ionized. In fact the "purest" of pure water is distilled water. "Pure water" does not exist in nature. Minerals are always present in water in nature, e.g., rain water, glacial water, lake water, etc. "Pure water" is really a misnomer and a creation of marketing by bottled water companies.

This misunderstanding widely repeated by poorly-informed "skeptics" comes about from changing the word **purified** to pure. Purification is the process where water is filtered to remove chemicals like chlorine, fluoride, heavy metals, etc. Purification leaves in beneficial alkaline minerals (calcium, magnesium, potassium, sodium). In fact, when people have reverse osmosis units which do remove 95 percent of everything in water, good and bad, they must add a "Remineralization filter" BEFORE the water enters the electrolysis process. Ionizers cannot apply electrolysis to pure, de-ionized distilled-like water.

### **How Purified Water is Ionized**

When water has minerals in it, such as calcium, magnesium, potassium, sodium, water acts as a solvent and combines with these minerals, putting a net magnetic charge on them, they have become “polarized”. When this water is passed through negatively and positively charged electrodes, some of its molecules “split” into positive hydrogen, and negatively charged hydroxyl ions,  $H^+$  and  $(OH)^-$ . This process gives a net negative ORP charge to alkaline water resulting in anti-oxidant hydroxyl ions.

### **How antioxidants in water work**

When a substance has a positive ORP, it will oxidize another substance. Air oxidizes metal, creating rust. When a substance has a negative ORP, it will **reduce** the oxidation of another substance. In other words, help preserve it. The antioxidant properties of alkaline water don't last forever, hydrogen and hydroxyl ions will recombine at a predictable rate. But for a while (about 24 hours) the water has great antioxidant activity because of the negative ORP.

This is similar to drinking fresh carrot juice versus juice that has been left out for several hours. It goes without saying that the fresher juice has greater potential health benefits. The reason is that the juice becomes oxidized - much like when a cut apple starts to turn brown. When you make fresh carrot juice, you drink it within minutes to hours, don't you? The same idea applies to alkaline, ionized, microclustered water. The “chi” or inherent energy in the water will be lost over time. The antioxidant (negative ORP) benefits of ionized water don't last forever. This water is to be consumed the day it is made.

Alkaline or acidic ionized water was not recently invented. It is referred to in medical literature as “alkaline reduced water” or electrolyzed water produced by electrolysis. Here is one example of many articles that can be found easily on medical literature data base search engines. This article talks about how reduced water, i.e., negative ORP water helps protect against superoxide radicals. Superoxide free radicals are extremely harmful to the human body. That is why they are called superoxide radicals.

**The mechanism of the enhanced antioxidant effects against superoxide anion radicals of reduced water produced by electrolysis.**

**Biophys Chem. 2004**

Jan 1;107(1):71-82.

Hanaoka K, Sun D, Lawrence R, Kamitani Y, Fernandes G.  
Bio-REDOX Laboratory Inc. 1187-4, Oaza-Ueda, Ueda-shi,  
Nagano-ken 386-0001, Japan.hanak@rapid.ocn.ne.jp

**We reported that reduced water produced by electrolysis enhanced the antioxidant effects** of proton donors such as ascorbic acid (AsA) in a previous paper. We also demonstrated that reduced water produced by electrolysis of 2 mM NaCl solutions did not show antioxidant effects by itself. **We reasoned that the enhancement of antioxidant effects may be due to the increase of the ionic product of water as solvent.** The ionic product of water ( $pK_w$ ) was estimated by measurements of pH and

by a neutralization titration method. As an indicator of oxidative damage, Reactive Oxygen Species- (ROS) mediated DNA strand breaks were measured by the conversion of supercoiled phiX-174 RF I double-strand DNA to open and linear forms. Reduced water had a tendency to suppress single-strand breakage of DNA induced by reactive oxygen species produced by H<sub>2</sub>O<sub>2</sub>/Cu (II) and HQ/Cu (II) systems. The enhancement of superoxide anion radical dismutation activity can be explained by changes in the ionic product.

The article below references the use of acidic, ionized water, known in the medical literature as EO-A, electrolyzed oxidizing water. It too has a purpose. This research elucidates the use of what is referred to as EO-A water which stands for acidic electrolyzed water which has a pH of 2.6 and an ORP of positive +1,150. This water is a cost effective and environmentally safe because there is no chemical residue.

### **Comparison of electrolyzed oxidizing water with various antimicrobial interventions to reduce *Salmonella* species on poultry.**

#### **Poult Sci.**

2002 Oct;81(10):1598-605.

Fabrizio KA, Sharma RR, Demirci A, Cutter CN.

Department of Food Science, The Pennsylvania State University, University Park 16802, USA.

Foodborne pathogens in cell suspensions or attached to surfaces can be reduced by electrolyzed oxidizing (EO) water; however, the use of EO water against pathogens associated with poultry has not been explored. In this study, acidic EO water [EO-A; pH 2.6, chlorine (CL) 20 to 50 ppm, and oxidation-reduction potential (ORP) of 1,150 mV], basic EO water (EO-B; pH 11.6, ORP of -795 mV), CL, ozonated water (OZ), acetic acid (AA), or trisodium phosphate (TSP) was applied to broiler carcasses inoculated with *Salmonella Typhimurium* (ST) and submerged (4 C, 45 min), spray-washed (85 psi, 25 C, 15 s), or subjected to multiple interventions (EO-B spray, immersed in EO-A; AA or TSP spray, immersed in CL). Remaining bacterial populations were determined and compared at Day 0 and 7 of aerobic, refrigerated storage. At ST 1.41 log<sub>10</sub>, whereas EO-A water reduced ST approximately 0.86 log<sub>10</sub>. After 7 d of storage, EO-A water, OZ, TSP, and AA reduced ST, with detection only after selective enrichment. Spray-washing treatments with any of the compounds did not reduce ST at Day 0. After 7 d of storage, TSP, AA, and EO-A water reduced ST 2.17, 2.31, and 1.06 log<sub>10</sub>, respectively. ST was reduced 2.11 log<sub>10</sub> immediately following the multiple interventions, 3.81 log<sub>10</sub> after 7 d of storage. Although effective against ST, TSP and AA are costly and adversely affect the environment. This study demonstrates that EO water can reduce ST on poultry surfaces following extended refrigerated storage. PMID: 12412930

[PubMed - indexed for MEDLINE]







## Alkaline and Acidic Water Uses

### **Alkaline and Acidic Water Uses**

Ionized, alkaline mineral water delivers nutrients to the cells efficiently; it hydrates our bodies better; it cleanses our systems; and it energizes us far more than tap or spring water. It contains natural antioxidants that neutralize free radicals and gives us more energy.

The use of alkaline water is not new. Many Eastern cultures have been using it for over a half century. There are numerous health benefits to drinking alkaline water, but what many people might not realize is how many other uses ionized water can provide. The scientific process of ionization splits the water into two streams, Alkaline and Acidic. Both streams can be used in different ways. Alkaline, ionized water is great to drink, but it can also be used to prepare and cook food. Experiment with these suggestions on preparing food, let them give you inspiration and let me know how they turn out.

As you read over the following suggestions keep in mind that when first approaching someone about an ionizer, it is important that you find out exactly in what way the person will benefit from the water and what applications will be key for them.

### **Ionized alkaline water for food preparation:**

- Soaking & Sprouting seeds, nuts, legumes, grains & more (activates enzymes).
- Smoothies (neutralizes acidity in fruit and delivers nutrients more efficiently).
- Add to acidic fruit juices to make them alkaline. (Many people's stomachs react poorly to acidic fruit juices.)
- Adding alkaline water to acidic juices will make them easier to digest.
- Soups (contents of soup taste better).
- Storage of fruits & vegetables—they last much longer.
- Removes pesticides, herbicides, waxes & more from fruits & vegetables.
- Any recipe that calls for water.

### **Cooking with Ionized Water**

- Use alkaline water when cooking to get the best tasting food. Acidic tap water breaks down the food, so you tend not to get the real flavor. The taste comes out full, food is tender, and not as much seasoning is required.
- Astringent-tasting vegetables can be soaked in alkaline water for 20-30 minutes before they are cooked. They will taste wonderful!
- Rice turns softer and fluffier. First, wash the rice in level one alkaline water. Next, soak the rice in level four alkaline water for 20-30 minutes. Cook the rice in the high alkaline water that it was soaking in and you will create moist, soft rice.

- Boil your eggs in acidic water and the yolks turn out bright yellow not gray, and are perfectly symmetrical and taste better. The shells come off with such ease too!
- Vegetables will be a brighter green since the chlorophyll isn't broken down. Acids are also neutralized, so any harsh tastes will be removed.
- Noodles cooked in alkaline water will prevent the noodles from becoming soggy.

### **Alkalize your body with beverages**

- Tea with alkaline water will make the color of the tea vivid, lessen the astringency, and make it mellow and delicious.
- Coffee with alkaline water allows you to use less grounds with the same flavor and strength. Bitterness will be replaced by a smooth, aromatic experience.
- Alcohol: imparts a mellow and delicious taste and prevents the negative physical reactions associated with drinking alcohol as it will neutralize the acid. When drinking alcohol, drink three to four cups of level two alkaline water before and after drinking to prevent effects. You can also add it to cocktails to soften and smooth the taste.
- Fruit juice can be mixed with alkaline water to reduce the acidity and sugar content.

### **Physical Uses of Alkaline Water:**

Alkaline Water helps to regulate your physical condition. Here are some examples of conditions alkaline water can help with:

- **Gastrointestinal Fermentation:** If you drink alkaline water on an empty stomach, it will ease your discomfort.
- **Constipation:** Drink alkaline water before you eat and it will hydrate your bowels and improve this condition.
- **Diarrhea:** Since you quickly become dehydrated with diarrhea, alkaline water, with three times the concentration of water molecules, will help keep you hydrated and reduce discomfort.
- **High or Low Blood Pressure:** Alkaline water will help regulate your blood pressure if you drink it one hour before eating.
- **Support Healthy Blood Sugar Levels:** Drink three cups or more on an empty stomach.

### **Household Uses of Alkaline Water:**

#### ***Animals and pets:***

- Can be used in their drinking water to maintain their health & less odor in feces.

#### ***Dying Garments:***

- Results in vivid colors.

### ***Plants and Flowers:***

- Healthier
- Live Longer
- Need Less Water
- Won't need pesticides
- Extends the life of cut flowers



### **Uses for Acidic Ionized Water:**

- Acidic ionized water has an astringent and constricting effect on what it comes in contact with. For this reason, it will tighten and smooth your skin. It is particularly effective in the treatment and prevention of pimples and rashes.
- Your Face: improves the health of your face, makes it smoother, and more compatible with makeup.
- Shampooing: Use acidic water before and after shampooing. This will protect your hair by preventing hair loss, itching, and dandruff. It leaves your hair soft and non-sticky.
- Bathing: Mix in six to ten liters of acidic water in your bath, it will improve the overall health and beauty of your skin.

### **Home Remedies with Acidic Water:**

Natural acidic water has a slight disinfecting and sterilizing ability, which makes it effective in treating minor skin wounds. It even kills the bacteria that cause bad breath.

### **Here are some other benefits:**

- Gargling: Prevents infection of germs by killing the microbes that cause colds and tonsillitis.
- Burns: Alleviates the pain of burns and hastens recovery.
- Chapped Hands: Accelerates recovery from chapped hands.
- Sunburn: relieves inflammation and accelerates recovery.
- Abrasions and Cuts: disinfects and accelerates recovery.
- Eczema and Acne: kills bacteria, keeps skin clean, improves its' condition.
- 

### **Other Uses for Acidic Water**

Natural acidic water has a slight bleaching effect. Here are some useful cleaning applications:

- House cleaning: dirt and grime are removed.
- Polishing: effectively cleans mirrors, glass, knives and eyeglasses.
- Washing Vehicles: dirt is removed easily.
- Baths: the bath water is quickly heated, scale won't adhere to tub. Great for use in your hot tub.
- Cutting Board: quickly washes and sanitizes.
- Pots and pans with baked food: when soaked overnight, stains and burns are removed.

- Sponges: Fungal and bacterial growth is stopped, preventing bad smells and contamination.
- Odors on your hands: smell is removed and the itching is eliminated.
- Pets: Acid water is great for bathing your pets as it helps address skin disease and itching and leads to an overall healthier coat of fur.
- Sprouting seeds: sprouts have a higher chlorophyll content and it prevents mold.
- Soaking legumes (beans): Makes beans taste better and reduces phytate content.

### **Brushing Teeth and Shaving:**

- Both brushing your teeth and rinsing with alkaline water will help maintain healthy teeth and gums. Also, the natural healthy bacteria of the oral mucosa will be maintained, limiting bad breath.
- Rinsing and soaking your toothbrush in acidic water will help keep it sanitary.



**Sanitizing Effect:**

- Acidic water is an effective agent for sanitizing bug bites, and through its skin toning effects, it will ease itching.
- Flower Arrangement: Use acidic water in vases to keep cut flowers fresher for a longer time. You will see the difference!





# Alkaline Diet Recipes



## **The Alkaline Diet Recipes**

*Katy Joy Freeman*

*Raw Food Chef*

These two soups are Live soups. What does that really mean? It means we are preserving the enzymes and good nutrients by not heating the soup over 105 degrees. You'll reap many more benefits from your foods by eating them raw or slightly heated.

### **Creamy Cucumber Soup**

- 1 cucumber, peeled and cubed
- 1 medium ripe avocado
- 1/2 lemon, juiced (or just squeeze, but be careful to omit the seeds)
- 1/2 cup *ionized alkaline water*
- 2 tablespoons of fresh Dill / can use dry but use less
- sea salt to taste / be sure not to go good salt!

Blend all ingredients and slightly heat if you want or enjoy at room temperature.

Top with any or all of the following: micro greens (sprout mixture), spouted sunflower seeds, diced celery, small avocado chunks.

## **Live Cream of Tomato Soup**

(Serves 4)

This has become an all time comfort food in our house! The ionized water used in this soup really gives it an energy boost! Play around with the ingredients and have fun adding what sounds good to you.

- 3-4 medium tomatoes
- handful of fresh basil
- tsp fresh oregano (can use dried as well; but use less)
- 1-2 cloves minced garlic
- 1 medium avocado
- 1/4 cup soaked sun-dried tomatoes
- 3/4 to 1 cup *ionized alkaline water*
- mineralized salt to taste

Blend all ingredients in Vitamix or any powerful blender. Transfer to soup pan and slightly heat.

***Suggestions for toppings:*** pine nuts, chopped sprouts, chopped celery, chopped mushrooms, chopped olives, chopped onions, chopped sun-dried tomatoes.

## Master Cleanse Detox Program

This drink is a great way to start your day! It's mostly ionized water with lemon and cayenne pepper give a nice boost to your immune system. We regularly enjoy this cleansing elicitor in our house first thing in the morning or sometimes all day for a mild detox and cleanse.

- 16 oz *ionized alkaline water*
- 2 tablespoons fresh squeezed organic lemon juice
- 1/8 tsp cayenne pepper
- 1 tablespoon organic grade B maple syrup



## Seasonal Green Smoothie

A great way to maintain an alkaline lifestyle is getting enough leafy greens and ionized water in your diet. What better way to do this than starting your day with a delicious green smoothie. Try to drink a green smoothie a couple times a week and see if you notice a difference! They just may become your newest healthy addiction!

- 1 ripe banana
- 2 persimmons - diced
- 2 dates/ pitted and soaked in 3/4 cup *ionized alkaline water* - may add more water if you want it thinner
- 2 handfuls of greens of your choice - try one or more of the following: romaine lettuce, kale- de-stemmed, spinach, cilantro, parsley, etc...

Mix all ingredients including the date soaking water in a high speed blender, pour, and, enjoy!



## **Alkaline Comfort Soup**

I was recently healing from a cold and had not gone out to the grocery store for almost a week. I wanted to make something soothing and warm to comfort myself and got real creative with some ingredients I had on hand. This wonderful soup was the result. I hope you enjoy it as much as I did!

- 1 zucchini – chopped
- 1 ripe avocado
- 1 cup *ionized alkaline water*
- 1 tbsp cold pressed extra virgin olive oil
- 1 tbsp lime juice
- ¼ cup fresh salsa – I used one that had fresh garlic, tomato, onion, and cilantro in it!
- ¼ cup diced red bell pepper
- 2 tbsp raw pumpkin seeds
- Handful of fresh parsley
- Handful of fresh cilantro
- 1 tbsp of fresh basil
- 1 tsp dried cumin
- Salt to taste

Put all ingredients in a high speed blender and mix until smooth and creamy. Transfer to a medium sauce pan and slightly heat – best not to get it over 110 degrees to preserve all the enzymes.

***Suggested toppings:*** raw pumpkin seeds, chopped celery, fresh cilantro, diced tomatoes.

## The Perfect Egg

If you have an ionizer in your house, chances are you are mostly using the alkaline water function more frequently than the acid water option. One reason might be because you are not quite sure how to get the most use from it. Today I have a great tip for your getting the most out of your *acid water* and will continue to provide practical applications for you over time.

Boiling eggs in acid water results in a perfectly centered yellow egg yolk and the shell comes off very easily!)

**Directions:** Press the acid water function on your ionizer or use the drain off from the alkaline function and fill a saucepan about half way full. Place eggs in the water and heat on high. Once the water boils let the eggs boil for one minute. Turn off heat and cover. Let the eggs sit in the covered hot water for 15 minutes.

***Enjoy your Perfect Egg!***



## Successfully Storing Celery and Carrots

How many times have you bought fresh veggies to snack on, use in salads, or other recipes only to find that you don't use them before they become limp and wilted? Do you throw away veggies because of this? This tip will decrease waste and keep your veggies crisp and crunchy!

Cut up celery and carrots into desired sizes. Use container of choice and place veggies inside. Fill up the container with *ionized alkaline water* and store in refrigerator for up to two weeks.

You will be amazed how fresh the ionized water will keep your veggies! The water can be changed after one week if you prefer, but it's not really necessary.



## Sundried Tomato and Garlic Spread

- 10-12 sundried tomatoes soaked in *ionized alkaline water*
- 3 tbsp Water from the tomato soak—really helps make this creamy and spreadable!
- 2 tbsp Fresh basil
- 3 tbsp organic olive oil
- 1-2 cloves garlic
- Pinch of sea salt (optional)

Soak sundried tomatoes in *ionized alkaline water* for 30 minutes.

Mix all ingredients in high-speed blender or food processor until smooth. I use the magic bullet for spreads like this. Also works great for salad dressings!

I spread this on manna bread (found in the refrigerated section of your health food store – contains no flour) then dehydrate for a couple hours to make a wonderful healthy version of garlic bread. Manna bread is as close to a raw bread that you will find. The bread consists of sprouted grains and is cooked at a low temperature. By dehydrating the spread you are still preserving the integrity of the enzymes, but this spread is delicious just as it is and can be eaten at room temp on any bread or cracker. Get creative and enjoy!



## **Date Delights**

*Makes 10 large date balls or 20 small ones*

If you are looking for something easy and tasty to make for your next social gathering this is a great choice. It's sure to be a crowd pleaser! Enjoy.

- 15 dates – soaked in ionized alkaline water and pitted (I soak for 20-30 minutes to soften)
- 3 tbsp shredded raw coconut
- 1 tbsp coconut oil
- 1 vanilla bean- cut open and scrape out insides
- 1 tsp non-alcohol vanilla extract
- Pinch of cinnamon
- Pinch of sea salt – optional
- $\frac{3}{4}$  cup chopped nuts – I prefer walnuts, almonds, or pecans

Mix all ingredients except nuts in food processor with S blade until smooth. Roll into balls and then roll in the nuts. Refrigerate.



## **Alkalize your Juice**

Many of us like a fresh glass of fruit juice but sometimes find this does not settle too well. That may be because most fruit juices are acidic. A friend of mine recently shared that he takes *ionized alkaline water* and dilutes his juice and has noticed a big difference. He says that he can now enjoy his juices without the discomfort he experienced in the past. I tried this and boy is he on to something! The added *ionized alkaline water* creates a smooth alkaline treat.

Try it yourself and see what you think.



### ***Our Version of a Chocolate Shake!***

Some people really want to make sure they are getting a lot of calories during the day. Body builders and other athletes as well as those wanting to increase their weight may enjoy this delicious chocolate shake! It can also be enjoyed as a satisfying meal replacement!

#### **Chocolate Shake**

- 1/2 ripe avocado - remove the skin
- 2 tbsp raw cocoa powder
- 1/2 tbsp greens powder or a big handful of fresh greens (kale, romaine or spinach)
- 2 soft dates - pitted
- 1 ripe banana- can use a pear if you prefer
- 1 tbsp raw almond butter or any other nut butter- or 8 raw almonds
- 8 oz *ionized alkaline water*
- 8 oz almond milk or any other nut milk

Blend all ingredients and enjoy!





## How Ionizers Work

Developed in the 1950s, the Japanese invented water ionizers. By adding a strong electrical current to ordinary tap water, ionized, alkaline and acidic water are produced. This electrical process is known as electrolysis, which separates the water into two streams: alkaline mineral water for drinking and acidic mineral water for the skin, cleaning and sanitizing. The process also breaks large clusters of water molecules into “micro-clusters” that are readily absorbed by tissues and cells, leading to better hydration at the cellular level.

Before the electrolysis process begins, the water is filtered to reduce a wide variety of chemicals, heavy metals, and other contaminants. The highest quality ionizers use a nine-stage, dual filter system to clean the source water. The best ionizer companies actually review water reports from the customer’s local water authority to customize the water filters being used with the consumer’s ionizer. This improves the quality and health of the source water being consumed.

The higher quality water ionizers are manufactured with nine platinum-coated titanium plates to deliver a more efficient electrical charge to the water. These water ionizers come in counter top and under the counter models. The newest ionizers are powered with a Switched-Mode Power Supply (SMPS) to more efficiently deliver amperage to the

plates. The combination of mesh technology and SMPS boosts the pH and Oxidation-Reduction Potential (ORP) of the hexagonal water by five to ten percent.

A water ionizer has a chamber system with a series of platinum coated titanium plates that have positive and negative electrodes. The negative electrodes attract positively charged minerals such as calcium, magnesium, manganese and potassium, these are alkaline minerals. The positive electrodes attract negatively charged minerals, such as chlorine, fluoride, sulfur, phosphorus, bromine, silicon and copper these are acidic minerals. A porous membrane separates the two chambers but allows the alkaline and acidic minerals to move towards the positive and negative electrodes. The membrane separates the two types of water created; alkaline and acidic. The water ionizer then produces a stream of alkaline water from one outlet, and a stream of acidic water from the other. About 70 percent of the water produced by the ionizer is alkaline; about 30 percent of the water is acidic. In addition to creating two different types of water, ionization also creates "micro-clustered" water molecules.

Two factors determine the ability of a water ionizer to produce "micro-clustered" water:

1. The number and type of electrodes
2. The wattage being delivered to the water.

Quality electrodes are designed to maximize contact time with the water. MESH plate technology increases the flow of the water over and through the electrodes. Because there

is more contact time between the water and the mesh electrodes, a more consistent quality of ionized water is produced.

Standard water molecules tend to cluster together in groups of 13 to 16 molecules. The ionization process breaks these larger clusters of water molecules apart, creating smaller clusters of five to six molecules known as “micro-clustered” water. These “micro-clusters” are more easily absorbed at the cellular level. This improves the delivery of nutrients and hydration at the cellular level. It also facilitates the flushing of toxins and acids out of the cells.

Water ionizers produce both acidic and alkaline water. Both alkaline and acidic water have benefits. Alkaline water is ideal for drinking, cleaning vegetables, and cooking. Its antioxidant properties (ORP) promote good health and slow the aging process.

You should not drink acidic water. The astringent properties of acidic water in the 4.0 to 6.0 pH range are ideal for cleaning and toning the skin. Acidic water rinses are a miracle for your hair; acidic water helps the scalp, reduces tangles, and gives hair a radiant shine. It can also improve the appearance and quality of your pet’s fur! Strong acidic water has excellent sanitizing properties and can be used for cleaning hard surfaces around the house, cleaning toothbrushes, hands and even as a mouthwash.





*Preventative Measures for a Healthy Future™*









### About the Author



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Peter L. Kopko was the first Certified Chiropractic Sports Physician in San Diego County and 90th in the world. He is a nutritionist and dark field microscopist with over 28 years experience. Peter L. Kopko consults for LIFE Ionizers® where he performs clinical and laboratory research. He has served as LIFE's Chief Science Advisor for over ten years.

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