

# Why Serious Athletes Drink Ion-Rich Restructured Water

Improved  
Hydration

More  
Endurance

Faster  
Recovery

Enhanced  
Performance

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## Chronic Over-Acidity: The Athlete's Challenge

It is well known among athletic trainers that chronic over-acidity is the underlying cause of pain, inflammation and poor performance. The body draws upon alkaline minerals stored in the bones and tissues to buffer the over-acid state caused by the foods we eat, the fluids we drink, intense physical training and our generally stressful lives.

The body will do anything it can to keep the pH of the blood at its optimum level of 7.36 because if it drops to 7.0, it can cause a coma or even death. Because of the logarithmic scale of pH, this seemingly small change represents an acidic state four times higher. Thus, the blood varies little from the proper pH. To maintain the ability to buffer acids in the blood, the body calls on minerals stored in our organs and bones. The body will damage its own organs before it lets the blood pH become acidic. Thus, chronic long-term over-acidity accelerates aging of our internal organs and tissues.

While the blood pH remains in a tight alkaline range, the rest of the fluids surrounding our cells and tissues may become more acidic. Many health experts believe that in such an internal environment, beneficial microforms will die and aggressive microforms, sustained by an acidic environment, begin to multiply and mutate, becoming parasitic and pathogenic agents. This may explain why over-acidity is related to decreased resistance to colds, flu and upper respiratory and gastro-intestinal illnesses.

# Are You Overly Acidic?

When your cells, tissues, and interstitial fluids are overly acidic, you are more likely to experience the following effects, according to Susan Lark, M.D., author of *The Chemistry of Success*.

- Tire easily and become fatigued
- Find it more difficult to think clearly
- Develop a pessimistic outlook on life
- Retain toxins and heavy metals
- Stiffness, joint pain and arthritis
- More frequent colds, flu, allergies and respiratory ailments
- Chronic fatigue, chemical sensitivities or fibromyalgia
- Lack the energy and vital spark to achieve your goals and aspirations
- Develop high blood pressure, autoimmune disorders, cancer, heart disease, diabetes, or inflammation

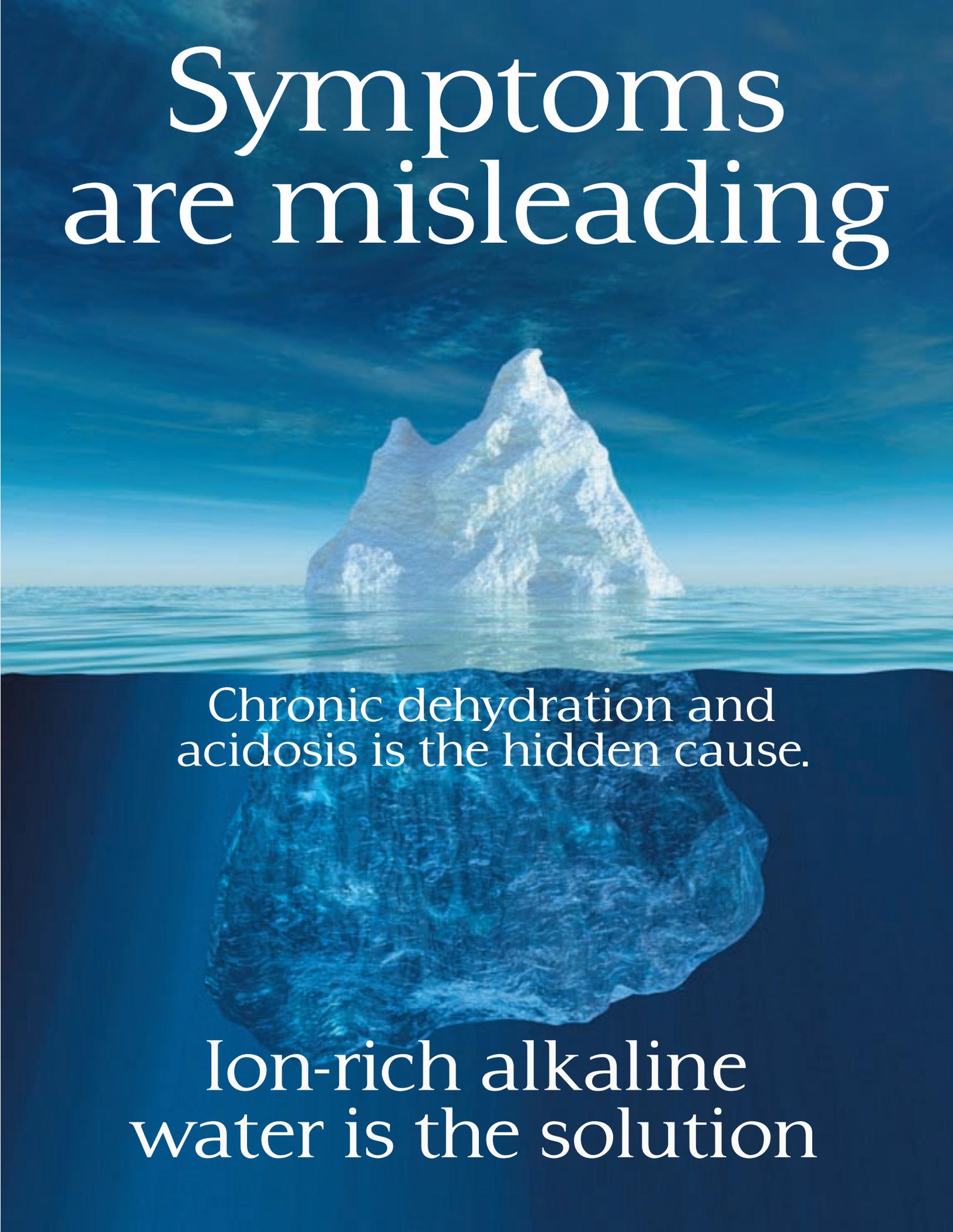


The good news is that ion-rich, restructured water helps the body preserve and maintain its calcium, magnesium, and potassium reserves by providing ionic minerals and negative hydroxyl ions to buffer excess acids.

## Toxicity and Chronic Over-Acidity

We are exposed to sources of toxins in our modern world from the air, water, food, cleaning products, cosmetics – the body has a vastly expanded load to deal with compared to just 100 years ago. Toxins are free radicals – they are oxidizing molecules with a positive charge looking for an electron – a negative charge – to neutralize them. And they steal electrons from the cell wall, our DNA and RNA, our connective tissues, organs, etc. *Oxidation is aging.*

# Symptoms are misleading



Chronic dehydration and  
acidosis is the hidden cause.

Ion-rich alkaline  
water is the solution

# Diet, Lifestyle and pH

The food we eat is made up of a mixture of carbohydrates, proteins and fats. At its most basic, food consists of carbon, nitrogen, hydrogen and oxygen. To sustain life, we oxidize or burn food for its energy and nutrients. When food is burned to fuel the body, the by-products are carbonic acid, uric acid, lactic acid, fatty acids and ammonia. All food produces some amount of acid waste; some foods contain organic alkaline minerals that help neutralize that waste. Acidic wastes must be disposed of through the urine and perspiration after being dissolved in the blood. Our diet has changed drastically in a short time period. The average athlete's diet contains a preponderance of acid-forming foods such as meat, poultry, dairy products, some fruits, nuts, refined sugar, corn sweeteners, artificial sweeteners, chocolate, refined flour products, soft drinks, beer, wine, coffee and black tea.



Diet or regular sodas and sports or energy drinks and are probably contribute the most to acid overload in our diet, at a pH of 2.5. Most people do not have enough alkaline buffer reserves to offset or neutralize the acid waste produced by consuming the Standard American Diet – also known as SAD – composed primarily of these foods.

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According to author and physician Susan Lark, MD, the following lifestyle factors increase the acid load on our bodies:

- Physical and mental stress which reduces oxygenation and blood flow and increases muscle tension
- Strong emotions like anger, fear, hostility, or excitement, which produce adrenaline surges
- ***Vigorous exercise which produces lactic acid, pyruvic acid and CO<sub>2</sub>, decreasing muscle pH***
- Frequent airplane travel: cabin air is lower in O<sub>2</sub>, higher in CO<sub>2</sub>
- Over-the-counter and prescription medications and vitamins

# If the fish are sick ....



If the body can't neutralize or buffer the acid waste it produces, which happens more and more often as we age, it accumulates somewhere in the body – often stored in the fat cells made for this purpose or as crystals in the joints and muscles. Arthritis and gout result when uric acid precipitates from the blood due to over-acidity. Drinking restructured ionized water will gradually balance the body's pH and dissolve excess uric acid so it can be excreted. Often the symptoms of arthritis and gout will naturally disappear.

Everyone knows the number 98.6 - normal body temperature. To be healthy, our body must maintain that temperature. Well, 7.365 is just as magic a number. It's the number that measures the delicate pH balance of your blood. Your body maintains that number very well, at the expense of your mineral stores and other buffering systems.

Anyone who's ever taken care of pet fish knows that the pH level of a salt water aquarium is of utmost importance for the fish. If the water becomes acidic the fish dies because it's only as healthy as the water in which it swims. "When the fish is sick, change the water," says Dr. Robert Young, author of the *pH Miracle*. "We don't feed the fish medicine. We give them clean water. When the cells of our body are sick, we must change the water and fluids in which all cells and tissues are bathed."

# Alkalinity and Sports Performance

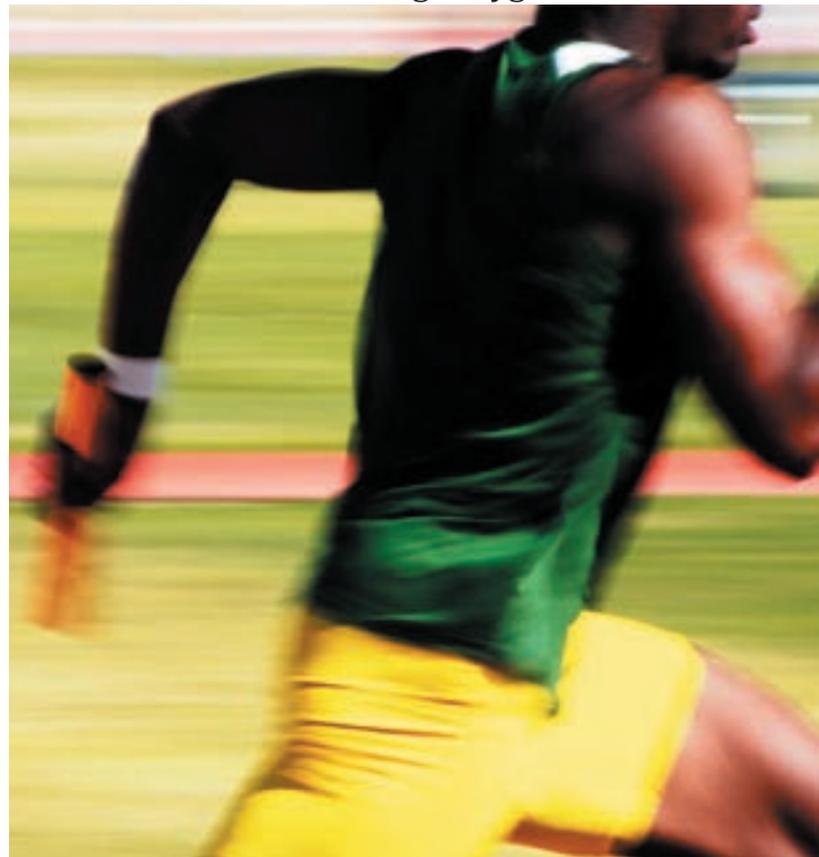
Competitive, elite athletes and sports trainers know that subtle changes in pH can have profound effects on overall health, feeling of wellness, level of fatigue, pain, weight, ability to train and athletic performance. Muscles work best in a narrow range of pH. At rest, muscle pH is about 6.9, while arterial blood is about 7.4. When we exercise, the increased use of muscle glycogen for energy produces lactic acid, pyruvic acid, and CO<sub>2</sub>, which decreases muscle pH. The harder you exercise, the quicker your muscles become acidic which leads to fatigue. Accumulation of acid also limits production of ATP, the energy molecule, and disrupts enzyme activity that produces energy. For example, the enzyme phosphofructokinase is the rate-limiting step in muscle use of glycogen. When muscle pH falls below 6.5 it stops working altogether. Acidity also reduces muscles power directly by inhibiting the contractile action of muscle fibers.

The pH of your body determines much of what goes on inside the cell and in the extra cellular fluid known as the lymphatic system. Delayed onset muscle soreness (DOMS) is caused by the shift in pH levels within and outside the cell. When lactic acid builds up so much that the pH of the cell shifts, the electrical transmissions slow down and you do not get the same kind of connection. Many athletes experience this as “hitting the wall” or as a drop in peak performance.

Look at a sprinter, for example. In a 100 meter final, his speed will peak somewhere around 60 to 70 meters. At that point, he’s exercising in the anaerobic state – not enough oxygen is reaching the muscles to produce energy aerobically.

In the anaerobic state, stored carbohydrates (glycogen) in the muscles are burned for fuel, producing so much lactic acid his muscles don’t work as efficiently. He can’t go any further at that top speed.

The same thing happens with a distance runner. If he goes too far into the anaerobic phase, his muscles begin burning stored carbohydrates for fuel, which produces more lactic acid and his performance starts to drop. It’s important to train, eat the right pre-competition meal, and drink the right fluids to maintain appropriate balance during the event, and to efficiently clear the lactic acid out of the system after the event.



How well an athlete's body handles lactic acid determines how quickly they can get back into training and compete again.

“Endurance and elite sports athletes should be concerned about maintaining health pH balance,” says Robert Burns, PhD. He notes that lactic acid build up or hydrogen ion excess is of most concern. As the body metabolizes food, acid waste is created which must be removed or neutralized through the lungs, kidneys (urine) and skin. “pH balance and acid buffering are crucial to human health and slowing the aging process,” he explains. Athletes, coaches and practitioners of holistic and traditional medicine are paying more attention to this area. “We may be able to buffer or slow the negative effects that acidosis has on athletes as well as the many disparate maladies that share acidosis as a common thread,” he concludes.

Given the kind of training loads you need to perform to achieve your goal – whether you are a weekend athlete, amateur athlete or a professional athlete – recovery time is very important. Some athletes resort to using anabolic steroids or drugs to improve their recovery time so they can train harder, more frequently and get better results. That's what restructured ionized water allows you to do – *naturally!*

Most athletes are locked into a dietary pattern that is acid-producing. They do not consume enough alkaline, mineral-rich foods, such as nuts, fruits, and vegetables. Instead their diets contain high amounts of acid-forming foods, such as meat, fish, poultry, eggs, and dairy, energy bars sweetened with high fructose corn syrup or other unhealthy sugars, and acidic energy or sports drinks. Because of this dietary imbalance, they may be at risk for increased acidosis that affects overall health and sports performance. Since proper hydration is also a key factor in preventing exercise fatigue, consuming restructured ionized water before, during and after exercise can improve hydration and help balance over-acidity.

The use of ion-rich alkaline water is proving to increase competitiveness and overall performance in world class athletes. A diet that supports alkalinity is also recommended by sports nutritionists. Consuming ionized, alkaline water will reduce the accumulation of



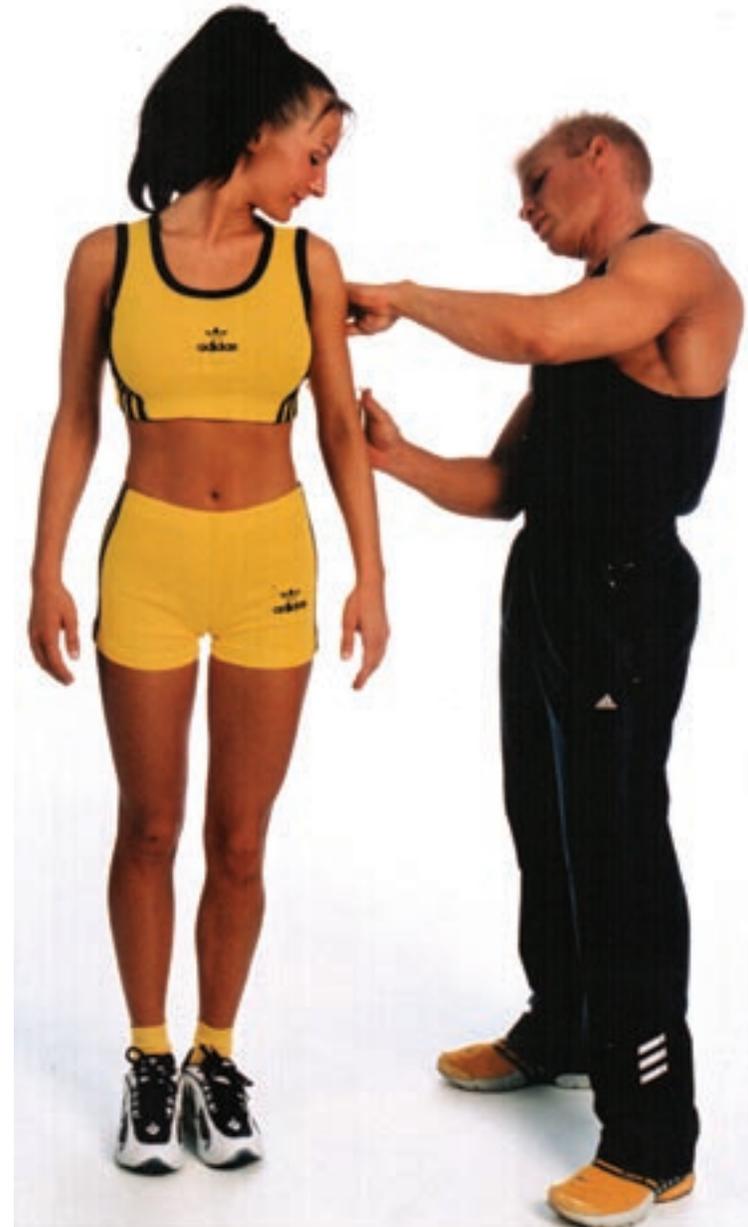
acidity in exercising muscles, improving work-out intensity and recovery time. Former Denver Bronco Bill Romanowski was introduced to the power of “ionized” water late in his career when he was doing anything legal to maintain his competitive edge.

Competitive bodybuilder, personal trainer, author and speaker Wade T. Lighthart advocates the use of Kangen Water™ produced from the Enagic Leveluk SD501, and credits it for motivating him to come out of retirement. In 2007, after several years of retirement from bodybuilding competition, he was introduced to restructured ionized water. “After just a few days of drinking this amazing, living, electrically charged water, I noticed that I had lost a significant amount of body fat. (I can tell by looking at myself in the mirror because I am so tuned to my body’s condition.) I had changed nothing else – I was doing my normal, non-competitive daily workout regimen. To see a change in body fat that quickly was unheard of – that usually takes weeks of a strict diet, supplement and exercise regimen. I had lost four percent body fat in a week, where in the past the best I could do was two percent under extremely severe conditions,” Wade shares.

Because of that out-of-the-ordinary response, Wade decided to try an experiment. The Canadian Natural Bodybuilding Championship was being held in Vancouver, BC, where he lived. It was just three weeks away, and he had not planned to compete. But he was convinced that drinking restructured ionized water would make it possible to get ready and compete in this extremely short period of time.

Wade continues, “I was able to increase my training program to a level that I had never thought possible. I was able to train 2 1/2 times my absolute peak volume levels. I was able to increase the amount of work, the intensity and frequency of my workouts. I experienced NO pain, NO fatigue. Drinking restructured ionized water allowed me to recover faster so I could train more frequently.

“Most importantly, my brain stayed *on-line* – I could think. I ENJOYED the process of getting



Wade T. Lighthart, 3-Time Canadian Natural Bodybuilding Champion, Sports Nutritionist and Personal Trainer

ready to compete for the first time in my career. I even went out once a week with friends and ate “normal food” – something I would never have dared to do during other times of my career when I was preparing for a competition. At the Championship, I continued to drink Kangen Water during the competition. I took the Junior Master’s Title and the Open Men’s Title. Remember, this is with three weeks preparation for the Canadian Nationals and three months for the world competition,” he reports.

Was it just consuming negative ion restructured water that allowed Wade to achieve this remarkable feat? Of course not. He had reached this level before, so he knew how to train and how to leverage his results with the right supplements and foods. Because he was in top shape from his normal routine, he was not far away from competition-level body perfection. He believes the water amplified everything he was doing and allowed him to train more intensively.

In her book, *The Chemistry of Success: Secrets of Peak Performance*, Susan Lark, MD, talks about the role of acid/alkaline balance in peak performance and health. The following is her assessment of Kangen Water (which she refers to as alkaline water):

“The benefits of the alkaline water created through electrolysis far exceed just its ability to gently raise the pH of the cells and tissues of the body and to neutralize acids. Because the alkaline water has gained a significant number of free electrons through the electrolysis process, it is able to donate these electrons to active oxygen free radicals in the body, thereby becoming a super antioxidant. By donating its excess free electrons, alkaline water is able to block the oxidation of normal tissue by free oxygen radicals.”

She continues by noting that another significant benefit of the electrolysis process is that the cluster size of the alkaline water is reduced by about 50 percent from the cluster size of tap water. “This allows ionized alkaline water to be much more readily absorbed by the body, thereby increasing the water’s hydrating ability and its ability to carry its negative ions and alkalizing effect to all the cells and tissues of the body. If you are overly acidic, an alkaline water device can provide a safe, gentle, and effective way of restoring the pH balance of all the cells in your body as well as providing excess free electrons to act as super antioxidants,” Lark recommends.

Most people, including most athletes, do not consume enough alkaline mineral-rich foods, such as nuts, fruits, and vegetable. Instead their diets contain high amounts of acid-forming foods, such as meat, fish, poultry, eggs, and dairy. Because of this dietary imbalance, they may be at risk for increased acidosis that affects overall health and sports performance. Since proper hydration is also a key factor in preventing exercise fatigue, consuming ionized Kangen Water before, during and after exercise can help.

# Hydration: the Key to OUTSTANDING Performance

## Chronic Dehydration

Dehydration is the biggest enemy to achieving optimum health and vitality. Regular people and high performance athletes alike all suffer from dehydration and I believe it is the single biggest factor in optimum performance. Ionization lowers the surface tension of water significantly and breaks the molecular cluster of water down into a smaller size which can more easily permeate the cell wall and thus super hydrate the cell.

A super hydrated cell allows for faster contraction speed, the removal of metabolic waste products such as lactic acid, and has also been shown to improve protein synthesis along with numerous other cellular functions. Regular water cannot penetrate the cell to the same degree and in fact may be counterproductive to hydrating the cell. Most bottled waters, sports drinks, and energy drinks actually dehydrate the cell instead of hydrating it and reduces performance as opposed to increasing athletic ability.

Long-term dehydration leads to chronic injury due to the loss of minerals as the body struggles to alkalize the blood and tissues by stealing minerals out of connective tissues and bones. Chronic dehydration is a major contributor to why so many professional athletic careers are being cut short. Dehydration is also linked with asthma, allergies, diabetes, obesity, heart disease and cancer. It is estimated that 75 to 90 percent of North Americans are dehydrated!



# Here's what happens when your body becomes dehydrated:

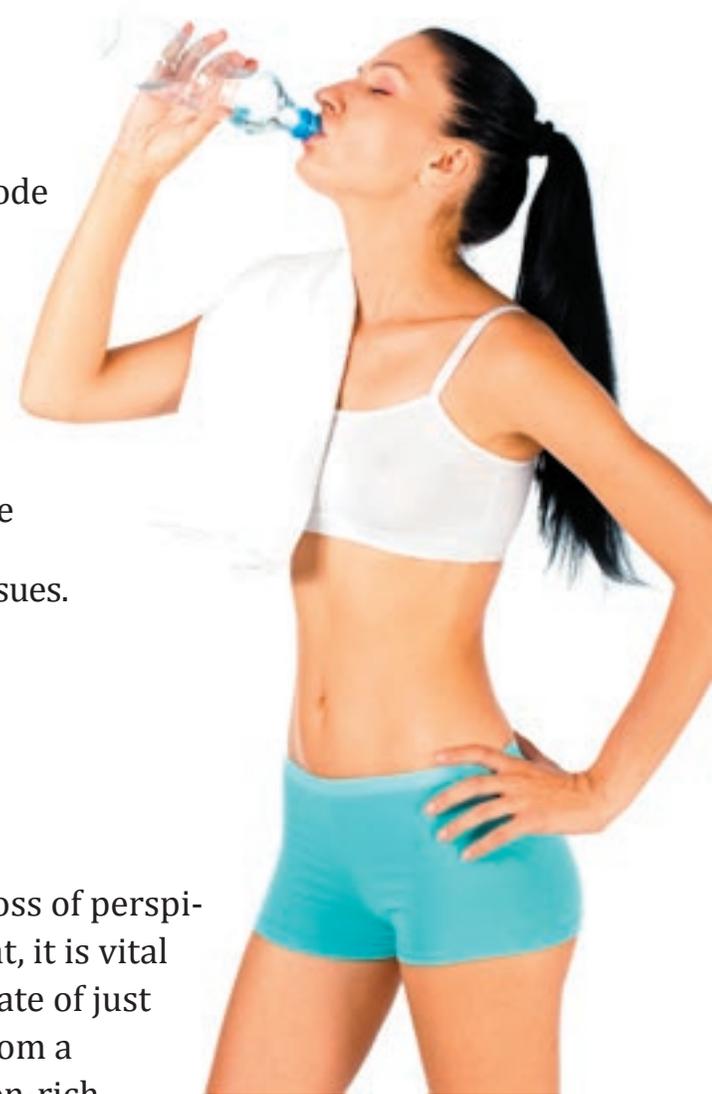
## Percent Hydration Loss

- 1% 4% decline in athletic performance!**
- 2% Body becomes acidic & goes into fat storage mode  
(It only takes a 1 hr. workout to get to this point.)
- 3% 10% drop in muscle strength and endurance.
- 4% 30% drop in capacity for physical labor
- 5% Concentration difficulty, drowsiness, headache
- 6% Heart races and body temperature regulation issues.
- 7% You could collapse
- 10% Possible coma
- 15 to 20% .....can kill you!**

Extreme exertion causes at least a 3-liter per hour loss of perspiration. Given the amount of water lost through sweat, it is vital to understand the body can only absorb fluids at a rate of just 1-liter per hour, which leaves your body suffering from a 2-liter hydration deficit. Athletes should consume ion-rich alkaline water produced from high-quality water ionizers before, during and after competition or training.

Extreme physical exertion causes an accelerated build up of acidic wastes in the body (lactic, uric, or ammoniac acids) that harden and cause blockages in vital organs and the blood stream. These acids are more efficiently flushed out of the system with alkaline ionized water. NOTE: Super-hydrating with alkaline ionized water, daily drinking 10 to 14 glasses/day shortens the recovery time normally required after athletic exertions. A shorter recovery time prepares the body for the next workout and increases the body's endurance and stamina levels when consumed daily in sufficient quantity.

This living, super-hydrating water should be consumed before warming up, working out and especially during athletic competitions. Ion-rich alkaline water should also be consumed during periods of physical exertion to properly hydrate the athlete's body.



Alkaline water's extraordinary hydrating and healing properties boost vitality, stamina and are vastly superior to bottled water products that are themselves acidic (most often less than 7.0 pH and as low as 3.5 pH), or "energy drinks" that can be addictive, can contain harmful additives, and may cause side effects.

The *quality* of water is dependent upon several things including purity, electrical charge, molecular structure, and alkalinity, or pH. Beware: "purified water" is a very misleading marketing morass. Most bottled waters are tap water put through reverse osmosis (RO), marketed by the large soft drink companies. It's "very, very pure water" – yes, but it is also devoid of minerals, has an acidic pH, and carries chemicals leached from the plastic. In Japan, they call RO water "dead" water! Bottled water is processed, bottled, transported overseas or across country, stored in warehouses and trucked to retail shelves (often exposed to extreme heat.) The longer the water remains inside the bottle – the more harmful petroleum based contaminants leach from the plastic into the water. For an athlete, using bottle water for hydration is a recipe for below-par performance.

## Hydration Therapy with Kangen Water

By Wade T. Lightheart, author *Vital Power*

High performance athletes want to know how all this information can equate to improved performance. Is there a fast way to radically alter pH and hydration of the cells and interstitial fluids?

**Yes, there is! Hydrate intensively with Kangen Water™.**

First, make sure you have access to freshly produced Kangen Water. This requires access to a home water ionizer. Is that a significant investment? Yes. But if you are a serious athlete, you invested thousands on your equipment and training already. A top-of-the-line home water ionizer runs about \$4000 and will end up saving you money while improving your athletic performance.

Start with 8.5 pH and if you have no negative detox reaction, move to 9.0 then 9.5 pH. (Back off if you start to feel worse from detoxification.) Drink one ounce per pound of body weight per day for the first 21 days. This intensive approach will change over all the water in your body. A typical 200 pound athlete carries around 160 pounds of water – at 8 pounds per gallon that's about 20 gallons of water. 200 ounces a day will replace what you are losing each day from sweating as well as replace your total body water.



## The Cost of Winning

Can you buy a home water ionizer for less than \$4000? You sure can.

You can also buy a bicycle from WalMart for \$100 instead of a carbon fiber bike for \$3500. Or you can skimp on trainer/coaching fees and save a bundle.

According to Wade T. Lighthart, 3-time Canadian Natural Bodybuilding Champion, "I have personally tested over 60 different brands of bottled water and various machine producing various types of water. I have yet of find any water product, bottled water, filter or machine that can produce the quality of water that the Leveluk SD 501 consistently produces."

The Leveluk SD 501 is the flagship water ionizer from Enagic – the luxury, high performance sports car model of the water ionizing world. It offers the range of negative ion restructured water that will produce the advantage that every athlete is looking for. This is water that will help someone create an "inner terrain" alkaline environment to support optimal sports performance.

Start by drinking at least a liter (or quart) of water when you get up in the morning. Be sure to drink as much as you can before, during and after work outs. You can also add liquid ionic minerals to your water to replace electrolytes during workouts, or a pinch of natural Celtic salt or Himalayan salt to a gallon of water.

Athletes are easily dehydrated – it's common to sweat 1 to 3 liters per hour when exercising in the heat! Decreased performance due to dehydration as little as 2% is common because of reduction in blood plasma volume. The body reduces blood flow to the skin which makes it harder to cool off the body internally, which increases body temperature. With reduced blood volume comes reduced cardiac output, and impaired mental function.

Any kind of extended athletic endeavor can lead to dehydration – a long tennis match, 18 holes of golf on a hot day, a marathon or triathlon, or other types of exercise. Motor skills are affected, nerve transmission is slowed. For instance, many golfers have experienced poor performance on the back nine after a great game on the front nine. This could be due to dehydration because they are drinking sodas, sports drinks or beer. Just a small decline in hydration affects fine motor skills – dehydration has almost imperceptible effects on the ability to send electrical signals, affecting the golf swing just a millimeter or two. Enough to take you from "in the sweet spot" to out of it.

Most athletes who have used Kangen Water experience faster recovery between bouts of anaerobic activity, more endurance, no delayed onset muscle soreness. In short, with Kangen Water, we can compress time – if it used to take

72 hours to recover between hard workouts, it may take only 48 hours with Kangen Water. Training schedules are created based on how long it takes to recover between hard workouts – you could take a 12 week cycle to 8 weeks.

Today's athletes are stronger, faster and better conditioned than ever before. It's like going from a 4 cylinder car to a V12 engine without changing the gas! Athletes are like high performance cars and require a different fuel than before – "V12 Water" instead of sports drinks or plain bottled acidic water.

It matters not whether you are an anaerobic, aerobic or weekend athlete. Kangen Water will improve your performance, recovery time, and hydration.

## An Economical Choice

Every athlete knows you've got to maintain hydration. How many bottles of water does it take? How much do you spend on bottled water? Specialty waters that imply some kind of health benefit typically sell for about \$2 or more per liter. If you consumed your body's daily needs for water (minimum three to four liters/day) from specialty bottled water, it would cost \$8–10 a day per person. That adds up to about \$50,000 for one person over 15 years.



And what happens to the disposable plastic bottles? They end up in the landfill. What about the petrochemicals they are made from, and the chemicals that leach from the plastic into the water? In North America alone we are putting billions of bottles into landfill sites every year that will still be here a thousand years from now. We can make a difference as athletes by consuming the best water – restructured ionized water – from reusable sanitary bottles.

Do bottled waters deliver on their promise of health benefits? Most brands are mildly acidic. Drinking such water will contribute to the chronic over-acidity that underlies many of our adult, lifestyle-related diseases. More importantly, these waters typically measure a +100 or higher on an ORP meter, meaning they are a source of free radicals, not antioxidants.

You could save a minimum \$50,000 dollars by owning your own fountain of youth, generating unlimited quantities of health-promoting ion-rich alkaline water for yourself, your friends, and your entire family for just pennies a gallon. Picture this: an ion water generator in every gym in the country so athletes can have access to the best water right in their sport facility and enjoy improved performance and optimal health!

# Drinking Ionized Water Saves You Money in Many Ways!

**1. Bottled water is expensive.** 4 small bottles of water costs as much per gallon as gasoline! At \$1.29 to \$1.50 that adds up. If you're an athlete you may spend as much as \$50 to \$100 per month on water.

**2. Sports Drinks.** Do you consume sports drinks, energy drinks or soda pop? Not only are they acidic and not doing you much good, they add up over the month. Figure at least \$50 per month for "rehydrating energy drinks."

**3. Specialty Coffee Drinks.** Many athletes believe caffeine improves performance, and of course, they need those simple sugar calories! At \$4.50 a pop after your daily workout that comes to \$126.00 per month. (At least it contributes to your carbo loading needs!)

**4. Over the Counter Medications, Prescriptions, and Supplements.** That includes anti-inflammatories for post-workout pain, various vitamins for performance enhancement. Figure you can cut your supplement usage in half, and rely far less often on pain relievers.

If you could save \$100 to \$200 per month just on these items alone, would you spend \$50 to \$100 per month to gain the massive health benefits of drinking Kangen water?

Note to gym owners and coaches: We can show you how you can create a significant profit center by offering Kangen Water™ from Enagic to your clients and members.

# Shocking Facts about Dehydration

- 75% of North Americans are chronically dehydrated.
- In 37% of Americans, the thirst mechanism is so weak it is often mistake for hunger.
- Even mild dehydration will slow down your metabolism by 3%
- One glass of water will stop hunger pangs for nearly 100% of dieters (U Washington study)
- Lack of water is the main cause of daytime fatigue
- 8-10 glasses of water a day could ease back and joint pain for 80% of those affected
- Just a 2% drop in hydration can cause short term memory problems, trouble with basic math, or ability to focus
- Consuming 5 glasses of water daily can reduce colon cancer risk by 45%, breast cancer risk by 79% and bladder cancer risk by 50%

In the book *Your Body's Many Cries for Water*, author F. Batmanghelidj, M.D. says that many symptoms we call diseases are the body's way of telling us it is dehydrated. The failure to recognize the importance of dehydration as a cause of disease "is the most basic mistake that has deviated clinical medicine. It has prevented medical practitioners from being able to advise preventative measures or offer simple physiological cures for some major diseases in humans."



# Kangen Water ....

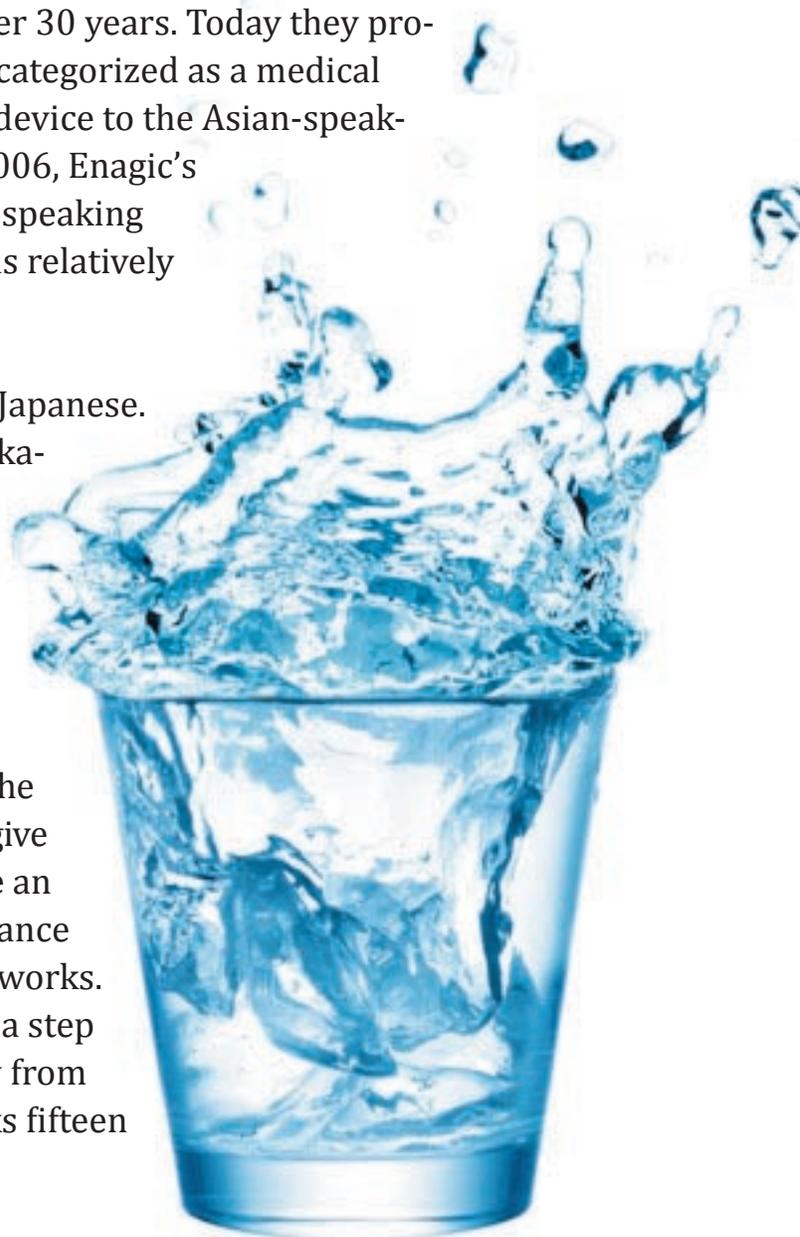
## The Answer to Chronic-Overacidity

First, a little history. Ionization of water for health benefits began in the 1920s in Russia. Research continued in Japan where the technology has been a mainstay for medical therapy over the last three or four decades. This water is known by several names including: **electron rich, alkaline, micro clustered, active hydrogen saturated, oxidation reduced, hexagonal, ionized water, Kangen Water™ or living water.** It can be produced by several different brands of water ionizers. (The one we recommend and use is the Leveluk SD501 from Enagic USA.) Kangen Water is the registered trademark of Enagic USA, Inc.

Enagic USA is a Japanese company which has been marketing commercial water ionizing devices to hospitals and clinics in Japan for over 30 years. Today they produce and market a home water ionizer that is categorized as a medical device in Japan. In 2003, they introduced this device to the Asian-speaking market in the United States, and in early 2006, Enagic's Leveluk SD501 made its way into the English-speaking marketplace. This product and its technology is relatively NEW to the North American marketplace.

The word *kangen* means "Return to Origin" in Japanese. In order to be called Kangen, water must be alkaline, microclustered, pure, and have a high negative ORP, or oxidation-reduction potential. Kangen Water™ is used in over 100 hospitals and medical clinics in Japan for its scientifically- documented health benefits.

Every athlete is looking for the "silver bullet" – the one thing that will amp their performance and give them the edge over their competition. If you are an athlete, you know you can't fake your performance results. You absolutely *know* when something works. We live in a world where scientists are always a step behind the cutting edge of what athletes know from experience. Athletes often discover what works fifteen or twenty years before science "proves" it.



The technology to ionize and restructure water is *cutting edge*. It has shifted what we know about water and acid/alkaline balance so much and has changed our understanding of what water is so radically, that the traditional medical science community is still years away from catching up.

Everyone knows you need to have water, and plenty of it, for the best athletic performance. No one has really investigated the effect of the *structure* of water because up until now we thought water was just water. We did not understand the significant differences in the structure of water that affect performance.

## Oxidation-Reduction Potential

Oxidation-Reduction potential [ORP] is electrical potential expressed in millivolts. ORP is a measurement of the ability of a fluid to increase or decrease oxidation. ORP can be a positive or negative number. When it is positive, it means the substance will oxidize whatever it comes in contact with. When it is negative, it means it will reduce whatever it comes into contact with.

**In its most basic form, reducing agents are anti-oxidants.  
And we all know how important antioxidants are to  
health and longevity.**

The word Kangen can be translated in chemistry as “reduced” ^- and since reduced is the original state of a substance, it has also been translated as “return to origin” or “return to original state.”



While both types of chemical reactions occur in the body on a constant basis, for purposes of human health and longevity, oxidation leads to aging and deterioration. Oxidation reactions in the body need to be balanced by reducing agents - that which inhibits or slows down oxidation. Reducing agents, like Kangen Water, donate an electron, while substances that are oxidizing (+ORP) steal an electron from the surface of the substance being oxidized.

## Surprising Facts About Bottled Water

	pH	ORP	\$/Liter
Perrier	3.4	+457	3.87
Penta	4.2	+613	2.75
Dasani	4.9	+521	1.89
Aquafina	5.2	+542	1.92
Whole Foods Brand 360	6.2	+413	1.78
Reverse Osmosis	6.5	+586	0.03
Tap Water	7.0	+370	N/A
Smart Water (Glaceau)	7.8	+385	3.38
Evian	8.0	+404	2.25
Zaqual & Essentia	9.0	+227	2.95
<b>Kangen Water</b>	<b>9.5</b>	<b>-470</b>	<b>0.06</b>



The ORP of most tap water in the North America is between +200 and +600 mV --- thus, tap water is an oxidizing agent. Bottled water is no better, as you can see from the above chart.

## Electrolysis Creates Restructured Ionized Water

As water rushes down streams, running over rocky surfaces and into powerful waterfalls, the interaction of all these life forces creates the natural phenomena of ionization.





The process of electrolysis occurs as water passes over magnetically-charged positive and negative electrodes which divide the water into two distinct streams: alkaline (reduced) and acidic (oxidized) water. The life force created by this process produces living, breathing ion-rich alkaline energized water that is oxygenated to maximize its health-promoting properties.

Water ionizers raise the pH [make it more alkaline] of tap water by electrolysis which splits the water molecule ( $H_2O$ ) resulting in the ions  $H^+$  (hydrogen with a positive electrical charge), and  $OH^-$  (hydroxyl with a negative electrical charge). The negatively charged hydroxyl ion exits the ionizer through the drinking water hose, while the positively charged hydrogen ion is released as acid water. When consumed as freshly made restructured ionized water, this abundance of  $OH^-$  ions increases the bicarbonate buffers in the blood, balancing the body to neutralize and excrete acids and toxins. Alkaline water is also rich in ionic minerals, like calcium. Research has shown that it significantly increases bone density.

Water ionizing devices separate the naturally occurring minerals in most tap water into two groups: those with a negative charge (alkaline) and those with a positive charge (acidic). The negatively charged minerals can donate their free electron and neutralize free radicals (acids and toxins) that are produced from exercise. If you're drinking dead water out of a bottle, you're not eliminating free radicals, you're actually increasing the load on the body. Absolutely no bottled water company is addressing the issue of the negative charge of the water, the high negative ORP, which provides so many health benefits as an antioxidant.

***Not all alkaline water is equal.*** The quality and impact on the body depends on HOW the water has become alkaline. Water can be alkaline from the mineral content, which is not bioavailable to the body since it is inorganic. Alkaline water produced through ionization creates ionic bioavailable minerals and the OH<sup>-</sup> ion which is very beneficial to the body.

The pH of the water is just one part of the picture. The electrical charge and structure of the water is more important, and is one of the reasons people should drink ion-rich restructured water as fresh or as close to fresh out of the machine as possible, since the negative electrical charge dissipates over time.

## The Importance of Bicarbonate Buffers

According to many experts, the most important function of negative ion restructured water is to increase bicarbonates in the blood. As we age, we lose bicarbonates, which buffer or neutralize acids. When we say that we alkalize our body, we don't necessarily mean that the pH of the saliva or urine increases. Alkalizing the body means increasing the amount of bicarbonate buffers available to the interstitial fluids surrounding the cells – the “inner sea.” The blood pH does not change, but our body's ability to neutralize acid increases.

People living and working in a polluted environment have fewer bicarbonates in their blood than people working in a clean environment. Our stressful lifestyles create more acid, which causes the body to use up more bicarbonates. The standard North American diet also contributes greatly to the acid load on the body. Some foods are more acid-forming than others, especially high protein meat products, processed foods, and highly acidic soft drinks.

Conventional medicine considers the reduction of bicarbonates in the blood an inevitable fact of aging. There is a great deal of interest in the hypothesis that, in fact, the reduction of bicarbonates in the blood is instead the *cause* of aging and disease. If we can modify our diet and lifestyle to replenish bicarbonates in the blood, perhaps we can slow the aging process.



## Increased Blood Oxygenation

Strong, fresh negative ion water contains an abundance of hydroxyl ions ( $\text{OH}^-$ ) which donate free electrons to unstable oxygen free radicals, resulting in stable oxygen molecules. According to experts, drinking such water on a regular basis will increase the amount of dissolved oxygen in the blood. Stable oxygen (a nonreactive oxygen molecule with evenly paired electrons – no electrical charge) provides us with mental alertness and is invigorating and energizing to the body.

The increased oxygen available in ion-rich alkaline water improves or shortens recovery time intense workouts or competition events. Athletes generally notice the difference within a week, sometimes days ... more energy during training workouts, increased stamina and endurance, reduced recovery time, better performance, decreased muscle soreness.

# Stay Healthy ...



## with Anti-oxidant Kangen Water

## Antioxidant Water - A Free Radical Scavenger

Ionization creates water which becomes a “free radical scavenger” with measurable antioxidant properties. The drinking water produced by ionization carries a highly negative charge, measured as oxidation-reduction potential or ORP. A high negative ORP means the substance being measured has antioxidant activity – it is able to donate electrons to neutralize free radicals in the body (molecules with a positive charge.) Free radicals damage our tissues and accelerate aging; acids are positively charged free radicals. The antioxidant properties of this water are many times higher than any food or nutritional supplement on the market.

Consuming ion-rich restructured water provides a way for toxins to exit the body by neutralizing the positive, cationic charge with its abundant free electrons. Toxins stored in fat cells, tissues, organs, and lymphatic fluids are released, resulting in fat loss.

The negative ORP is achieved by the production of the  $\text{OH}^-$  ion which appears when the water molecule is split by the electrical charge delivered to electrode plates. The pH of the source water is increased to between 8.5 and 9.5 from the presence of an abundance of  $\text{OH}^-$  ions and ionic, negatively charged alkaline minerals like calcium, which were in the original source water.

## Microclustering Increases Hydration

Ionized alkaline water is far more hydrating (per medical experts it is actually “6-times MORE HYDRATING”) than ordinary water due to its smaller clusters, micro clusters. Ordinary tap water has large, irregular shaped molecules. Alkaline-ionized water’s hexagonal shaped clusters are half the size of ordinary water, which significantly improves its hydrating effects on the body. Smaller micro clusters more efficiently penetrate body cells (faster) as well as speeding release of heavy metals, toxins and the additional acidic build up from athletic exertion.

Ionization creates electrically charged “living water” which is microclustered and which deeply hydrates the cells. It is absorbed six times faster than tap or bottled water. The process of ionization reduces the size of the water molecule cluster by two-thirds. Smaller water clusters are better able to penetrate the cellular membranes, enhancing tissue repair and waste removal.

From an exercise physiology standpoint, increased cellular hydration improves hydrostatic pressure, which allows the athlete to be stronger, faster and experience the effects of better metabolic cellular functioning.

## The Importance of Hexagonal Water Clusters

The hexagonal form of the molecular structure of water appears to be a critical factor that determines the health benefits of microclustered, structured water produced through ionization. According to water researcher Dr. Mu Shik Jhon, ionization creates hexagonal molecular clustered water. The amount of hexagonal water

produced by a water ionizer depends on the surface area of the electrolysis plates and the electrical power devoted to ionization.

The hexagonal structure of water has been found to have unique bioelectrical qualities inside the body. Dr. Jhon's book *The Water Puzzle and the Hexagonal Key* goes into great detail about the quantum chemistry of water and how hexagonal water has extremely positive effects on the electrical transmissions between cells, cell water turnover, and improved metabolic functioning of the cell. Here's what he says about it: "Hexagonal water – comprised of small molecular units or ring-shaped clusters – moves easily within the cellular matrix of the body, helping with nutrient absorption and waste removal. It aids metabolic processes, supports the immune system, contributes to lasting vitality and acts as a carrier of dissolved oxygen. It can provide alkaline minerals to the body and it helps in the more efficient removal of acidic wastes. Drinking hexagonal water takes us in the direction of health. It supports long life and freedom from disease. *Biological organisms prefer hexagonal water.*"

Every metabolic function creates waste, which causes acidification (hardening) of organs and tissues. Over-acidification is correlated with both disease and aging. If an organism can eliminate wastes more efficiently, its life expectancy and overall health will be enhanced. As Dr. Jhon explains "Water and aging are directly related and it has been shown that the water content of the body decreases with age, producing a visible wrinkling and withering effect. Keep in mind that the outward signs of aging are just an indicator of what is also happening on the inside of the body."

"Cell water turnover is linked to health and aging and declines with age. It's an important marker for health and longevity," Jhon says. "Hexagonal water clearly improves cell water turnover as measured by bioimpedance instruments. It is able to penetrate cells more rapidly, improving metabolism, nutrient absorption, and waste removal. The more structured hexagonal water in the body, the healthier you will be. An important key to health is the amount of hexagonal structured water we have in the body."

***It's important to understand that Kangen Water® contains hexagonal water clusters, but that not all hexagonal structured water is Kangen Water®.***

"After my first night of drinking this special water, I went to the gym the next day and noticed a marked difference in my performance. People that I'm working with as a trainer – boxers, endurance runners, short distance runners, and track athletes – are producing the same type of extraordinary effect in their bodies with ion-rich restructured water."

*Wade T. Lighthouse, CSNA*



## Preventing Injury and Reducing Inflammation

Years ago it was rare to see the top athletes injured. Now it happens often – broken bones, torn muscles, abdominal and pectoral strains, even the early occurrence of cancer in athletes.

Winner of the 1931 Nobel Prize for Medicine, Dr. Otto Warburg, theorized that cancer could only exist in an acid environment. Today, you have many top athletes getting cancer, potentially due to too much acidity in the body. Excess acidity is due to poor diets, poor hydration with the wrong fluids and lack of organic, bioavailable, free radical scavengers and alkaline minerals.

Chronic over-acidity causes inflammation, which in turn causes joint and muscle pain. After just one week drinking restructured ionized water, inflammation often goes away and

an athlete will typically notice a difference in his performance stats and recovery time. Over time, the accumulation of acids and toxins in the body are neutralized and removed, the body becomes remineralized, bone density increases, and connective tissues start to work better.

## Body Fat Reduction

Dr. Lynda Frassetto from the University of California believes that humans have undergone an evolutionary change. Our bodies once used to break down food and dispose of the resulting acid waste through the kidney and liver using an ample supply of buffers, like the bicarbonates in the blood. Now, because of the sheer amount of acid waste the average person produces, the body is fighting to protect its most strategic reserves – the kidney and liver – from total degradation and failure.

Dr. Frassetto discovered that as we age, we lose bicarbonates in our blood. Insufficient amounts of bicarbonates in the blood reduces our ability to neutralize and remove the acid our body produces. This is one of the root causes of aging. The average age when people start to show

symptoms of diabetes, hypertension, osteoporosis and other degenerative diseases is approximately age 45. Since we cannot neutralize all the acid waste we produce, it accumulates in our body. These wastes show up as cholesterol, fatty acid, uric acid, urate, sulfate, phosphate, kidney stones, etc. According to Dr. Frassetto, we also store our excess acids in our fat cells. Excessive acid causes the body to borrow essential minerals (calcium, sodium, potassium, and magnesium) from our vital organs and bones to buffer or neutralize excess acid. The result is that our bodies suffer from prolonged degradation or corrosion which manifests as many common debilitating conditions. Restructured ionized water has the ability to deeply hydrate the tissues, neutralize acid waste and remove it from storage in the fat cells.

Every serious athlete knows that body fat percentage is important to performance. The caloric model for weight loss – what goes in minus what goes out equals what stays – does



not always apply. There's another aspect related to fat storage that involves over-acidity. Some athletes have experienced metabolic damage, which occurs when they follow restrictive caloric intakes or expend energy levels far in excess of their food intake in order to quickly get their body weight down to an optimum strength-to-body-weight ratio.

Ion-rich restructured water expedites the removal of acid waste that often is stored in the fat cells.

# Real Experience from Real Athletes

“A female boxer client recently started drinking Kangen Water™ that her mother gave her. She was not even drinking it freshly produced from her own machine. After only one week of using it her athletic trainer said, “What are you doing? You’re coming into the ring refreshed and more determined and your recovery time between rounds is so dramatic.” She replied, “I’m not doing anything.” She didn’t actually make the connection between the water and her performance until about three weeks later. Her body fat levels were down. She was sparring at about twice the amount of endurance and intensity that she was before. That’s when she realized it was the water and decided to purchase a water ionizer to use full time. She is now moving into some major professional fights. She attributes that performance boost to drinking ion-rich Kangen Water.

Two advanced martial arts friends of mine started using Kangen Water and noticed a significant improvement in their speed when they were training and preparing for competition. Both he and his wife lost a considerable amount of body fat/weight, despite not making any changes to their training. The weight loss improved their form because their strength to weight ratios improved significantly.

Another senior athlete client of mine competes on a Dragon Boat team and recently reported to me that no matter how hard he trains he has not felt sore since consuming Kangen Water. Even after three intense days of competition he feels refreshed and ready for more. Before he began drinking restructured ionized water even one race would render him sore and unable to train for a week.”

Wade T. Lighthouse, CSNA

“ A couple of years ago I was diagnosed with arthritis in my lower back and at one point, found myself taking six codeine tablets a day to function in my daily routine. After about three weeks on the Kangen Water I was able to give up the medication and with some great chiropractic and acupuncture, my arthritic condition is nowhere to be felt! My doctor looked at my lower back MRI results six months after beginning the Kangen Water and he couldn’t understand how it all went away but I knew!

I was drinking 4 to 5 litres/day of Kangen Water – it really helped me stave off the hunger. Plus, it was totally flushing out toxins. The muscle soreness that used to be a big problem was significantly cut down with the water. It was great to feel the water disappearing in my gut instead of sloshing around. It always drove me crazy when trainers would tell me to stop drinking so much water when I was working out even though I was thirsty. What I also discovered was how super-hydrating my muscles gave me a “ripped” effect like no other experience.”

Lamont Daigle

“I recently started my training for the triathlon season with two 60-mile bike rides. What a difference this Kangen Water has already made in my performance and recovery time! I had more stamina, I wasn’t as tired at the end – and just didn’t have the soreness I expected the next day.”

Jeremy Davis, Triathlete  
President, Set Up Events – Triathlon Management

“Hexagonal Kangen water is ahead of any other kind of water for rapid recovery from exertion because of its superior absorption and permeation qualities. The alkaline properties of Kangen water prolong the elasticity of the muscles which creates better performance and greater stamina. Kangen water presents with higher alkalinity which facilitates better permeation of cell membranes. It does this quicker than any other water and leads to a more rapid recover from injury. Kangen water’s efficacy is attributed to its hexagonal structure of its molecules. Hexagonal water goes deeper into the interstitial tissue where it feeds and baths the cells at the cellular level. This principle is called ‘micro-clustering.’

“Hexagonal Kangen water, more than any other water or liquid, oxygenates the muscles and creates the very best in hydration. Better hydration means that muscles return to their normal elastic state quicker thus giving a greater range of motion. Waste from lactic acid build-up that occurs when stress is placed on muscles during work-outs and competition is more quickly removed at the cellular level when drinking Kangen water. Again, muscles return more efficiently and more rapidly to a normal elastic state allowing for the body’s quicker recovery after exertion. Muscles perform with greater range of motion when hydrated with Kangen water. Stamina and energy increases and the ‘wall’ can be dramatically reduced or eliminated when staying hydrated with Kangen water.”

Charles A Pechin, Athletic Trainer

“While preparing for a recent World Cup event in Holland (in November 2008), I was introduced to the benefits of ionized water by a therapist. I discovered that many other elite athletes had been drinking the ionized water, and I learned from first hand experience the benefits it provided in recovery and lactic acid tolerance. After a week of testing it out on myself, I could not believe the difference in how I felt after the extreme efforts of training and racing.”

Clara Hughes, Olympic Speedskating Champion

“I have spend the better part of 14 years teaching the importance of healthy food and clean air ... my clientele include professional athletes and teams from the NBA, MLB, NHL, and PGA. Though I thought I had been teaching complete principles of health, it wasn’t until recently when I was offered the research and first-hand experience of drinking ionized restructured water that I realized how important PROPER water is to our bodies. Also, I had consistently taught the importance of keeping our bodies hydrated., but have recognized that I had neglected to teach and promote the absolute need for hydration with ionized, micro-clustered water. If we are to achieve the best health possible, ionized water must go hand in hand with proper food and clean air to ensure reduction of the negative effects of the environmental, physical and chemical factors on the body.”

Shan Stratton  
Nutritionist, Author, Speaker  
*Water Your Health and Watch It Grow*

# The Secret of the pH Factor



## What the Experts Say

**“The countless names of illnesses do not really matter. What does matter is that they come from the same root cause ... too much tissue acid waste in the body!”**

Dr. Theodore Baroody M.D.  
*Alkalize or Die*

“You do not need expensive medicine with all the negative side effects to regain health ... Alkaline water has profound long term effects because it alkalizes your body and provides an effective antioxidant.”

Ingfield Hobert, M.D.

**“Healthy adults consuming the standard U.S. diet sustain chronic, low-grade acidosis that worsens with age as kidney function declines. The known health benefits of a net base-yielding (alkaline) diet includes preventing and treating:**

- **osteoporosis**
- **age-related muscle wasting**
- **calcium kidney stones**
- **hypertension (high blood pressure)**
- **exercise-induced asthma**
- **kidney problems.”**

*American Journal of Clinical Nutrition 2005; 81:341-54*

**effective antioxidant**



**known health benefits**



Cells in an acidic body are the ideal breeding ground for abnormal growth.

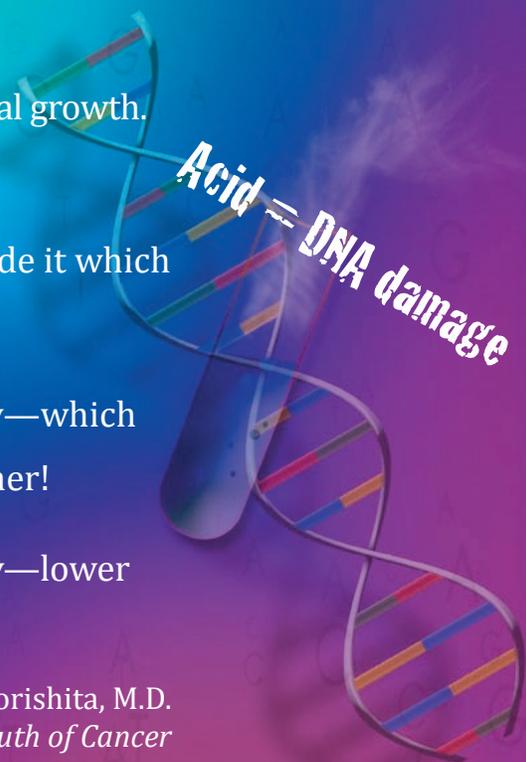
When your cells are bombarded with acid:

It survives, but suffers damage to the strand of DNA inside it which can cause it to begin multiplying wildly, or...

It deteriorates and dies, creating more acid in your body—which poisons even more cells ... and raises your risk even higher!

The solution is clear: Restore a perfect pH balance in your body—lower your acid levels and raise your alkaline levels.

Keiichi Morishita, M.D.  
*Hidden Truth of Cancer*



“... the oxidation of healthy cells by too much active oxygen in the body breaks down the cell and makes it susceptible to infection and disease.

We can block this oxidation reaction with antioxidants, substances that can readily donate their electrons to roving active oxygen and neutralize their harmful effect on normal cells. However, one problem remains;

### **What is the best source for a substance that can readily give up electrons to reduce active oxygen?**

... the most effective and economical source for an antioxidant is ordinary tap water after it is filtered and treated with electrolysis. This electrolyzed water, called **Micro-structured Water**, is one of the most exciting developments of preventative medicine in Japan in recent years.”

Hidemitsu Hayashi, M.D.  
*Director, Water Institute Tokyo Japan*

“Alkaline water produced by an ionizer is the most important advancement in health care since Sir Alexander Fleming’s discovery of penicillin”.

Dr. William D. Kelly, MD, author of *Cancer Cure*

“Consuming the right type of water is vital to detoxifying the body’s acidic waste products and most powerful health treatment available. Drink 8-10 glasses/day as the simplest, most powerful thing you can do to combat a wide range of disease processes. In Japan, professional sports teams all drink alkaline ionized water to improve performance”

Terry Grossman MD, NMD  
Assistant Professor of Family Practice,  
University of Colorado School of Medicine

“By drinking alkaline water, the aging process can be reversed and the wastes can be reduced in the long-term to a level of a much younger person. The functions of the organs can be revived.”

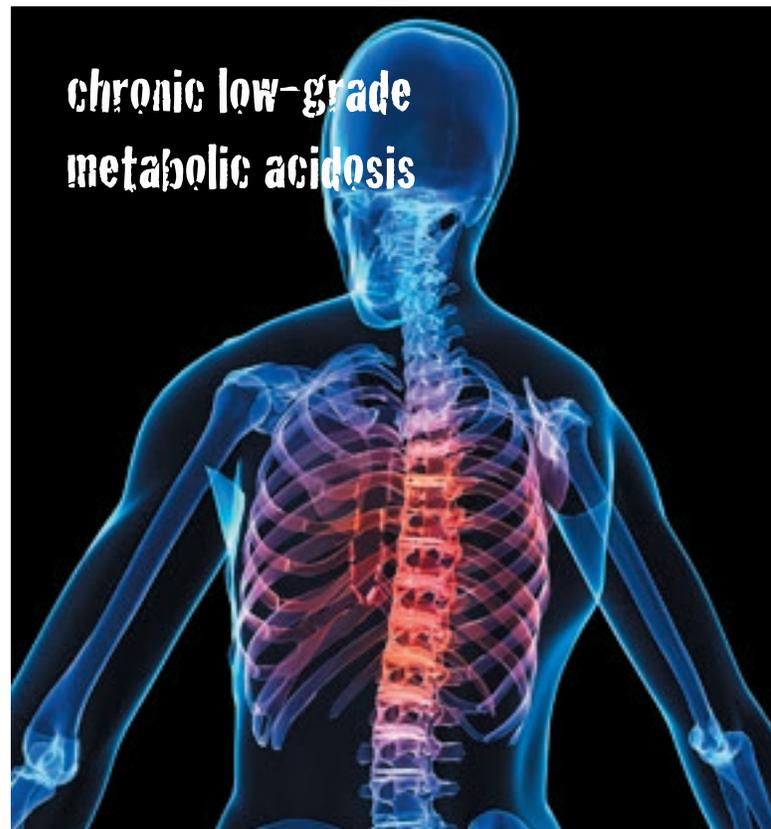
Harald W. Tietze, author *Youthing*

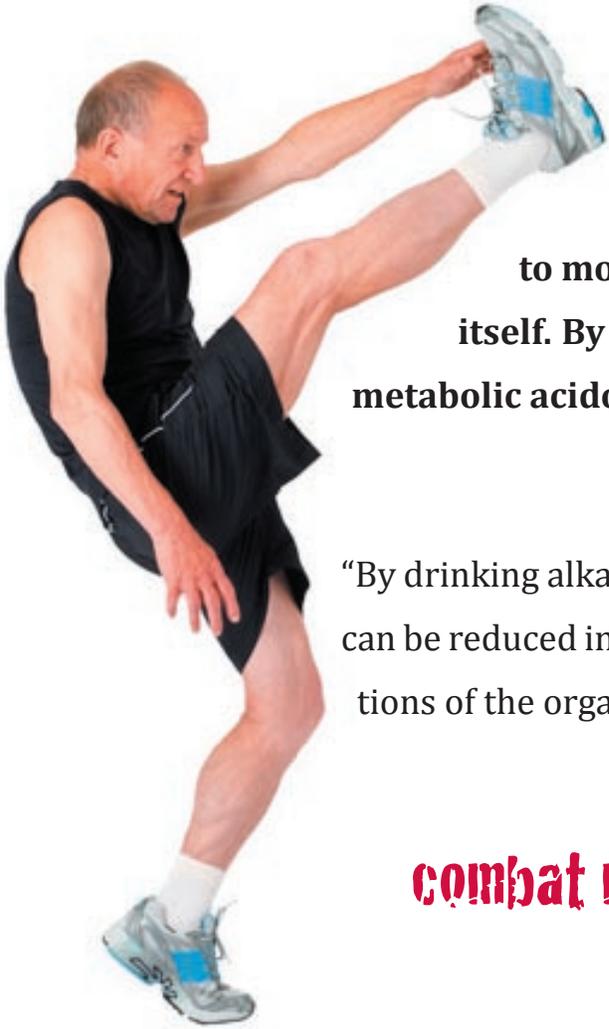
**“While we all know that acid rain is damaging to fish, trees and the environment in general, few of us realize that an imbalanced diet can lead to a low grade, but important, internal acidity. Known as *chronic, low-grade, metabolic acidosis* this internal acid condition reduces bone mass, hastens aging muscle loss, and contributes to the development of a wide range of diseases from kidney stones and osteoporosis to periodontal disease.”**

Susan Brown, Ph.D., CCN

“Recent research in Japan has shown that electrolyzed alkaline drinking water has a synergistic effect on antioxidants. For instance, the antioxidant strength of vitamin C in electrolyzed alkaline water is several times greater than vitamin C in tap water. Other studies have shown that electrolyzed water produces antioxidant behavior and protects DNA from free radical damage. Clinical studies have shown that mice fed electrolyzed alkaline water lived 30% longer. This functional water enhanced the immune system and inhibited autoimmune disease.”

Richard A Wullaert, Ph.D  
*President, Functional Water Society of  
North America*





**“It is well known that many chronic diseases result from excess acidity of the body (metabolic acidosis). We also know that the body tends to become more acidic due to modern dietary habits and lifestyles and the aging process itself. By drinking high negative ORP alkaline water, you combat metabolic acidosis and improve absorption of nutrients.”**

Ray Kurzweil

*Fantastic Voyage: Live Long Enough to Live Forever*

**“By drinking alkaline water, the aging process can be reversed and the wastes can be reduced in the long term to a level of a much younger person. The functions of the organs can be revived.”**

Harald Tietze

## **combat metabolic acidosis**

“The benefits of the alkaline water created through electrolysis far exceed just its ability to gently raise the pH of the cells and tissues of the body and to neutralize acids. Because the alkaline water has gained a significant number of free electrons through the electrolysis process, it is able to donate these electrons to active oxygen free radicals in the body, thereby becoming a super antioxidant. By donating its excess free electrons, alkaline water is able to block the oxidation of normal tissue by free oxygen radicals.

**If you are overly acidic, an alkaline water device can provide a safe gentle and effective way of restoring the pH balance of all the cells in your body as well as providing excess free electrons to act as super antioxidants.”**

Susan Lark, M.D.

*The Chemistry of Success: Secrets of Peak Performance*

