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## **Distilled Water versus Mineral, Carbon Filtered, and Reverse Osmosis Water**

By Ron Kennedy, M.D., Santa Rosa, California

A point of view about distilled water is circulating out there, undoubtedly promulgated by producers and sellers of mineral water. This point of view is that water, should be mineralized in order to have health benefits and that distilled water somehow leaches out minerals from the body. To understand the truth about this matter, one must know about mineral chemistry in living systems. In order for a mineral to be of any use to the body it must be presented in a form in which it can be used. That form involves an association with an organic (carbon based) molecule. Carbon based molecules are found in living systems, and are not found in the ground, which is where mineral water comes from. Indeed, water from the ground comes with minerals but, these minerals are in salt form. When salt is presented to the body (with rare exceptions such as sodium chloride) it must be stored or excreted. A good example is  $\text{CaCO}_3$  (calcium carbonate).

Carbonate is not a sufficiently complex organic compound, and therefore, cannot properly contribute its calcium to living systems. Instead, the calcium comes out in ionic form (with a positive charge) and precipitates by forming other salts. Common locations for precipitation of calcium are the lens of the eye (cataracts), the kidneys (kidney stone) and the walls of arteries (arteriosclerosis). Unbound minerals must be excreted, which is extra work for the kidneys, or stored. This makes dust of the argument that healthy water is mineralized and the dust is, of course, the source of minerals in mineral water.

Incidentally,  $\text{CaCO}_3$  comes from lime stone and comprises the bulk of most calcium supplements, including that in “calcium enriched orange juice”. If you want cataracts, kidney stones, and arteriosclerosis, be sure to eat “calcium enriched” foods.

Now, as to the argument that distilled water leaches out minerals, it's true. This is exactly what we wanted to do. The minerals it leaches out are of the unusable, ionic form and we want these to leave the body rather than be deposited and cause disease. Distilled water does not leach out significant amounts of biologically available minerals because; they are quickly taken up by the body on an as needed basis when they are present in excess in the circulation. Distilled water cleanses the body through promoting healthy kidney function.

Finally, if mineral water is not a good source of biologically available minerals, then what is a good source? Think about it. Minerals are present in the ground and must be biologically bound in order to be used by the body, so the source is plants, of course! Your mineral source should be plants not water. The purpose of water is to cleanse the body. To do the best job of that, it must be free of everything else. Only distilled water fits that bill.

As to carbon filtered and reverse osmosis water, these are better solutions than tap water or mineral water, however they still fall far short of the standard set by distilled water. Nature knows best and nature supplies distilled water in the form of rain. However, rain water is no longer pure due to atmospheric pollution. The only remaining option is for us to distill our water. If you would like to read more I recommend two books: *The Truth About Water and Your Body's Many Cries for Water*.

Ron Kennedy, M.D.

## **Why Distilled Water? Inorganic Minerals vs. Organic Minerals**

By Michael Dye

### **What is Distilled Water?**

Distillation is nature's way of purifying water. When the sun heats water, this causes evaporation, an example of distillation on a grand scale. Vapor rises off the surface of the water, leaving behind all its impurities. This water vapor rises and cools as air temperature in the upper atmosphere drops and the vapor changes form solid to liquid, becoming water, ice or snow. If our atmosphere were not polluted, each drop of rain or snow would be pure H<sub>2</sub>O. The production of distilled drinking water is man's attempt to copy nature's form of water purification. As with evaporation in nature, distillation actually removes water (in the form of steam vapor) from the heavier materials that are its impurities. Other types of water treatment attempt to remove contaminants from the water, rather than removing water from the contaminants.

In the boiling chamber of the water distiller, tap water is heated to 212 degrees, killing bacteria and viruses. The heat produces steam, which rises, leaving behind inorganic minerals, chemicals and other contaminants in the boiling tank. As the water temperature rises, the light gases boil off and are discharged through the gaseous vent. A stainless steel condenser cools the steam, turning it into distilled water. This water passes from the container through an optional post-carbon filter, and the purified distilled water is collected in a reservoir.

### **Why is impure water unsafe?**

Water constitutes, regulates, flows through, cleanses and helps nourish every single part of your body. But, the wrong kind of water with inorganic minerals, chemicals and other contaminants can pollute, clog up and turn to stone in every part of the body. In his book, *Water Can Undermine Your Health*, Dr. Norman W. Walker offers a good account of what water and impurities can do in our body.

To start with, everything you eat or drink goes into your stomach and then into 20 to 25 feet of small intestine, he explains. From there, food can go one of two ways: that which can be assimilated is transcended to the liver for distribution to the rest of your system; while most of what cannot be utilized is passed on as waste into the large intestine (colon). But, Dr. Waller notes, “liquids pass readily through the microscopic blood vessels in the wall of the small intestine,” so “whatever the liquid contains in colloidal form goes along with the liquid right into the liver”. He defines a colloid as “any substitute in such a fine state of particles that it would take from 50,000,000 to 125,000,000 particles to measure one inch.” This includes inorganic minerals, the most common of which is calcium (lime).

Once this liquid reaches the liver, he writes, “It is completely divested and cleared of everything that was a component part of the liquid, except the hydrogen and oxygen, which together, form the water molecule. Water containing nothing but hydrogen and oxygen is pure water...whatever minerals and chemical elements are present in the water when it first reaches the liver, are segregated by the anatomizing processes in the liver and are either passed on into the blood stream or are filed away as reserve material.”

### **What impact do minerals in water have on our health?**

So, what is the cumulative effect of collecting these mineral deposits in the body? Dr. Walker writes; that if a person drinks two pints of water a day, this will total 4,500 gallons of water over a 70-year lifespan. If it is not distilled, Dr. Walker estimates these 4,500 gallons of water include 200 to 300 pounds of rock-inorganic calcium (lime), magnesium and other mineral deposits that the body cannot utilize. He notes most of these inorganic minerals will be collected by the body’s water, blood and lymph systems to be eliminated through excretory channels. But, some of these 200 to 300 pounds of rock will stay in the body. This causes stiffness in the joints, hardening of the arteries, kidney stones, gallstones and occlusions (blockages) of arteries, microscopic capillaries and other passages in which liquids flow through the body.

It is vital at this point to understand the differences between organic and inorganic minerals. Water flowing through or on the ground collects inorganic (non-living) minerals from the soil and rock through which it passes. These are not minerals that humans and other animals can utilize. Only plants have the capability of transforming inorganic minerals from the ground into living, vital, organic minerals we can use for nourishment. For this reason, we cannot absorb any minerals from eating finely-ground rocks or soil from our garden. We must allow the plants in the garden to take in these inorganic minerals through their roots from the soil and transform them (by the process of photosynthesis) into organic minerals that we can utilize. Inorganic minerals from the earth are absorbed into ground water, so we cannot benefit from minerals in the water, any more than we could benefit by eating rocks or dirt. Because inorganic minerals cannot be absorbed into the cell wall as nutrition, they became distributed elsewhere in the body, causing arthritis in the joints, kidney stones, gallstones, hardening and blocking of the arteries, etc.

The most common mineral in ground water is calcium carbonate (lime), which is also a primary ingredient in making concrete and cement. If you have ever seen a large stalagmite or stalactite in a limestone cavern, you can visualize how this hard rock forms, one drop at a time in a cave...or in the inside of your arteries, a kidney stone in your joints, etc. Another way of actually seeing these mineral deposits is to pour water from your kitchen sink into a pan. Put that pan of water in the sun and let it evaporate. Or if you are in a hurry, boil it. Either way, once the water

has evaporated, you will find a solid coat of mineral deposits left in your arteries and the rest of the body.

Paul Bragg, an early pioneer of health food, emphasizes that it is a fallacy of the medical profession to say that hardening of the arteries - known as "arteriosclerosis"- is a result of old age. Actually, he notes, hardening and blocking of the arteries is caused by the consumption of inorganic minerals from water, along with table salt and the waxy saturated fat (cholesterol) and acids from a meat-based diet ...not old age. (As evidence of this claim, it could be noted that at the age of 95, a physical at Johns Hopkins revealed that Bragg had the arteries of a 20-year old.) Bragg adds, "if we examine our arteries closely, we could see that calcium carbonate and its affinities are lining these pipes and making them brittle - beginning to turn our body into stone". While water containing minerals is a primary contributor to these deposits, Bragg emphasizes that drinking the proper amount of distilled water is the way to flush out cholesterol and mineral deposits from our arteries and other body parts. "Remember water is a flushing agent," he notes.

If one needs an idea of how effective water is in washing away mineral; look at a river bed...or the Grand Canyon. The hardest rock in the world is constantly being eroded and washed away by water.

## **pH Paranoia Beware of the "Alkali-lie"**

By Jack Barber

It's an all-too-common misconception that guzzling "alkaline" water is the key to perfect health even though claims about the health benefits (or safety!) of this water are not supported by any credible evidence. This ph myth has created a thriving market of potions and gadgets for a trusting public willing to believe the alka-lie. Some have even gone so far as to say that drinking pure distilled water is harmful because it can be slightly acidic. It is important to note here that reverse osmosis (R.O.) water is also mineral-free and has the same ph properties as distilled. But for some reason, R.O. is routinely demonized...hmmm! The truth of the matter is the unique properties of mineral free, ultra pure drinking water actually make the ph factor irrelevant! Read on...

### **Water Chemistry 101**

Basically, all water contains both hydrogen and hydroxide ions. The ph level is a relative measurement of the hydrogen ions indicating the acidity or alkalinity of the solution. Any substitute that lowers ph when dissolving in water is an acid. A base is a substance of that raises the ph. A buffering substitute enables a substation to resist ph change when an acid or base is added.

The ph scale ranges from 0 to 14, with a pH 7.0 being neutral. A pH less than 7.0 is acidic, and a pH greater than 7.0 is alkaline. The ph scale is logarithmic; so far each unit of the change in ph below 7.0 there is a tenfold change in acidic. This means a solution with a pH of 3 is 10 times more acidic than one with a pH of 5.

Pure distilled water is considered neutral, with a ph of 7.0 having an equal number of hydrogen and hydroxide ions. Since distilled water lacks dissolved solids (expressed as units of TDS or total dissolved solids), there is nothing to influence the pH change in either the alkaline or acid

direction. The purity of distilled water means that adding the slightest amount of acid or base will easily change its pH.

Because of this, even a small amount of carbon dioxide from the air will combine with distilled water to lower the pH to a range between 6.0 and 6.9. For the same reason, adding just a pinch of an alkalizing substance, such as baking soda, will immediately raise the pH to over 7.0. It would require considerable more acid or base to change the pH of unprocessed (high TDS) water. The difference is in the dissolved solids making it resistant to change. In other words, the pH of distilled water is like a pendulum that can easily be moved with a feather, as compared to the “mallet-like” measures required to transform the pH of high TDS water. When you drink distilled water, it immediately combines with the slightly acidic or alkaline digestive enzymes in saliva, and seconds later with every acidic digestive enzyme in your stomach without activating any of the body’s buffering systems or affecting bodily pH in any way. In short, the extremely sensitive distilled water pH immediately adjusts to your body rather than vice-versa. The much stronger hydrochloric acid in the stomach, with a pH of 1.0, is about 100,000 times more acid than any slightly acidic distilled water. Again, this renders the pH of distilled water completely irrelevant!

### “Alka-lies”

It’s a fact that, neither the pH of ordinary drinking water nor that any of the highly alkalize waters can affect the extremely acidic pH of the gastric juices. As soon as water hits the highly acidic gastric fluid in the stomach, its alkalinity is gone. The only pH effect on the body fluids is in your urine. The Mayo Clinic responded, as such, to the plethora of alkaline water hype: “some proponents say that alkaline water can neutralize acid in your bloodstream, boost your energy level and metabolism and help your body adsorb nutrients more effectively. Others say that alkaline water can help you resist disease and slow the aging process. However, there’s no scientific proof that any of these claims are true.”

## **The Myth About Distilled Water Blowing the Lid Off Distilled Water Myths**

by: Joe Letorney, Jr. (CWS.V)

Controversy always seems to shroud distilled water through the years. The same old myths and fallacies that were always once heard 10 to 15 years ago still conclude today. All the misconceptions about distillation and distilled water are grossly misrepresented. All the myths listed below have no basis in fact. The purpose of this article is to set the record straight and lay these false perceptions to rest. Helping clear up these misconceptions about distilled water will greatly benefit both the decanter and the general public.

**MYTH #1:** Distillation takes out all the beneficial minerals. This is a statement used countless times, usually from literature from some filter companies trying to tell you, in effect, that their lines take out all the bad contaminants but, leave in the good, beneficial minerals. Fortunately, there are so many reputable companies who would never think of making this kind of claim in its ads. Distillations will kill and remove bacteria, viruses, cysts, as well as, heavy metals, radio nuclides, organics, inorganics, and particulates. And yes, it will remove minerals, which fall under inorganic contaminants. Whether the minerals in water are beneficial or useless, have been an ongoing debate. All of our minerals that are derived from our foods are: fresh fruits, vegetables, meats, poultry, grains, nuts, and dairy products. The minerals in the water are so

scarce that in Boston, MA, for example, one would have to drink 676.8.ounce glasses of tap water to obtain the recommended daily allowance (RDA) of calcium. That person will also have to drink 1, 646 8-ounce glasses to get an RDA of magnesium, 848 8-ounce glasses to get RDA of iron, and 168,960 8-ounce glasses to obtain the RDA of phosphorus. It seems insane to even think about drinking that much water. Most people can't even drink the recommended 8 glasses of water a day that is widely touted by health experts.

When you think of pure water what definition comes to your mind? It should be just H<sub>2</sub>O, and that's it. It's not H<sub>2</sub>O with minerals and fluoride, because that doesn't fit the description of pure water. For all intent and purposes, distilled water comes closest to the definition of pure drinking water. The process of distillation removes the broadest range of contaminants over any other point of use (POU) system.

**MYTH #2:** Distilled Water leaches out minerals from the body. What the proponents of this myth want you to believe is that because distilled water is so pure, drinking it will leach out minerals from your body, thereby robbing you of good health and nutrition. There is no basis of fact to document this claim. The national best-selling health and diet book: *Fit for Life II: Living Health* by Harvey & Marilyn Diamond answers this question.

The following is an excerpt: "distilled water has an inherent quality. Acting almost like a magnet, it picks up rejected, discarded, and unusable mineral and, assisted by the blood and the lymph, carries them to the lungs and kidneys for elimination from the body. The statement that distilled water leaches minerals from the body has no basis in fact. It doesn't leach out minerals that have become part of the cell structure. It can't and won't. It collects only minerals that have already been rejected or exerted by the cells...to suggest that distilled water takes up minerals from foods so that the body derives no benefit from them is absurd."

**MYTH #3:** Long continued drinking of distilled water could cause deterioration of the teeth. I saw this statement in product literature from a national filter company. Shame on them for bad mouthing distillation just to sell a few more filters. This is a truly inventive falsification. The negative message this filter company wants to convey is that drinking distilled water (which has removed all the traces of fluoride) for long periods, will supposedly wreak havoc on your teeth by deteriorating them. Is there any proof?

**MYTH #4:** Distilled water tastes bland or has a "flat taste". This is probably the most popular myth surrounding distilled water. I've often read this statement from various articles written on water treatment systems. When the articles refer to distillation, they will usually say it removes the minerals that will leave a "flat taste". I'd be willing to bet the authors of all type of articles never tasted freshly made distilled water from a home water distiller.

These types of false remarks misinform consumers so they have preconceived notions about distilled water before they even try it. The mistruth about distilled water having a "flat taste" can be explained in several ways. First, in your past, the original distillers did not incorporate any pre or post carbon filtration. If you've tasted straight distilled water made without the use of any pre or post carbon filtration, it might have a steamy taste or off taste. The use of carbon filtration with distillation is as follows: tap or well water is first sent through a pre filter to help take out Chlorine. It's time to set the record straight about distilled water myths. There is a definite need for a home distiller market in the industry and consumers have a right to know correct facts concerning distilled water.

Here are some points to remember:

- Distillation, when combined with carbon filtration, will kill and remove 100% of bacteria, viruses, cysts, and will remove heavy metals, inorganics: including minerals, radionuclides, particulates, and organics: including VOC'S "Over 95% of our minerals come from our food and less than 5% from drinking water. You would practically have to drown yourself by drinking it to get the RDA of any beneficial minerals."
- Pure water refers to water that is H<sub>2</sub>O, and that's it! It's not H<sub>2</sub>O with calcium, iron, fluoride, etc...Distilled water comes the closest to this definition.
- Distilled water does not leach out minerals from your body. There has never been any documented evidence to prove this claim true. It is perfectly safe to drink.
- Long term drinking of distilled water is not deleterious to your teeth.
- Distilled water does not taste bland or flat. Would hundreds of thousands of people worldwide be drinking it every day if it doesn't taste good?
- Distillers do not use much electricity. Distillers will make 1 gallon for roughly 25 cents. Compared to bottled distilled water for about \$7.00 or less per gallon, the savings are tremendous year after year. Hopefully, the facts I've presented to expel the myths about distilled water will help the industry present distillation in its true light. There is an absolute need for various POU water treatment systems for the home market based on the needs of the consumer. Distillation is definitely is of them.

References:

Fit for Life II: Living Health: The Complete Program by  
Harvey & Marian diamond. Pg.101.

About the author:

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## **Water**

by Ron Kennedy, M.D. Santa Rosa, California

Consider that the body, in early adulthood, is made of approximately 65% water, and you will see how absurd it would be to ignore its importance. Water is the medium in which all the other aspects of this course are dissolved. Next to air, it is the most immediate need of the body. Without air, you can survive five to ten minutes. Without food. You can survive for weeks. Without water, you can survive for 72 hours.

At birth you are 72% water, if you make it to 95 and die of old age, you will be 25% water. You will have transformed from plum to raisin in your 95 plus years. This is called age related dehydration. Therefore, one of the most important anti-aging strategies is to remain well hydrated at all times.

The body is made to work perfectly and age slowly. No one knows how long the body is designed to live, because no one has spent a lifetime doing the best things for his or her body. Few people are actually interested in doing the best thing for their body, and of that small percentage of people who want to live in maximum health and vitality, many find correct information is woefully lacking. It is even worse than that, in the place that the correct information should be, mythology exists. Nowhere is this better seen than in that state of information about water. Let us clear up all the misinformation about water.

It is true that the body needs minerals. It is not true that drinking water containing minerals is good for you, quite the contrary, it is lethal. Let me explain. The function of minerals in the body is to serve as co-enzymes for the enzymes which direct metabolism. Without its proper minerals, an enzyme cannot function correctly. Without the function of the enzymes, systems of your body and your metabolism would come to a screeching halt, and you would die immediately.

A mineral, to be useful to the body, must be in a form in which it can be taken up by its matching enzyme. There is only one way a mineral can be utilized by an enzyme when it is delivered to its enzyme by an organic molecule. An organic molecule is made of a string of carbon atoms. When a mineral is in such an association with an organic molecule, it is called chelated. A chelated mineral can be transferred to an enzyme so that a mineral can then function as a co-enzyme. A non-chelated mineral cannot be transferred so, it is worse than useless.

A solution of mineral in an electrolytic solution, to be useful in the body, must first be chelated by the body. The human body has limited capacity to chelate minerals. Compared to plants this ability is very poor. The consumption of foods of plant origin supplies the body with minerals it can use immediately, because they are in the chelated form. This is true of foods of animal origin to a lesser degree, but foods of animal origin come with an excess of "icides" (herbicides, pesticides, etc.), preservatives, antibiotics, synthetic hormones, etc., which far outweigh any mineral value it might provide. Food of plant origin is high in water content and it's a source of water available to you.

The best source of straight water is distilled water. There was a time when nature provided pure distilled drinking water in the form of rain water and melted snow, sleet, hail, ECT. However, since the advent of industrial pollution in our atmosphere, most rain is polluted due to its passage through our atmosphere between the time it condenses and strikes the earth. Therefore, atmospherically derived water is no longer a viable source of pure drinking water. The only distilled water left is steam distilled water.

There is no third good choice of water. Carbon-filtered water is highly touted, mainly by the people who sell carbon filtration equipment, but many minerals are left after filtration. Reverse osmosis is a better solution, but still leaves inorganic minerals present. I suggest you leave these solutions alone and opt for some combination of distilled water and the juice of organically grown vegetables and fruits. However, some systems combine filtered with reverse osmosis and this is, to me, an acceptable solution.

The worst possible choice you can make is mineral water. The common sources of mineral water are (1) tap water and (2) bottled water. The minerals in mineral water are inorganic and therefore worse than useless to the body. Inorganic minerals are not only unavailable as co-enzymes; worse than that, they crystallize in the body both inside and outside the circulatory

system and cause such problems as arthritis. When they crystallize inside the circulatory system, they are deposited in the walls of your arteries and, over the years, contribute to the plaque formation of atherosclerosis. These atherosclerotic plaques yield only to prolonged chelation therapy, and while it is true that they can be dealt with in this manner, prevention is a much better alternative? Prevention of atherosclerosis is accomplished through a diet high in fiber and balance, between protein and complex carbohydrate content and drinking only pure water.

Mineral water, whether derived from bottles at a high price or from a faucet for almost nothing, is dangerous to your health because, over the course of years, it will give you hardened arteries and arthritic joints. If you drink tap water, you are choosing the least sensible solution possible. While it is true tap water has been treated so that no dangerous bacteria are present, it is still loaded with inorganic minerals. In addition, it also is loaded with the chlorine used to kill the bacteria. The full effects of this chlorine on the body are not yet known, and if you drink it, you might as well enroll in a university study to measure the effect of large doses of chlorine on the human body. If you were part of such a study you would at least be making a contribution to future water drinkers. Fluoride also is added to tap water in the name of tooth development in children.

Whatever benefits for growing teeth this may provide, are overshadowed by the effort of fluoride on the enzyme systems of the body. Fluoride, folks, is a proven carcinogen! Other ways to satisfy your body's need for pure water is to drink tea, coffee and soft drinks. If you do this, given what we know about the content of these items, you must have a strong death wish. For most people, at least for these who are leading busy lives, the best solution is to drink only steam distilled water. If you have not already developed this practice, I strongly recommend that you do so now. The cost is around \$6 per week for an average adult, and this includes both your drinking and cooking needs. Needless to say, it makes no sense to drink only steam distilled water and then cook with tap water. Use only steam distilled water for cooking.

The alternative is to buy a filtration system. This is a much better solution than drinking tap water and much more economical than steam distilled water. Do not economize when selecting a system. The best systems use two carbon filters in tandem with a reverse osmosis filter and operate off the pressure supplied by our own tap water system. If you are one of these people who drinks mineral water - perhaps that fuzzy, carbonated, entertaining, stuff from Calistoga or France - please know that you're doing your body no favor at all through this practice and you are spending much more for your water than you need. Most of all, you are promoting the crystallization of minerals in the soft tissues of your body and, over time, you will pay dearly for this practice.

When the arteries which supply your optic and auditory nerves are clogged, you will pay for your inorganic mineral intake with loss of vision and hearing. Each one of the organs in your body depends on an unrestricted supply of blood for optimum function. If you clog your arteries with inorganic minerals, you will lose that optimum function. This includes the brain (by ischemia and stroke) and the heart (angina and heart attack).

The purity of the water you drink is critically important to your health and vitality. I have presented you with accurate information regarding this subject. Look in your phone book yellow pages under "water". Regular delivery of steam distilled water or a double filtration/reverse osmosis system are the most convenient and economical methods of having this precious fluid on hand at all times - short of buying and operating a steam distiller in your own home.

Recently steam distiller technology has come of age and is well worth looking into. For the cost of distilled water delivered to one person for a year, a counter-top steam distiller can be purchased. Search for the words “Water Wise” on the internet and see what you came up with. The rest is up to you. For your liquid needs the proper action is to allow only pure vegetables and fruit juices and steam distilled water, sans inorganic minerals, to pass your lips.

**Thank you for visiting us!**



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