



The Fourth Phase of Water - What You Don't Know About Water, and Really Should

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[VIDEO - DR MERCOLA INTERVIEWS DR POLLACK](#)

<https://youtu.be/bvDoOlX9Fn0>

Water is clearly one of the most important factors for your health—especially when you consider that your body actually consists of over 99 percent water molecules! I sincerely believe water is a really underappreciated part of the equation of optimal health.

I've previously interviewed [Dr. Gerald Pollack](#), who is one of the leading premier research scientists in the world when it comes to understanding the physics of water, and what it means to your health.

Besides being a professor of bioengineering at the University of Washington, he's also the founder and editor-in-chief of a scientific journal called *Water*, and has published many peer-reviewed scientific papers on this topic. He's even received prestigious awards from the National Institutes of Health.

His book, *The Fourth Phase of Water: Beyond Solid, Liquid, and Vapor*, is a phenomenal read that is easy to understand even for the non-professional.

It clearly explains the theory of the *fourth phase* of water, which is nothing short of ground-breaking. The fourth phase of water is, in a nutshell, *living water*. It's referred to as EZ water—EZ standing for “exclusion zone”—which has a negative charge. This water can hold energy, much like a battery, and can deliver energy too.

For years, Dr. Pollack had researched muscles and how they contract, and it struck him as odd that the most common ideas about muscle contraction do not involve water, despite the fact that muscle tissue consists of 99 percent water molecules.

How could it be that 99 percent of the molecules were ignored? How could it be that muscle contracts without involving the water in some way? These questions help catalyze his passionate investigation into water.

So You Think You Understand Water?

Gilbert Ling, who was a pioneer in this field, discovered that water in human cells is not ordinary water (H₂O), but something far more structured and organized.

“I began to think about water in the context of biology: if water inside the cell was ordered and structured and not bulk water or ordinary water as most biochemists and cell biologists think, then it is really important,” Dr. Pollack says.

Dr. Pollack's book also touches on some of the most basic features of water, many of which are really not understood. For example, how does evaporation take place? Why does a tea kettle whistle? Also, despite the fact that conventional science tells us freezing is supposed to occur at zero degrees Celsius, experiments show that it can freeze in many different temperatures down to minus 50 degrees Celsius.

There's actually *no one single freezing point* for water! Other experiments show that the boiling point of 100 degrees Celsius (or 212 degrees Fahrenheit) does not always hold true either.

“There's a famous website⁴ put together by a British scientist, Martin Chaplin. Martin lists numerous anomalies associated with water,” Dr. Pollack says. *“In other words, things that shouldn't be according to what we know about water...”*

The more anomalies we have, the more we begin to think that maybe there's something fundamental about water that we really don't know. That's the core of what I'm trying to do. In our laboratory at the University of Washington, we've done many experiments over the last decade. These experiments have clearly shown the existence of this additional phase of water.”

The reason this fourth phase of water is called the exclusion zone or EZ is because the first thing Dr. Pollack's team discovered is that it profoundly excludes things. Even small molecules are excluded from EZ water. Surprisingly, EZ water appears in great abundance, including inside most of your cells. Even your extracellular tissues are filled with this kind of water.

The Water in Your Cells Give Them Their Negative Charge

Other inherent differences between regular water and EZ water include its structure. Typical tap water is H₂O but this fourth phase is *not* H₂O; it's actually H₃O₂. It's also more viscous, more

ordered, and more alkaline than regular water, and its optical properties are different. The refractive index of EZ water is about 10 percent higher than ordinary water. Its density is also about 10 percent higher, and it has a negative charge (negative electrical potential). This may provide the answer as to why human cells are negatively charged. Dr. Pollack explains:

“Everybody knows that the cell is negatively charged. If you insert an electrode into any of your cells, you’ll measure a negative electrical potential. The textbook says that the reason for this negative electrical potential has something to do with the membrane and the ion channels in the membrane.

Oddly, if you look at a gel that has no membrane, you record much the same potential – 100 millivolts or 150 millivolts negative. The interior of the cell is much like a gel. It’s kind of surprising that something without a membrane yields the same electrical potential as the cell with a membrane.

That raises the question: where does this negativity come from? Well, I think the negativity comes from the water, because the EZ water inside the cell has a negative charge. The same is true of the gel—the EZ water in the gel confers negativity. I think the cells are negatively charged because the water inside the cell is mainly EZ water and not neutral H₂O.”

What Creates or Builds EZ Water?

One of the greatest surprises is that the key ingredient to create EZ water is *light*, i.e. electromagnetic energy, whether in the form of visible light, ultraviolet (UV) wavelengths and infrared wavelengths, which we’re surrounded by all the time. Infrared is the most powerful, particularly at wavelengths of approximately three micrometers, which is all around you. The EZ water can build on any hydrophilic or water-loving surface when infrared energy is available.

It builds by adding layer upon layer of EZ water, and can build millions of molecular layers. This is how it occurs in nature. For example, ice doesn’t form directly from ordinary H₂O. It goes from regular water to EZ water to ice. And when you melt it, it goes from ice to EZ water to regular water. So EZ water is an intermediate state.

“Glacial melt is a perfect way to get EZ water. And a lot of people have known that this water is really good for your health,” Dr. Pollack says.

Testing water samples using a UV-visible spectrometer, which measures light absorption at different wavelengths, Dr. Pollack has discovered that in the UV region of 270 nanometers, just shy of the visible range, the EZ actually *absorbs* light. The more of the 270 nanometer light the water absorbs, the more EZ water the sample contains. EZ water appears to be quite stable. This means it can hold the structure, even if you leave it sitting around for some time. Water samples from the river Ganges and from the Lourdes in France have been measured, showing spikes in the 270 nanometer region, suggesting these “holy waters” contain high amounts of EZ water. According to Dr. Pollack, there’s compelling evidence that EZ water is indeed lifesaving...



EZ Cellular Water Helps Explain Health Benefits of Light and Heat Therapies

Heating equates to applying infrared energy, and Dr. Pollack has found that if you apply infrared, the EZ water builds and doesn't diminish. The implications of this are profound when you consider the health benefits of sitting in an infrared sauna, for example. Essentially, one of the reasons why infrared saunas make you feel so good is because your body's cells are deeply penetrated by infrared energy, which builds and stores EZ water. The same goes for [light therapy](#), spending time in the sun, and [laser therapy](#).

“There are various kinds of light therapy using different wavelengths. We found that all wavelengths – some in particular – of light, even weak light, build EZ. If EZ is critical for the health of your cells, which I think is clear, these therapies have a distinct physical chemical basis,” Dr. Pollack explains.

EZ water also provides a mechanism that explains other biological mysteries. For example, Dr. Pollack describes another fascinating finding that further bolsters our understanding of the mechanism of action behind the health benefits of something as simple as exposing your body to the light and heat of the sun:

“We found that if we put a simple tube, like a straw, made of hydrophilic material, in water... there's water flow through the tube at high speed. This happens spontaneously. But it shouldn't happen spontaneously. The common idea is that if you want to drive fluid through a pipe or tube, you need to apply pressure. But we have no pressure here. There's no pressure difference between the input and output. But flow builds up spontaneously, and it keeps going.

Recently, we found that if we add light, the flow goes faster. It means that light has a particular effect; especially ultraviolet light, but other wavelengths as well. It speeds up the flow. We think that somehow the exclusion zones (EZs) are involved because inside those tubes, there's a little annular ring of exclusion zone, and inside that is an area full of protons... It seems that the exclusion zone and the pressure of these protons are driving the flow.”

Now, let's apply these mechanisms to your body. Your capillaries receive radiant energy from outside all the time. Energy is also received from the inside of your body, as metabolic reactions continuously generate heat or infrared. So the question is, is it possible that the flow of blood occurring through your capillaries is automatically enhanced by exposure to *light*? It appears the answer may be yes...

“This is an important issue because the capillaries are puzzling,” Dr. Pollack says. *“They're so small. Some of the capillaries are smaller in diameter than the red blood cells that pass through them. Any competent engineer would never build a pipe that's smaller than the junk that's supposed to go through. But nature, apparently, has done that...”*

Now, that means there's a lot of resistance. You need something to push those red blood cells through... One possibility is that the flow in your capillaries is aided by this kind of radiant energy... We're starting to test this... It's possible that your cardiovascular system is assisted by radiant energy in the same way that the flow in the tubes is assisted by radiant energy.”

One of the more interesting healing modalities I've been exploring lately is the use of a high-powered laser. The [K-Laser](#) also has frequencies in the infrared range, which can deeply penetrate tissue. This kind of laser therapy has shown to provide profound healing for many painful injuries in a very short amount of time—sometimes just *minutes* of treatment. While the benefits of laser

therapy are thought to be due to its action on mitochondrial activity, it may very well be that the benefits are also related to “recharging” your damaged cells’ EZ water, as well as promoting increased capillary blood flow.

EZ water in your body also plays a role in hyperbaric medicine, which is also good for injuries. In that case, your tissues are exposed to high oxygen under pressure.

“The results are in. We think we understand the mechanism as to why hyperbaric oxygen is so effective for wound healing... EZ water has a higher density than bulk water. If you take H₂O and you put it under pressure, it should give you H₃O₂ because the EZ structure is denser than the H₂O. We did the experiments and we found, indeed, that’s the case. If you put H₂O under pressure, you get more EZ water.”

The same goes for oxygen. EZ also has more oxygen than H₂O, and when you increase oxygen content, you get more EZ water. So, hyperbaric treatment builds EZ water in your body, particularly in injured areas where EZ water is needed.



Alkalinity and Your Body’s Negative Charge May Be Critical for Health

I personally drink vortexed water nearly exclusively as I became a big fan of Viktor Schauberger who did much pioneering work on vortexing about a century ago. Dr. Pollack found that by creating a vortex in a glass of water, you’re putting more energy into it, thereby increasing EZ. According to Dr. Pollack, virtually ANY energy put into the water seems to create or build EZ water.

“We have looked at acoustic energy that seems to effect some change in the water. We’re still not sure exactly what. Vortexed water puts enormous energy into the water. There are several groups in Europe studying this phenomenon right now. “

As mentioned earlier, EZ water is alkaline and carries a negative charge. Maintaining this state of alkalinity and negative charge appears to be important for optimal health. Drinking water can be optimized in a variety of different ways, by injecting light energy or physical energy into the water by vortexing, for example. This is fairly easy using magnets. Reversing the vortex every few seconds may even create more energy.

Clearly, more research needs to be done in this area, but some is already underway. My own R&D team is working on a careful study in which we use vortexed water to grow sprouts, to evaluate the vitality and effectiveness of the water.

As for a natural source of EZ water for drinking, an ideal source is glacial melt. Unfortunately, this is extremely inaccessible for most people. Another good source is water from deep sources, such as deep spring water. The deeper the better, as EZ water is created under pressure. Natural spring water is another excellent way to obtain this type of water and you can use FindaSpring.com² to help you find one close to you.

Besides optimizing the water you drink, you can help generate an electron surplus, or support this negative charge within your body, simply by connecting to the Earth, which *also* has a negative charge. This is the basis of the [earthing](#) or [grounding technique](#), which has been shown to have significant health benefits by allowing the transfer of negatively charged electrons from the ground into the soles of your feet. In a sense, it's as though your cells are built like batteries that are naturally recharged by spending time outdoors—whether sunny or overcast, and walking barefoot, connecting to the negative charge of the earth!

“If you have an organ that’s not functioning well—for example, it’s lacking that negative charge—then the negative charge from the earth and... [drinking] EZ water can help restore that negativity. I’ve become convinced... that this negative charge is critical for healthy function,”

- Dr. Pollack says.

