

The Messages Water Hold For Proper Detoxification

**Dr. Keesha Ewers interviewing
Dr. Gerald H. Pollack**



Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

Welcome to the Reverse Autoimmune Disease Summit, everybody, I'm Dr. Keesha, and you're joining me for the fourth iteration of the Reverse Autoimmune Disease series. This is the auto-immune detox, and I'm so happy to have back Dr. Gerald Pollack, who received his PhD in Biomedical Engineering from the University of Pennsylvania in 1968. He then joined the University of Washington Faculty, and is now Professor of Bioengineering. He's also a founding editor and chief of the journal, Water, convener of the Annual Conference on the Physics, Chemistry and Biology of Water, and executive director of the Institute for Venture Science.

His interests have ranged broadly from biological motion and cell biology to the interaction on biological surfaces with Aquia Solutions. His 1990 book, *Muscles and Molecules*, uncovering the principles of biological motion won an excellence award from the Society for Technical Communication. His 2001 book; *Cells, Gels and the Engines of Life*, just how I found you, and his newest book, *The Fourth Phase of Water: Beyond Solid, Liquid, and Vapor*, won that society's distinguished award their highest distinction.

The latter book went on to receive the World Summit Excellence Award. I'm gonna stop there. Your bio goes on for a very long time with a lot of amazing accomplishments. But the thing that I wanted our viewers to know about you is that broad range but also the narrow part of the incredible research and knowledge that you've eliminated around water. Like you were just showing, I need to drink more of that, and you picked up your cup. When we think about drinking a cup of water, I don't think we think too much about what it is that we're putting in our mouth.

Dr. Gerald H. Pollack

We don't, and the water is so critical. If you read cell biology or biochemistry book, you don't hear



much about water. Chapter one starts with water because water is the main component of each cell, but then it drops water altogether. And for most biologists, water is considered as merely the background carrier of the more important molecules of life. We hear about DNA and RNA and proteins and all of that, and we don't hear about water.

The presumption is that it doesn't do anything. It's sort of like a bathtub full of water in which you bathe. It just sits there. From the experiments that we've done, it's so totally untrue. The opposite is true, that water participates in everything that goes on inside the cell and outside the cell. And if you don't take it into account, then you're probably not coming to realize the true mechanism. A lot of the mechanisms that are discussed in those books, I believe may be erroneous, because water is at the center of all of it.

Therefore, if your body is short of water, if you're dehydrated then you're not functioning properly. A lot of us have come to realize it from practical experience. We get dehydrated thirsty and we lose our energy. It's not just a side effect, it's a central effect because in that water, actually, there is energy, potential energy. I could explain why. I rather have some slides, but I can explain. But simply stated, without the detailed explanation, water plays a central role in virtually everything the body does and if you don't have enough of it, you're not gonna succeed. You're not going to perform at the optimum. And in some extreme cases, you're not gonna perform because you need that water. And the water I'm talking about... Please interrupt me when you want it.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

I wanna interrupt right here because I want to set a stage for people. 10,000 years ago, on the Vedic sciences and Ayurveda, the sister science of yoga from India said... This is a long time ago, said, if you want to know the health of your community, look to the frogs, because the frogs are living in the water that's feeding all of us and they're going to be the ones that show whether or not the community itself is healthy. So it's not even just water, it's the kind of water.

Dr. Gerald H. Pollack

It's the kind of water. It's the kind. I get asked, I wouldn't say daily, but close to it. I get an email, I'm in Georgia and I'm whatever, whoever, introducing myself, which water should I drink to maintain my health? My husband has this or that disease and I'd like to keep him healthy--



Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

I get that question too and I don't have my name on the research you do. People were desperate to know.

Dr. Gerald H. Pollack

Well, you know Keisha, this is... Let me digress for a moment about that desperation. It's easy to find out, but it needs to be done. And what needs to be done is our clinical trials on different types of water. Everybody wants, no, and everybody can benefit from this sort of thing. Dozen of years ago I tried it myself because I'm independent of any of the companies who are selling the various waters, many of whom profess that their waters contain EZ water, fourth phase water, what we discovered--

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

What we'll explain in a minute.

Dr. Gerald H. Pollack

Or structured water of some sort. It seems to have caught on. And the poor person that wants to know which water should I drink, there's nothing out there to say. Each product, so to speak advertises that their health manifests, but you don't know because you don't see the test and you don't know if the test had been objective in nature. After all, these companies, many of them stand to make a profit and I don't blame them. They wanna stay in business, but then it's sort of like the pharmaceutical industry. You don't know whether--

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

It's unbiased.

Dr. Gerald H. Pollack

Yeah, unbiased. The drug companies will spend up to, I think I saw \$10 million or something or maybe much more than that. I can't remember the figure, but huge amounts of money, to do clinical trials. Well, same thing could be done with water. It's not cheap. I'm not talking about 10 or a hundred million dollars. I think probably it could be done \$5 million but somebody has to step up and say, okay, I'm going to do this. We could have done it where we're so deeply involved in



some of the science now that I'm less sure that we have the capacity, but it needs to be done by somebody who understands something about water and is objective enough to do these clinical trials without any bias whatsoever. And then after two or three years, the answer will come out. You know, water A is pretty good for your health, especially if you have a kidney problem, and water B is even better, but water C doesn't do anything for this. Unfortunately, if you've got cancer then a water G and H are really good for you, et cetera, et cetera.

We don't know the answer. People ask me, they think I'm an expert of some sort, and I tell them, I don't know. It's really difficult for me to say because the clinical trials have not been done. If any of your listeners would like to step up to the plate and fund something like this, or even partially fund it, it would be a real advance for humanity. Everybody needs to know the answer. Standing on my box and grandstanding about that issue, I think you're mostly interested in other aspects of water which, please, I can explain if you ask or whatever.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

Let's lay a little bit of groundwork on what your lab and what your team did come up with. You threw out some terms that are maybe known to some people and maybe unknown, EZ water, structured water, if you wanna explain what that is.

Dr. Gerald H. Pollack

Well, I was saying, and if I failed to define those two, remind me. We found something that almost nobody expected except a few luminaries for over a hundred years including a famous colloid chemist. The guy's name was Sir William Hardy, and obviously he must've been famous because he's got sir before his name, British. And he said, there's something weird about water. There are so many anomalies that is observed features that are not explained by our current understanding of water. We've got a solid liquid vapor but this stuff doesn't fit.

If enough observations don't fit then you have to go the extra mile and say, well, something is wrong here. A hundred years ago, he suggested that there must be another phase of water. And a few people carry forth that general idea, one of them was Halbert St. Georgie, however you pronounce it, Hungarian guy, who is considered the father of modern biochemistry. He knew that there was something beyond ordinary, this kind of stuff that we drink. And inside the cells, he was thinking that the water molecules were ordered in some way and he even came up with a quotable quote, it was called life is water dancing to the tune of solids. In other words, solids were



moving around and the water was somehow in coordination with it. But perhaps, the most eminent, I don't know, the the most serious researcher in that area is the late Gilbert Ling, who just died a year ago. Gilbert came from China, he was in the first cohort of Chinese scientists sent to study in the U.S. In all three, they thought Gilbert was the smartest. One of them went on to win a Nobel prize, and Gilbert deserves at least two Nobel prizes for all that he communicated. And he held the view and he wrote six or seven books.

Again, that inside the cell the water was not the same as ordinary liquid water. There was something else. The molecules were actually stacked on one another, lined up and he called it structured water. That is different from ordinary water, where the molecules are bouncing around a furious number of times per second, randomly oriented and such. And until he died he was quite confident that he was right. Well, in our experiments inspired mostly by Gilbert Ling, who I knew what not so well, inspired by him. We actually found that he was wrong and right, and mostly he was right but some aspects, the evidence that we came up with didn't fit. So what we came up with was a long introduction to your question. So if you have a material and the surface is so-called hydrophilic, that is water-loving, which means if you take water and you drop it on the surface, it will spread out. Instead of beating up like Teflon, for example, in this case, it spreads out and loves the water, water loving, hydrophilic.

Okay, so hydrophilic. So what I'm going to tell you about it happens in most hydrophilic surfaces. So when the water meets the surface, you think nothing much happens but actually something extraordinary happens. The water that's right adjacent to the surface, undergoes a transition to a different state, that's what we now call the fourth phase or stage, if you will. This fourth phase is a sheet. If you were to look at the sheet from this direction, the sheet looks like a honeycomb, just full of hexagons containing oxygens and hydrogens.

And then the water forms second sheet, which sticks to the first, and a third and so on, and these sheets build on many many many sheets and some circumstances, even up to a million or so sheets. It's a huge effect. And this kind of water, we found all of the physical properties that we investigated differ from that of the stuff that's in this cup. It's much the way Gilbert Ling described it. However, the structure is different, our evidence points to that. And also to the fact that it's no longer H_2O , it's actually H_3O_2 and it's charged, usually typically negatively charged. And the region beyond these layers of water is positively charged. So you've got negative charge and you've got positive charge out there, which is like a battery negative, separated from positive. This is not just a laboratory curiosity, I'll tell you in a moment because of because, you need energy to



be build any kind of order structure. If you go from chaos to order requires energy, fundamental law of thermodynamics, which makes sense, because not all fundamental laws make sense. This one I think makes sense because everyday tends basically to devolve into chaos, unless you've got energy to support it. And we got to figure out where the energy comes from. It took us several years and it was actually a student who provided the cube. We figure out a project together but the student knows that they've got free rein to try things that they might not ordinary try, or nearly try it. This guy was an experiment in the bench and there was a lamp sitting right next to him. What are these gooseneck lamps?

And he put it in position and shined it on the chamber, and whatever part of the chamber was illuminated, the fourth phase grew. I should say, we call it also exclusion zone, is fourth phase or EZ for short, exclusion zone, because it excludes almost everything, it's like crystal. So that's why we say EZ water, fourth phase water. So, so that's why we say EZ water, fourth phase water. Anyway, it was shining the lamp and the EZ or Fourth Phase grew where it was illuminated. So he calls me in and said, hey, look at this. And I looked at it and I was totally amazed. I was blown away. And I said, take away the lamp and see what happens, sometimes things are irreversible. So he pulled the lamp away and this expanded section retracted back to its original. So we now know that the energy that's required to build this is light. And of course, we wanted to know which wavelengths of light were the most powerful, the most effective.

And we did general experiment, now the gooseneck lamp shining on the chamber and we found that all of this is published and it appears in my fourth phase book. We found that infrared energy were the most powerful. So what's infrared? It's part of the spectrum of lights. There's the visible part, there's ultraviolet at shorter wavelengths, which we can see, and infrared at the longer wavelengths, which we can see. But the infrared is always there. It's always there because everything out there is generating infrared energy.

If you were to dark in a room, completely dark, your cell phone camera sees nothing and your eyes see nothing, and you pull out your infrared camera and aim it in a direction, you've got a beautiful image of whatever it is you're facing, which means that each entity out there is generating infrared energy. It comes originally from the sun, which is 50% infrared reaching the earth. It is the sun shining on all these objects and these objects reradiate that infrared light--



Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

Because they have the stacking plates, is that why like a tree would then during the daytime get those stacking plates of the water 'cause it's hydrophilic.

Dr. Gerald H. Pollack

But it doesn't necessarily need the water because some of the objects contain no water. So I'm looking out of where I'm sitting right now and I see a rod iron gate and the rod iron contains almost zero water, but you'll see it with an infrared camera because it's absorbing energy heat, you might say, from the environment and then it radiates heat so we see it. So what I'm getting at is that the energy that you need for building this fourth phase or EZ water is practically infinite.

It's always out there, which means that where we have water and some kind of hydrophilic surface, most surfaces are at least partially hydrophilic, you're likely to have EZ water and therefore, it's all over the place. It's not just inside our body, it's outside. So it's what I mean by, it's not a laboratory curiosity, it's all over, especially in your body, as Albert San Georgie, and Gilbert Lang we're all the time, but it's a little different from what Gilbert suggested. It's not merely a stacking of molecules, but it's actually a transition that occurs, and the transition builds EZ water, massive amounts of EZ water.

And that water usually has negative charge, and it's built by infrared energy, and inside your body or another source of infrared energy, because metabolism is generating heat and that's infrared energy. So you have infrared energy building in your own body, and that infrared energy builds EZ water.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

From your thyroid, because your thyroid's taking your oxygen and your calories and generating the key part of that.

Dr. Gerald H. Pollack

Yeah, that's part of it, all of the metabolic reactions that are occurring are contributing. So you have a source of infrared infrared outside, you and I, probably you have more than I do. Or I eat more than you do so maybe I have more. So the infrared energy is there, it's all over. We found that it powers a lot of things inside your body. So it's not just the food that you eat but the EZ



water that's inside your body is separating charge. It's potential energy. So from this water, this water was separated charge that constitutes potential energy which your body uses to do whatever it's doing. I'm not suggesting that the more conventional means of energy, like ATP are not relevant, although Gilbert Ling did question that, and his questions have never been answered. It's very interesting.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

We're calling into question the Krebs Cycled out. That's interesting.

Dr. Gerald H. Pollack

We go to a more philosophical view that nature works simply. When I was a student, and actually I was a faculty member and I sat in on a biochemistry course, the instructor was gifted and the first half was really interesting, learning about proteins and such. The second half I was advised to stay away from it. It's about metabolism. And it's so complicated. It's just not worth sitting there and learning all of those reactions. I think we both agree that mother nature and her brilliance works in simple ways, not complicated ways, the answer has to be simple.

And if it's so complicated that it takes a full quarter or a semester to learn the fundamental principles, I'm not sure. It's a bit arrogant to talk about questioning the Krebs Cycle. And I don't know that it's wrong but I have a suspicion that the whole thing might be simpler and that remains to be seen 'cause we never consider the electrical aspects of this, the separation of charge and how this separation of charge battery. Basically, it's got a big battery inside our body and that battery contributes to energy and it keeps getting recharged. It's like your cell phone battery. I have no cell phones, so I have no cell phone battery. I stayed away from that, getting increasingly difficult.

But anyway, that battery is operating in your body. So it's not just the food that you drink that's giving you energy, it's also the electrical aspect of this, which is providing energy to your body, in much the same way as it provides energy to virtually everything out there. I think it's critically important and it's been under-recognized. I can continue on unless you've got something you wanna--



Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

It feels like that you just with adeptly and quickly explain seasonal affective disorder. You know that, right? Because here's this thing that I often will give the analogy of blackberries in the Pacific Northwest, will take over your backyard much like the jungle took over Machu Picchu, if the energy is not spent to keep that at bay. And it takes some energy to be--

Dr. Gerald H. Pollack

I didn't know that it was almost overrun. It looks rather bare from my memory of many years ago.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

Yeah, many, many, many years ago it had jungle all over it and it had to be pulled back out again.

Dr. Gerald H. Pollack

As probably how it was discovered, I guess.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

Yes, exactly, it was hidden for some time. It was this big archeological discovery when some of that started getting pulled away, it was like, oh my gosh, and had to be dug out. This thing that you're talking about, where the energy is necessary to create that space and light being what does it with water, and I just thought, wow, that's just exactly like seasonal affective disorder. If people get depressed in the region of the world that we live in, which is the Pacific Northwest, or it can be gray a lot, even though they're still infrared, it's still available, like you said, in the dark. It made me wonder when you were saying that.

Dr. Gerald H. Pollack

I see where you're going, sure. I mean, absolutely and that's why I know people in Scandinavia go South to the Middle East and South to get more sun, a lot of depression there. Unfortunately, we live in a latitude that's too far North. Absolutely, it's not just physical, it's mental also. It affects every process. And of course, it affects processes in the brain. I think that may be the reason why I know the Scandinavians are maybe more advanced than we are in some way. They like saunas and so do the Russians, and they have their fauna, which is the same. And they use it all the time. It's heat and heat is essentially equivalent to infrared energy. You sit in there and take off your



clothes, you get blasted by heat or infrared energy, and 30 minutes later, you come out like a new person. You're not depressed anymore. And they know it in Scandinavia and I think we're beginning to know it here. The mechanism has been not not so clear, I mean the mechanism of why the saunas work as well as they do, but I think it could actually be the infrared because the infrared penetrates your entire body including your skull, gets into your brain and restores your brain to its normal mode, which is not depressed, which is feeling okay about the world.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

ore science, behind infrared sauna therapy, you could sink a ship with it for all the different aspects that it does for your body and different ways of detoxification. When we see the word detoxification in association with the sauna, I love my infrared sauna and I get in it a lot and I stay very happy and healthy and my skin looks good as a result. All these things occur and hearing your explanation of EZ water, you could go, that's why, that's what's happening. You're actually increasing your H₃O₂.

Dr. Gerald H. Pollack

H₃O₂, absolutely. It's so simple that I think it might even be right.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

It's so simple, exactly.

Dr. Gerald H. Pollack

And the same with muscle pains, you go in with pain and you come out with less pain or no pain and it seems magical, but it's not magical. It can't be magical, something is going on. I would venture to say that it's just the EZ water that's building up in your muscles and returning your muscles to their natural relaxed state, not contracted up and causing pain. Water is so critical for everything in our lives and the water that you drink. Some of the water you drink may contain EZ water, especially spring water, and some companies are coming out which they profess to containing structure or easy or fourth phase water but we're not absolutely sure. But what the body does is some of the water that you drink actually gets converted to EZ water because of the infrared energy from inside and outside, and that's how your sales get filled with EZ water and that's how it--



Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

Can you drink a quart of water, go in the sauna and have it convert, or can you take your quarter of water into the sauna with you, and how long will it stay in that EZ--

Dr. Gerald H. Pollack

I mean, both are brilliant questions whose answers are as yet unclear. We do a lot in our laboratory in Seattle, but of course, right now we're limited because of COVID-19. Otherwise, we're limited because you've got a certain number of people and each one is working on a particular scientific subject and you can't do everything. It's a real frustration. I used to have many undergraduates working in my laboratory and undergraduates, I've found are really open-minded, that they haven't learned yet the, quote, facts which are actually the opposite of the facts. There are open and we discuss projects and they do them and sometimes it works out brilliantly, other times, it's like pulling teeth to get them to write what they've observed and turn it into a manuscript and eventually into a paper. They don't understand that what they've done is worthless unless everybody knows about it. If they know about it, and maybe I know about it and nobody else, doesn't do any good.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

Has anybody done that, what I just asked?

Dr. Gerald H. Pollack

No.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

How long does the EZ water maintain its structure?

Dr. Gerald H. Pollack

No, I can only tell you what we're gonna do it because it's important and it's not so easy to do because you have to set the conditions. You let the water sit in the sun or not in the sun. Do you use colored containers, as you mentioned, the Ayurvedic studies from 10,000 years ago or even 7,000 years ago and such. I have someone in my lab who comes from India and she remembers



that her father would do that, a lot of sun, you put these containers in the sun, one is blue, one is green, one is red, I don't remember all the colors. Depending on what's afflicting you, grandpa or dad or whatever, pulls out the right bottle and you start drinking water and you get better. Isn't that amazing?

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

So simple.

Dr. Gerald H. Pollack

So simple and our ancients were so brilliant. They understood what works and what doesn't work. They didn't have penicillin, but they knew how people could get better because when you think about it, the people in the Ayurvedic era were just as intent on saying healthy as we are. They seem to have had good means to do it, I'm actually thrilled by the kind of renaissance that I feel is going on now in medicine where people are coming to recognize that the boundaries that are set in modern medicine are so narrow and doctors are allowed to do only what remains within the boundaries, because if they go outside the boundary, they may be sued even though they know that the solution actually lies here, not in between those boundaries. It's a pity.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

It feels like we're starting to expand outside of the germ theory era that we've been in and moving into maybe germ theory and terrain theory can live side-by-side and both have some value because the terrain is the water in which the cell lives. This idea that it's just the cell, as you were mentioning, that's so short-sighted and so narrow. And so this idea of, what's the hot tub that your cells are bathing themselves in?

What's happening there? When you're talking about Dr. Ling, I was envisioning the chaos of water as opposed to structured, built on each other water and the plates you were describing. And I was thinking about the ancients in some of their breast work practices. I just taught one last night on a webinar for a group of people with autoimmune thyroiditis, Hashimoto's.

And I was showing this pranayama exercise where you actually hum really loudly, and it bathes this area in oxygenated blood but what's really going on there is when you think about vibrating liquid, what's going on right there. And I started thinking about that and I thought, I wonder if



that process... Because this is one of the things that all those years ago, Ayurvedic were saying, this will heal your thyroid. When you said all of that, I thought, the thyroid is the one that takes the calories in the oxygen, and actually there's a receptor in every tissue in the body for thyroid hormone. That's interesting. If you're doing that that bumblebee breath, is what it's called bhamari, is it vibrating the water into this exclusion zone? Is that what's going on? And who knows? I was seeing the chaos go into some order with that vibration, and I thought, well, that's fascinating. Did they know that all that time ago?

Dr. Gerald H. Pollack

Maybe we don't give them enough credit for what they actually knew. I mean, the wise people there. But I think you're onto something because if you impart sound waves to water then the water does tend to structure. You can see various patterns, you take some like a speaker that vibrates this way and you put a plate that contains water and the water will organize into some nodes and anti-nodes and characteristic ways, depending on the frequency. There's some kind of ordering of the water or structuring of the water, if you will, that occurs. And the healing is manifest. I think immediately of the Tibetan healing bowls, you've ever heard of those?

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

I do, yeah.

Dr. Gerald H. Pollack

So you know that the sound can heal but there's actually more than that. We had a couple in the laboratory and probably you're familiar with this, but maybe your listeners are not so familiar. If you get one of these bowls, you fill it with water and then you rub your fingers on the rim and and a hum or some other gadget... You can do it that way. It starts to hum and after about 20 or 30 seconds, something magical happens, which still not well understood, from the water contained in the bowl. The water droplets go up. It's like upside down rain. How don't know if you've ever seen this?

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

I have not.



Dr. Gerald H. Pollack

Everybody should do this and see this, by a Tibetan healing bowl.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

You have several of them, so I'll have to try it out.

Dr. Gerald H. Pollack

Fill it with water and start rubbing, and after you rub and hear the sound, wait 20 or 30 seconds. And if your bowl is like the bowl that my wife and I first experienced somewhere in Germany at a museum, or you get one of your own on Amazon or what have you and do it and you'll see. It's fascinating because these droplets will rise up by up to two or three feet and then come down again. That demonstration is kind of almost the same, almost as powerful as the one where you take a balloon and you rub the balloon on your sweater and you have a faucet of water coming down slowly and you have the balloon gradually approach the stream of water and the stream bends. It's not just five degrees, it bends markedly.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

I've seen that one, that's amazing.

Dr. Gerald H. Pollack

All of these obviously have explanations but they're interesting. I think I'm deviating from, I forgot what--

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

You're not at all because going back to that pranayama exercise talking about that I demonstrated last night in this webinar, that the other outcome of that bhramari breath of just doing a repetition of seven full breaths in this manner. So just an inhale and an exhale, humming, as loud as you can. What occurs is also a complete clearing of the mind stream so that all I ever want to do after I'm done with that is meditate.

Everything clears and coms. It's like the brain gets ordered too, the mind stream gets ordered, and then it can sit in quiet, in silence and stillness and people that say, I can't meditate, I'm too



chaotic. I was just picturing what you were describing, Dr. Ling talking about of this chaos versus this order, and I thought, gosh, they knew this about pranayama. I know they did because this is the advice that you do before you sit and meditate, is you do these different breath work exercises. Anyway, I thought that was quite fascinating. I wanna spend the rest of our time talking about ways to increase structured water or EZ water, 'cause I know that you've done a series of experiments in your lab. I know one time we talked and you were saying how when you're a child and you loved getting buried in the sand. There's this grounding effect that happens, and that affects the water in your body. So what are some of those things?

Dr. Gerald H. Pollack

Well, first of all, let me ask you, I'll re respond, but I had that experience myself. I was probably eight or nine years old, buried in the sand. I don't remember anything from that age except that incident because the feeling of wellbeing and happiness while buried was so profound that I didn't want to get unburied. It was time to go and they had to unbury me. I was buried up to here. I was sitting in there for maybe 30 minutes or so. And it connected electrically to the earth, although I would never thought about the electrical connection to the earth at age eight. But it was so powerful and that's why I remember to this day.

It was my friends and they were having fun burying me. What does that mean? Finally, after many years, practically infinite, where I am today, I think I understand the reason. And the reason that comes from what we experienced in the laboratory, that is when you connect yourself to the earth electrically, you're connecting yourself to a huge reservoir of negative charge. I'll come back to that in the moment, but I started my career studying electrical engineering. No professor ever in told me, and these were smart people, no professor ever told me that the earth was negatively charged.

They thought it was neutral so that, for example, when you plug into a receptacle, you've got the three prongs and this one is neutral, but it's not connecting to zero, it's connecting to a vast reservoir of negative charge on an inside the earth. I never heard of such a thing and my colleagues never heard of it. I'm sure that people who go through advanced education I've never heard of it. In Russia, every middle school student knows about this. So the education systems are different. And when this was presented to me, that the earth was negatively charged, I was in shock. I said, this is impossible. It came from a Russian colleague who was just about... He was in my lab for six months, about to take off home for Russia and he was telling me about the negative charge of the earth and the electric field that comes as a result of that, not magnetic field. I said,



Andre, when did you ever hear this stuff? He said, everybody knows it, don't you know it? I said, I never heard of such a thing. He said, well, your educational system must be deficient in some ways. So I went home that evening and he was off on his flight to Russia thinking, if this is true, it's amazing, and I never heard of it. And how come I never heard of it if it was so clear to him, this was true? Next morning, one of my students brings me the lectures of the great physicist, Richard Fineman, and almost every graduate student in physics reads these lectures because he was funny and he was clear. He touches on almost everything in physics.

And the whole chapter, Volume 2, Chapter 9, that discusses the negative charge of the earth. So when I got buried, I got buried near the water dam and conductive, connecting myself to a huge amount of negative charge. We know from laboratory studies that if we had negative charge to water, that builds EZ. And so I'm thinking, well, gee, I've got EZ in my body and I'm connected to negative charge. And what must be going on is that in my body, EZ is getting built. I think this is the mechanism. It's if you do that, or if you go to a mud bath or even swimming in the ocean, usually you feel good or walking barefoot on the beach.

And the reason you feel good is simply that because you're connecting yourself to negative charge which builds EZ water in your body. And with more EZ water, you function better. It's not just your muscles, but your brain also. So you're in a feel good state, which is, I guess the default state, not the depressive one. So that that's one way. Second way, drink a lot of water, I mentioned that, because that's the raw material for building EZ. Third way, let's see. Another way is to do juicing. And I think you'd do that.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

Every morning.

Dr. Gerald H. Pollack

Every morning, so you know more about it than I do. My late wife used to do that, and I appreciated it. So you go out, you take some fresh leaves of some sort growing in your backyard, fresh, vigorous, and just squeeze the hell out of them using a machine or not a machine. There are machines that you could buy that do this very effectively, and you drink this water with some extra flavoring to make it palatable, maybe some strawberries squeezed in or something. I'm not sure what you do, but what is this water? This water is water from the inside of plant cells. And these are fresh vigorous plant cells and they're full of EZ water. So you're actually putting EZ water



into your body, and so you don't need to convert ordinary water into EZ water, it's there and what you drink. So you bypass the step. And from what I've heard from various medical professionals who do this, it's really effective. And if you go on Mercola, mercola.com, who's famous for his pronouncements unhealthy, is that it says this is the simplest thing that you can do to improve your health. I believe it, just requires a little bit of effort to do--

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

You can put little chunk of ginger in there, a little chunk of turmeric, some cilantro and it's just so good.

Dr. Gerald H. Pollack

And that's why you are so healthy. You must be the queen of health. Everything about you says health. Well, good for you. That's another one, juicing. We talked about the electrical stuff, sunlight. Right now, as Keesha mentioned, in the Northwest and we don't see too much sun, especially during the wintry half of the year and when the sun comes out, people feel really good. And the theory is, it's a purely psychological issue and I don't deny that.

However, there's also a physical aspect to it because when the sun comes out, it's contains a lot of infrared energy and that beating down on us, we receive infrared energy directly. And that infrared energy builds EZ water in our head and our brains and elsewhere and we go to the default state which is happy, pleased, content, not irritated, not depressed or anything like that. I think this could contribute to why when the sun comes out, we all feel good, like right now the sun is just to come out or at least where I am, is very nice.

And then of course, in the sauna, you maximize that because you're getting huge amounts of infrared energy. It's the last one that I'll mention, is some kinds of foods. And here we go back to times Ayurvedic times, and you've mentioned several times, turmeric. So people have known, even in modern times, that turmeric is good for your health, almost no matter what ails you. I think turmeric and basil also, but Holy Basil. Turmeric is good for health but why is it good for health? It's good for so many things.

There are two possibilities. One is that there are receptors, we say for turmeric, all over the body and you take it. These receptors turn out some process and whatever. That's a complicated one, because there are so many processes inside your body that are improved when you take turmeric.



A simpler one is that turmeric builds EZ water, and you need EZ water throughout your body and so you get it by eating turmeric. We tested this and published it. We found that turmeric in modest amounts, amounts that you're likely to have inside your body, build EZ water. They expand EZ water from the amount that you have to a bigger, larger amount. Basil does the same, going back to the Ayurvedic era and so those--

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

We're talking about Tulsi. Holy Basil is Tulsi, you guys.

Dr. Gerald H. Pollack

I have someone from India and my lab and so for her she says, Holy Basil all the time, I forget, it's the same. And speaking of Ayurvedic, gee, we tested gee of clarified butter and it deals the biggest EZs we've ever seen. It's huge, it's just amazing. So those are a few, we even tested aspirin, which comes from the bark of the Willow tree. It's natural, same thing, builds EZ water. And over a fairly wide concentration range. Many of these, I think we studied seven or eight of them, every single one of these agents that are known to improve health build EZ water. We think the mechanism underlying the improvement in the house lies in the buildup of EZ water. So that's yet another route. I've listed, I think a half dozen different relatively simple routes that lead to improved health.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

Going out into the forest.

Dr. Gerald H. Pollack

Going out into the forest, you hug a tree, maybe you do, but not everybody does. And the same thing, the tree is negatively charged just like we are. All the trees cells are negatively charged, in fact, more negative than we are. The electrical potential difference in ourselves is minus 60, minus 70 millivolts inside negative and the trees, it can be 150 or 200 millivolts negative. So it means if you hug a tree, you're getting the benefit of some of that electrical energy would seeps into your body. There may be more to it, I'm not suggesting that's all but this is probably one way.

And as the story goes, it was started with George Washington, and once upon a time, he would bring his physician with him. I don't know if he was paranoid or perpetually ill or whatever. And he



was at some kind of conference out in the woods somewhere, and he wasn't feeling well, went to his doctor and the doctor told him, hug a tree. So he picked out a tree, and George Washington grabbed the tree and hugged it for a matter of 10 minutes and felt better. Maybe it's apocryphal, I don't know how real it is but I could imagine that this may have been actually more popular a few 100 years ago than it is now.

If you see someone hugging your tree now you would think, lunatic, what's this weird person doing? But I think what this weird person is doing is gaining an electrical charge, and we need negative electrical charge which is an EZ water to keep us going. And in fact, physiologists and and biologists have measured the electrical potential and all kinds of cells. I did it myself. I started my career at you use an electro that Gilbert Ling invented. He should have gotten the Nobel Prize for it because so many things that followed from that earned Nobel prizes, and he was right at the core. So anyway, you stick 60 electrode into the cell and you measure a negative electrical potential. The textbook says, this negative electrical potential is caused by some kind of gadgetry in the membrane that includes pumps and channels of sorts.

And I've written papers suggesting that that mechanism is erroneous for various reasons, which I think if anybody looks at them, they're very simple reasons. I think a lot of people who are unbiased who looks at it, yeah, something wrong with this, but now it's easy to understand why the cell is negative because the water inside the sound is negatively charged, not neutral. Therefore, if you stick an electrode in, you measure negative electrical potential. So a lot of things are, I think, I hate to use the word wrong, but a lot of the things that we believe are ground truth might not be ground truth.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

In a non dual tantric Shaivism, a path of insight and learning about yourself, there's this statement that I just love that they used to say in ancient times and they called it, the near enemy of truth. There's a near enemy of truth, where it's almost there and then people will use that as the reflection and it just gets them off just that much. They're not quite there. So we'll call those near enemies of truth.

Dr. Gerald H. Pollack

Sometimes I think that was enemies are far enemies because the educational system that we go through tends to reinforce... We get rewarded for memorizing these arcane and complicated



mechanisms. The ones who can memorize them best are the ones who score, in fact, too often will go into science.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

It's true. And the thing I wanna end with 'cause we're out of time is before COVID I used to take groups to Peru a lot. And there's this place that is up above chin shadow and we climb up on all these rocks and then we go into this little opening, and it's like a little cave but it's got this opening that you can then look out over the Vista and you're enclosed by the earth. It's like a womb, and spend 10 minutes in there and come out feeling incredible. It's like, where are those places where you live? We've talked about forest, we've talked about ocean, lake, meadows, stream, cave. You can find these places and then spend some time with them and just see how you feel. You don't need science to tell you anything, you can check in with yourself and just say, how do I feel as a result. Like Dr. Pollack said, I remember this thing from eight years old. I remember this experience. Your body will actually tell you if it likes what you're doing, which I think is important to remember.

Dr. Gerald H. Pollack

Absolutely, if it likes what you're doing.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

If it likes what you're doing.

Dr. Gerald H. Pollack

That's an interesting story. I wonder whether it's the infrared that comes from the rock, that's penetrating your your skull that makes you feel so grounded, happy, whatever you feel, the natural state of your brain.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

A lot of those rock areas in that area have a lot of crystal in them too, which of course absorb that energy too. So they're negatively charged. There's probably a lot of resonance with your body that's occurring there. But my point is you don't have to live by the ocean, you don't have to bury



yourself in the sand every day. There are all of these different ways that you can get these effects, and I think that's important.

Dr. Gerald H. Pollack

I think you know them better than anyone.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

Oh no, I so appreciate you taking the time again, to share this information, Dr. Pollack.

Dr. Gerald H. Pollack

It's always nice to connect, I love to. And thank you for the opportunity. Okay, take care and enjoy the sun.

Dr. Keesha Ewers, PhD, ARNP-FNP-C, AAP, IFM-C

Be well, everybody, until next time.

