The Hydrogen Advantage: A New Frontier in Heart Health Transcript

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Introduction and Guest Background

Well. Hello, everybody. Welcome back. This is Reversing Heart Disease Naturally 4.0 The Great Year 2026. Up to date I am interviewing somebody I have never had a chance to interview before.

I'm excited. Fresh blood was a hard, hard summit so we could talk about blood. Ben Tammetta who spends his time between the great city of Atlanta and the great tropical resort of Costa Rica country, Costa Rica, which has a region in it that's a blue zone region, which is one of the many reasons Costa Rica.

Lovely place. Ben, thank you for joining us. Right, right. Thanks for having me here. And Ben has I'm going to start in a very naive ways and affiliation with a company called H2 biohacker.com.

It's to like hydrogen. Indeed you might be the owner of H2 biohacker.com. Correct me of yeah I'll get it. I'll get into with my story. But yes, I'm the owner, the engineer.

I kind of let me through a path through research and science to create this machine. And subsequent, you know, company in the website H2 biohacker.com.

Well, give us three, four minutes. I got to tell you in my clinic whether I'm seeing people like zoom, I'm answering emails from patients all day long.

Hydrogen, water, hydrogen therapy comes up a lot. Do I really. Yeah. There's something to it. Do I do tablets? Should I do a water flask. Do I do a machine?

I see you know, people talk about I hear there's lots of science and I do my best. I've read a lot of the science. Your website, H2 bar.com has a great science tab and a big heart health, a hydrogen tab.

So tell us how you got here. What? Sure. You know the short story on the background and how you developed this company? Yeah. Well, the first question like you mention is like, if you ask, well, what is hydrogen therapy?

Because you hear hydrogen balloons and hydrogen lamps, right. What does hydrogen have to do with the body. And so what I like to tell people it would define it first.

Right. So I say that hydrogen therapy is the administration of hydrogen gas into the body through inhalation or drinking hydrogen infused water, or the diffusion of hydrogen through the skin by enclosing the area in a bag or sleeve.

And this is all for the purpose of faster healing and overall better health. So some examples of that. Some people are familiar with a nasal cannula. The example right here of it right right loops around your ears.

What Hydrogen Therapy Is

So the base of your nose slider up there. And so the hydrogen installation uses a nasal cannula which would normally be delivering oxygen. You know, in most cases.

But in this case we're doing hydrogen. And so the machine produces a small amount of hydrogen you inhale. And that's where you receive the majority of the benefits.

This in addition to that some people also diffuse hydrogen. You know, you can connect a small hose and an air stone and diffuse the hydrogen into water.

And you would drink to water. You don't get as much hydrogen in the body. The machines produce nowadays about a liter of total gas per minute. And you can dissolve a liter of hydrogen into a liter of water.

It's just physically impossible, just doesn't fit. And so you get an order of magnitude greater hydrogen for the body when you're inhaling it. So also when they're diffusing into your skin, like into your, it's most used for your joints.

So for example, you would put a sleeve around your upper shoulder and your bicep in the cannula, or a hose would be inside that sleeve. And so that gives a chance for the hydrogen to diffuse into your skin.

So that's basically what, what it is. Right. So another overview here is like my my story I mean I'm not a doctor. And so I offer a very different perspective on this.

I come from a different totally different angle. My academic background is, electrical engineer, you know, a scientist in a natural health enthusiast for over 30 years now.

So I want to share some of how I got into this and some of the benefits. And so my initial goal was increased health stand. In my late 40s, I really started to experience some of the effects of Asian.

I'm like, what's going on? Just like brain fog, you know, lack of energy fatigue. I mean, my memory wasn't working as quick as it used to be. I was getting more colds and sickness and flus and that recovering is fast and just various, you know, health related things.

So I'm like, oh my God, I'm getting old. Something's wrong here. And I kind of like, you know, am I? I gotta fix this because I was almost like semi-retired at the time.

And so my mission became just study and health and longevity. And so, you know, so the, the goal overall, I mean, everyone's interested in this, but we all want, you know, overall general good health, more energy, more strength, better sleep, a sharper mind, faster healing, reduce aches and pains, and in general, overall feeling of being youthful again.

Right? Absolutely. So you, became a biohacker with that engineering degree, right? You could have picked, you know, other topics might have been a dead end cut.

You certainly didn't pick an area that is a dead end. I mean, hydrogen is a, well, scientifically supported. What was an moment that led you to spend so much time now on hydrogen therapy?

Right, right. Really good question. So as I became interested in longevity using my scientific engineering minds, like I gotta figure this out, right?

I got involved in some private longevity groups where we studied and discussed the latest research on supplements for biohacking and anti-aging, and one of the supplements I came across, kind of the desk in a way you can say was on this is I've sort of six, seven, eight years ago was carbon 60.

This was before it became mainstream. And so we were making our own carbon 60 oil ourselves, you know, with a magnetic stirrer and all this. And we were actually getting what we consider a sort of anti-aging benefit.

So like, oh my God, this is really working. But the engineering in mind, scientists were like, why is this working? Because C6 is a very inert molecule.

It has no biological function in the body. So it's kind of very strange. So the question was why was it providing benefits? And so as we dug further into the research, we find that, you know, they were actually using carbon 16 different forms of carbon molecules to store hydrogen for hydrogen cars.

And so they gave me the clue. Well, and as we dug further into the research, it led me to realize that carbon 60 was actually deriving its power and anti-aging power by acting as a transport mechanism for hydrogen.

And so it's actually the hydrogen that was the working mechanism for producing the results were experiencing. And so then I thought, well, let's cut to the chase.

Ben's Personal Journey Into Hydrogen

You forget this expensive carbon 60, because the amount of carbon 60 we're needing to consume to get these benefits was, you know, $700 a month, you know, just a little bit of dose wasn't doing it.

And so, so that's when we start to focus on the, the hydrogen. And at the time there was just going to be some like hydrogen water bottles out there. And you can get magnesium tablets to dissolve in the water to produce nano bubbles, dissolve into the, into the water.

And then but we we experimented with those, but we didn't really get the, the results we're looking for. And so almost like lost interest or kind of threw it out.

But then I thought, well, maybe it's in the dose. And they say the poison is in the dose, right. Well, maybe the cure is in the dose. And so as an engineer already running my car partially off of hydrogen said, well, I can make an electrolyzer, I'll just adapt something.

So I use for inhalation. So you know, the engineering mind again, I was able to build my own hydrogen generator for self inhalation and to experiment myself.

And, long story short, we got the results I was looking for, and even then, even better. So it turns out there is like an effective threshold or a significant meaningful dose of hydrogen that really, you know, charges the body in a way that the benefits start to show up.

And some of the effects people are, you know, hearing the word hydrogen. 29, you know, some of the effects of adding hydrogen beyond our general exposure body, astral.

And what does it do right, right. Well, the next question is like getting to that point. It's like, well what how does hydrogen relate to the body. Is is there a connection between hydrogen in the body and how is it natural to the body.

But it turns out that, the body naturally produces hydrogen inside your a, a natural, healthy gut microbiome as much as 6 to 12l a day, which is an incredible amount actually.

And that because most people do not have a healthy gut microbiome, they're actually at a this big disadvantage of producing the amount of hydrogen that they need to support a very healthy body.

Right. Another interesting study to mention here is that, the Japanese did a study on people that have lived over 100 years. They found that there's a higher concentration, in the breath of people that live over 100 years there compared to the general population.

And that's also related to the gut microbiome, you know, digesting food or fiber in a way that produces hydrogen. And so these centenarians, they have a higher concentration of hydrogen in their breath.

Also, they say fiber reduces the risk of cancer. But people don't say, well, how does fiber and cancer, what does that connection there? Well, that connection is the microorganisms in the gut digesting that fiber in a way that produces hydrogen as a byproduct.

Right. Wow. And and so hydrogen is natural to the body. It correlates with health and longevity. So we can start to think about hydrogen as a supplement.

Interesting. Now you said this all started your personal journey. Now, very viable business with, you know, kind of a longevity hunt. And many people listening would like to find a path, you know, at least to better what we call the

healthspan the years and a good quality and vibrant both.

Right? Right. Exactly. What have you noticed and how long has it been, and what have you noticed from adding hydrogen to your, health protocol? Yeah. Without getting too technical, one of the I narrowed it down to five things that I notice in that we get feedback from others that are experimenting and using hydrogen.

And, I can go into detail about the to name the five really quick one is definitely more energy reduced inflammation, improved circulatory system. You know, heart and blood, improved brain function and cognitive abilities.

Ten fast, faster overall healing. You know, the the more energy comes from hydrogen directly interacting with the mitochondria. There's, you know, a couple papers have come out that show that hydrogen, you know, H2 actually acts as a proton and electron donor in the first part of the Krebs cycle, the Krebs cycle producing that ATP energy currency molecule of the cells.

Right. It's all about separating the proton electron and recombine. And then at the end of that Krebs cycle to produce that 80 molecule.

How Hydrogen Supports Energy and Inflammation

And so another part of that Krebs cycle process, the hydrogen actually acts as a triggering molecule, as a traumatic stressor that actually, acts like as I exercise for the on a mitochondrial level, it stresses out the mitochondria in a way that it rebuilds more resilient mitochondria and also promotes the mutagenesis, the splitting of mitochondria to create more mitochondria.

So the end result is more energy, more efficient mitochondria, more mitochondria produce more energy. And with more energy, you can your body can get more done.

Just if you have more energy as a physical person, you know, cleaning house, well, then you can get more done. Your body can heal faster, you feel better, your mind works better.

And you just more active. And so energy was a big important factor. And then, that talked about the mitochondria in, say oxidative stress, inflammation was the next thing we noticed.

So inflammatory conditions like arthritis and joint pains and other aches and pains, they tend to go away or greatly be reduced in this because hydrogen also acts as a anti-inflammatory or antioxidant in the process of that metabolic process in the mitochondria level.

And so these oxidative stressors or the react reactive oxygen species are more quickly neutralized by the hydrogen before they cascade into inflammation, which leads to the inflammatory diseases that we're all familiar with nowadays.

And so that's kind of like nipped in the bud by hydrogen at a cellular level before becomes a problem. So I know many patients talk to me about their desire to have more energy, their desire to overcome fatigue, you know, just get through the day.

Some actually now some are using, you know, all kinds of caffeine products and energy products. What's the alternative? They have a machine. Here again, we're talking about a company called H2 Biohacker that makes a couple different devices that are hydrogen generators.

They're going to sit down and breathe in a good dose of hydrogen. Right? Right. Exactly through the nasal cannula I mentioned. And we find that 80 to 90% of the benefits come from the inhalation.

Most of the people I talk to nowadays on the phone, they give me a, column, which is you can book a call, our website, they they've already tried hydrogen, you know, water bottles, and they don't notice a difference.

It's not until they know, until they start doing the inhalation like I did that man, this is a difference. And this is what this is what we're looking for.

You know, other things I mentioned the, the the heart and blood connection. I got a nail fold microscope where you can look at the capillaries in the nail folds of your skin to actually look at the blood as it's flowing through your capillaries to see if, you know, as a scientist, I want to see what's going on there.

And it was obvious to me that, you can see little micro clots or the clumping of cells in your, in the capillaries in your fingers there. But within 2010, to 20s of doing the hydrogen inhalation, we noticed the cells were more separated, more free.

There weren't so much arm stacking and, more free flowing. But the, the hydrogen, when it's created in these molecules, they also transport electrons, you know, and negative ions.

And so in a way you can think of it as, you know, there's also, you know, earthing or grounding, you know, grounding nets. You just walk in on the beach barefoot, you know, those electrons that your body absorbs up to your feet.

That's how our bodies naturally absorbed in our bodies are electrical. And so the hydrogen also delivers those negative ions which help in the blood flow.

Blood cells are naturally negatively charged on the outside. Well, all cells are. But when cells become toxic blood cells, they, you know, have a positive charge and positive and negative charges they attract.

And so when you bring that back, that negative charge to the blood cells, they repulse, just like two north poles of a magnet. And so that frees up the cells to travel more easily through your circulatory system makes it easier on your heart.

And we see that happening in in real time under the microscope. Wow. That is really fascinating. So tell me a little about our protocol. I mean, I have examined, you know, you if you're tired, you should probably see your doctor and have a physical and have labs and thyroid and kidney and just do the basics.

But the the day you may not walk away from your doctor visit with really a path to overcome your fatigue. So now I've got a wonderful H2 Genesis generator.

What's up protocol? How much time am I talking about? How much prep is it to set it up? How many times a day or a week am I using it? What do you do? Right, right.

I've taken it to the extremes because that's what I do. And I experiment like that. But, I work with many practitioners that use in their office and they treat clients as are waiting for a visit and or during their, their visit.

Using Hydrogen Generators in Practice

They come specifically for hydrogen treatments, but anywhere from 50 minutes to a half hour, I would say is is a minimum treatment. And some people actually feel the effects.

It's almost like a little bit, a small energy boost. It's not like coffee or anything, but if you feel like you're dragging, you know, just need a nap, you know, in the middle of the day, just plug it into the hydro machine, breathe it.

It's kind of like, hey, this you revitalize. It's kind of refreshing kind of feeling. And that's like the most obvious people effect that people feel immediately from a short session.

But ideally, I'd tell people if you've got a machine yourself, then, you know, try to do at least one hour a day and you can go as much as 2 to 3 to four hours a day.

You know, we see improvements in conditions, especially, in your brain function, just mental sharpness improve memory clearer mind more productive and better, better sleep, and especially in conditions that with obvious symptoms like Parkinson's and Alzheimer's and dementia.

Parkinson's clients that go from just using the machine that the protocol was one hour a day when they increased to two and three hours a day, three times a day, you know, an hour in the morning and noon and evening.

Their symptoms lessen even more. So, you know, I've got several stories and testimonies of clients that call me back. And, you know, they say, oh, my, my mother of I'm treating for Parkinson's and she's now doing more housework.

She's making her bed now she's more active and she's just improving. It's an obvious difference, you know, just going from one hour a day to three hours a day.

So with, with the inhalation, it's the machine is really easy to use. It's you know, I find it easier than making coffee. You put the cannula on like you did earlier, you hit the go button and then you're set.

And whenever you're sitting still is a great time to be doing it because it's very easy. I find it's the most practical and easy and, invasive type of thing you can do because you don't smell it, you don't feel it, you're just breathing.

So that's all you have to do to, to take advantage of the silent therapy. Just breathe. I find it easier than taking vitamins. Is there any concern about combust ability?

Yes and no. It's only flammable as it comes out the tip of a cannula. Like right at the very, very tip, if you put a flame to the tip of the canyon, it will ignite.

And you know, it'll you'll hear a pop, you know, pop sound, but the machine has, a little bubble bottle that prevents a flashback and turn it into a big explosion, but it'll make a loud pitch sound.

Yeah, I don't I don't suggest people try that, but that's another reason why we don't recommend I see some companies, you know, giving away or promoting you know, goggles or earmuffs doing that.

You're you're putting pure hydrogen into your ears and your eyes. It's not diffusing with the surrounding air. And so a spark from someone walking on the dry carpet in the wintertime with socks and creating a static electric static charge, you can actually touch the cannula in ignite it.

But the difference is when you're breathing it, the machines are calibrated so that you get a less than flammable concentration of hydrogen when you take a breath.

So very little hydrogen comes out. And so it's calibrated so that you get less than a 4.7% amount of hydrogen by volume in air. So you want to keep it under 4.7% because under that the hydrogen is not flammable in there.

So when you take a breath you're inhaling a less than flammable concentration. So that's a key metric to consider. And so we find that one liter per minute of total gas, which would be about 660ml of hydrogen, is the sweet spot.

So anything less than that, you're not getting the most advantage and benefits for the time spent on it. And anything more than that, you get it into the flammable territory.

So that's why we don't sell any small machines or any larger size, you know, producing machines. Interesting. Now, you know, you were coming on to speak to me for a heart disease summit, reversing heart disease summit.

And there are, I think we haven't said yet over a thousand research papers about in therapy and hydrogen's role in health and disease. So there is a lot of data.

What can you tell us a little bit about listeners that are looking for a new path that have various kinds of heart

disease? You don't want heart disease, right? Right.

Research on Hydrogen and Heart Health

Yeah, we're talking about preventing it. Right. But even if you do have a I mean, hydrogen is shown to help recovery from different type of heart conditions and, you know, being diagnosed with, you know, heart conditions.

Now, there are over, two to more than 2000 papers that have been published on hydrogen as it relates to health. And research has shown that hydrogen therapy helps benefit your all the bodily systems and can improve healing, if not with most all health conditions.

And it's a very holistic, natural approach to healing. And so, I've got a few articles that I found or journal articles that I want to rattle off real quick.

Mention the journal, name the title, and so a summary of it, right, to show people there's real world studies. We're not just experiencing this ourselves by as experimenters and biohackers, but there's real world studies now appearing that you can find online.

And so here's one, the journals called Open Heart, September 2018. And in this this study shows a decrease in exhaled hydrogen during sleep is associated with congestive heart failure.

It's like an overnight change in the exhaled volume of hydrogen concentration could serve as a possible marker of health of heart failure severity, which is kind of interesting to think that, you know, hydrogen is, you know, most correlated to heart health in this study is with the same, and another one here is, the journal Cellular and Molecular Life Sciences.

And this is from June 2023. The title of this one is Hydrogen Therapy as a Potential Therapeutic Intervention in Heart Disease from Past Evidence to Future application.

In the summer of this, one basically says that a molecule, hydrogen provides cardioprotective benefits by exerting antioxidant, antioxidant, anti-inflammatory, anti-inflammatory, and anti apathetic effects.

Right. So all good stuff. Yeah. Another one here, the European Journal of Pharmacology. And this was in June 24th. So just two years ago now, the title of this article is The Role of Hydrogen in the Prevention and Treatment of Coronary Heart Disease.

This evaluates the molecular hydrogen's therapeutic potential, including mechanisms for reducing inflammation and improving metabolism. Let's have a short summary.

But you know, anyone can look up, you know, rewind and look up these journal articles and you can get more details as to them. But I just want to like, you know, make put it out there that, hey, there's some real science and articles being put out there and you know, it's all good.

Now, another interesting one here. The journal is called molecule. So this is from May 2019. The title here is, a new approach for the prevention and treatment of cardiac cardiovascular Disorders.

Molecular molecular hydrogen significantly reduces the effects of oxidative stress. And so this shows that hydrogen modulates signal transduction to suppress pro-inflammatory cytokines in excess reactive oxygen species.

It activates Nrf2 for antioxidant like effects. Wow. And so one of the one here. And then you can finish up with these because they can go on forever.

There's like there's a bunch of these, you know, give us one more one more here. And this is a more recent when, November 2025. So just so I just over a year ago and this was in the International Journal of Molecular Molecular Sciences in the title was, exploring the potential of molecular hydrogen in different heart failure models.

So, so this is they said this is the first comprehensive review of molecular hydrogen's effects in various heart failure models. They say that hydrogen mitigates heart failure by reducing oxidative stress, scavenging free radicals, boosting antioxidants, antioxidants, and curbing curbing inflammation, lowering cytokines.

So really, I mean, I love presenting people that talk novel approaches to health and wellness, but have science to back it up. And again on your website, h2 biohacker.com, there's a tabs as Learn more scientific studies.

I as we're talking I shouldn't do it but just scrolling through and whether we're talking now the topic does your heart health or cancer cells or brain now the bone health or humans study?

I mean, you have a very nicely organized, very extensive bibliography, very bottom lines. Long story short, it works. You know, we can some of my dogs saying that, hydrogen therapy jump starts healing by supporting all major bodily systems in a holistic, safe and natural easy way.

It can be used in conjunction with other therapies. Positive results have been seen by me, myself, family, our clients, and backed up by real research and studies like I've just mentioned here.

And we became a sponsor of Doctor Talks here because we thought was really important to get this information out to more people. Because so many people are needing needing this and can benefit from it.

Protocols, Consultation, and Closing Remarks

And we've accumulated a, a great internal knowledge base by talking to so many people and getting feedback from them. And we've developed lots of protocols so we can share, you know, from the thousands of clients we've had.

And so, I mean, on our website right now, you can sign up for a 30 minute discovery call or consultation, where in most cases, I'll talk to people directly to share my experience and advise them on what they can expect from, you know, getting into a a hydrogen therapy type of protocol.

One of the thing to mention there is a special discount for Doctor talks, summit attendees. And so if you inter doctor talks on, the shopping cart page, it is a as a discount code.

You get a nice discount. Okay. Isn't that nice. And I do notice again a website that I really suggest people go to H2 biohacker.com. There is a tab to set up a free consultation with Ben Tamara and you know, talk to the expert, talk to the guys on the work.

Talk to a guy that, really knows in and out. And you know, we have an opportunity to do it here. And, the doctor talks format, but you might want to go deeper with Ben.

So I really encourage people to, you know, take this up. I think we can all tell you're not a super AI powered pressure guy. You're just, did this. I did this for myself, and then I'm just sharing my story because it works.

And then it's a durable product. Somebody decides to invest in this, and they are going to put this on their counter or their desk or their office. I do actually, I'm down there in Florida.

Some people know I have a, Detroit office in a Florida office and a physician that I share the office with in Florida. It says office has your product sitting on his desk.

And when I get to visit him on a day, I'm not the one seeing patients. He's always got the nasal cannula and is treating his health with, your H2 Genesis hydrogen generators.

I we need to give you one of these, doctor con, really soon. Follow up with you. I think I do, too. Can't stop the clock of aging, but I'll take any tips and tricks.

But I can also say it's given me a new life. My brain is so much sharper. My energy levels. It's another level. It's like

my number one go to protocol for health nowadays.

Yeah, I was going to say I've cornered the market. Broccoli and kale and this bag. Yeah. No time to add on the next layer. It maybe that works. So great because, if you've got a good microbiome going on there, digesting the fiber in it to produce hydrogen and hydrogen gas is very important.

Well, Ben, I appreciate you taking the time from, beautiful. Elena. Beautiful. Goes to Rica. And, you know, being involved with the doctor. Jogs reversing heart disease summit.

I've learned a lot. It's a great website. H2biohacker.com. I'm sure we're going to have links and your very generous offer of a doctor. Doc's discount can thank you more.

And, I hope you have a good day. Yeah. Thanks for having me here.