Lower Your Risk of COVID-19 by Addressing Stress and Anxiety:
A Special Interview With Dr. David Hanscom

By Dr. Joseph Mercola

Dr. Joseph Mercola:

Welcome everyone. This is Dr. Mercola helping you take control of your health. Today we have a return guest who was last with us about eight years ago now, and that's Dr. David Hanscom who is actually an orthopedic surgeon who has retired from doing surgery last year, some time. Now he's focusing on a whole variety of different areas, especially that are relating to COVID-19, and he has some really interesting strategies.

Dr. Joseph Mercola:

We've known for a long time now that with diet and exercise and other interventions, you can radically reduce your risk of COVID-19, especially things like vitamin D. But I don't think anyone would dispute that stress is an enormously big factor, but it's typically given lip service. Dr. Hanscom has some very specific, precise recommendations on how to address this stress, but we're going to embrace that in our overall discussion. Welcome, and thank you for joining us today.

Dr. David Hanscom:

Thank you, and I'm happy to be here.

Dr. Joseph Mercola:

Yeah, so maybe you can walk us through the transition you made from practicing orthopedic surgery and really helping take care of many people with failed back surgeries and seeking to find alternative strategies to help them through the pain, and then what catalyzed the change into retiring and moving in a different direction.

Dr. David Hanscom:

Well, I trained at a very high level spine fellowship back in 1985, '86 in Minneapolis, Minnesota. There's a spinal deformity fellowship, which was complex surgery. I was also in pediatrics in there, but what happened over the years is that I started dealing with more and more people with failed back surgery, and they kept getting worse and worse and worse. Then in the mid-1990s, they developed this instrumentation with cages and screws and plates, and I was part of that movement. Seattle had nine times the rate of spine surgery per capita as any place in the entire country, and I was one of those enthusiasts. But in 1993, a paper came out that showed that the success rate of a fusion for back pain was 22%, so I just stopped. I go, "Well, this makes no sense." But I didn't know what to do.

Dr. David Hanscom:

In the meantime, I had developed my own chronic pain for about 15 years, which I think most physicians would call a severe burnout. What was humbling was I went from a fearless surgeon to quickly anxiety in one day, had a panic attack. Once that happened, it was a disaster. I would say the quest ended this year, so I'd been on a 30-year quest to find out what happened that night on the bridge I had a panic attack. It turns out that anxiety is an inflammatory disorder. It's a metabolic inflammatory disorder, and I had gone to psychotherapy for 13 years. Turns out that the unconscious brain is so powerful that you cannot counteract with the conscious brain, and it got worse and worse and worse.

Dr. David Hanscom:

I came about it by accident in 2003. The last 10 years of neuroscience research has made it very clear the etiology of chronic pain. It's a neurological disorder. The last 10 years instead of doing 1 and 2 level back fusions that didn't work, we're now doing 8, 10, 12, and 14 level fusions from the neck to the pelvis. And I would see three to five patients every week having surgeries done on normal spines or spines that had prior surgeries, 5, 10, 15. My record was 29 operations watching a gentleman with 29 operations in 20 years. And once you have a failed spine surgery, it's a disaster.

Dr. David Hanscom:

At the same time, through my own process out of chronic pain, I evolved the process called the DOC process, Direct your Own Care. I was watching hundreds and hundreds of patients go pain-free with no risk, minimal cost, and I was watching people undergo spine surgery that they didn't need. And I ran across a kid who's about 32 years old, my last year in practice, who was paralyzed from a surgery he didn't need. Paralyzed. And that was it for me. I just said, "I'm done. I'm not going to do this anymore." So I quit in January 2019, and I'm pursuing this project full blast, and it's just been really remarkable watching people get better. And it's getting increasingly discouraging to watch the aggressiveness of spine surgery really just spiral out of control.

Dr. Joseph Mercola:

Interesting. With the pandemic and really a shift away from, at least at the beginning of pandemic, the shift away from anything but emergency surgeries, have you seen a change in the numbers of these surgeries being done?

Dr. David Hanscom:

Well, I can tell you indirectly, I just saw a Wall Street Journal article about a week ago, pointing out how much profits the insurance company had not paying out for expensive procedures. Probably, 70% of spine surgeries should not be done, and I can't tell you the exact numbers, but we're not doing elective surgeries so much anymore. And I wanted to write an article about how much safer it is for people with back pain since we can't do elective spine surgery, but it's true. I'm not sure how much you want to go into the politics of medicine right now, but the business of medicine is predatory, where they're taking advantage of people.

Dr. David Hanscom:

The essence of solving chronic pain, by the way, is creating a sense of safety versus threat. And anxiety is a result of the threat, it's not the cause of the problem. What that data shows is that

only 10% of surgeons are actually acknowledging the risk factors [inaudible 00:05:36] poor outcomes before they perform surgery, 10%. And the outcomes are fear avoidance, anxiety, depression, catastrophizing, different medical problems, obesity, diabetes, blood pressure issues, none of those are addressed before surgery. You're making a life-threatening decision on the first visit. Now, when you make a decision like that on the visit, you're putting blind trust in surgeon who doesn't you, you don't know them, and I've been completely humbled. I think the decision of chronic pain is a primary care problem. It's about creating safety, and safety has to begin in the doctor's office.

Dr. David Hanscom:

One of my missions, amongst many, is probably to triple or quadruple the time spent talking to patients. You have to feel safe. And what happens, that's not psychological construct, that is when you feel safe, there's a profound shift in your body's chemistry. You're going from adrenaline, cortisol and histamines, and what we call inflammatory cytokines to growth hormones, dopamine, serotonin, the GABA drugs, all these incredible hormones and also anti-inflammatory kinds, so there's a profound shift in the body's chemistry and people's pain disappears. People that are pain-free. They don't just manage the pain, the pain disappears.

Dr. Joseph Mercola:

I'd like to stop for a moment and discuss what a cytokine is, because many of us hear of the term, especially with respect to COVID, it became very popular, the cytokine storm, but they have no concept what a cytokine is. Just simply, it's a small molecule typically a protein, which serves as a regulatory modulator for different system. You can have a pro-inflammatory cytokine and an anti-inflammatory cytokine. And they have a specific relevance to COVID-19, and this is because they are so profoundly related to the immune system. It's interesting how you share the similarities between the anxiety and the stress, and these cytokines and how they impact pain, and it seems like this is what likely lead you into the recognition, the epiphany, the understanding and awareness that this also could have an enormous impact on one’s susceptibility to COVID-19.

Dr. David Hanscom:

Oh, it's huge, and we've developed a work group, we meet once a week. Dr. Stephen Porges is the centerpiece of this group. He developed what's called Polyvagal Theory. Dr. Porges and myself did not know about cytokines. I've been totally humbled, and a friend of mine Dr. David Clawson, who's a podiatrist in Seattle who has an uncanny knack for pulling out cell biology, biochemistry, medical school knowledge and I forget about cytokines completely. Dr. Clawson's knowledge about cytokines is unbelievable. I've learned more in four months than I've learned in 30 years since medical school. It's been unbelievable, actually 40 years since medical school.

Dr. Joseph Mercola:

Time flies when you're having fun.

Dr. David Hanscom:

I know. Yeah, time is just really a humbling experience also, amongst other things. These cytokines are little proteins or little amino acid chains that are very short, but they are

everywhere. Every cell in the body has cytokines, it's how the talk to each other. It turns out that the glial cells in your brain, which connect the tissue of the brain, puts out cytokines, so do the endothelial cells, the linings of blood vessels, et cetera, so that's how the body speaks to each other.

Dr. David Hanscom:

But when you have a threat, surgeons think in terms of muscle tension, sweating, heart rate, et cetera, and that to us is a threat response versus safety where you relax and regenerate. But what I didn't realize that threat fires up the immune system and threat is all sorts of stuff. It's viruses, bacteria, cancer cells, a bully, a difficult boss, but also your thoughts, emotions, and repressed emotions are also the same threat. The neuroscience has shown us that those thoughts and emotions are processed in the brain the same way as a physical threat. It turns out that every degenerative disease is, what Dr. Clawson says, the same soup. In other words, we know that cardiac disease, [inaudible 00:09:52] disease, adult onset diabetes, obesity, Parkinson's and Alzheimer's are just examples of an inflammatory disorder. It's all inflammatory.

Dr. David Hanscom:

Then it turns out, what blew my mind, and what answered my question, "How can I go literally from a fearless surgeon to a panic attack in one day?" Well, as Dr. Porges pointed out really succinctly that my autonomic nervous system became dysregulated. It turns out that anxiety, bipolar, depression and schizophrenia are all inflammatory processes. It's inflammatory. It is not psychological. Remember anxiety is a result of a threat, it's the cause. Your threat creates a bodily response, which includes the immune system, and that sensation generated by the adrenalin and cortisol and these inflammatory cytokines, that's the sensation of anxiety. Since the unconscious brain processes about 20 million bits of information per second, 20 million, and the conscious brain only processes 40, you can't do it with mind over matter.

Dr. Joseph Mercola:

That's 40 bits, not 40 million?

Dr. David Hanscom:

40, right. Twenty million versus 40.

Dr. Joseph Mercola:

Okay.

Dr. David Hanscom:

I'm pretty clear, I'm open about this, in medicine we get penalized for this, is that I went to a psychiatrist for 13 solid years and talked and talked and talked, and I support psychology and psychiatry in a big way, but I got worse. And see, the solution for chronic pain is actually changing your brain to go a different direction. If you talk about the problem, you're actually reinforcing it. The way you decrease anxiety is simply decrease that stress response. And you do it through direct means, mindfulness meditation, relaxation and anti-inflammatory diet. My wife gives me a hard time, I've been extremely nihilistic around the diet, and it's a big deal. The diet

turns out to be a huge deal, because if you're eating processed foods, and again, I'm not an expert at all, so I'm embarrassed in your presence Dr. Mercola to even talk about this.

Dr. David Hanscom:

But I have learned that the anti-inflammatory diet is a big deal. The aging process, again, I've ignored that, is a big deal. Because what happens when you're in a constant threat, i.e. inflammation, which includes processed foods, these inflammatory cells start destroying your body. That's why even degenerative arthritis, back pain are also — they're showing the link between inflammation and these degenerative disorders. What Dr. Clawson has done, this friend of mine that's somewhat of a genius, is looking also from a metabolic standpoint and when your body's under constant threat, you need glucose to actually supply that. And it could be that Alzheimer's and this degenerative process is the body robbing those tissues of glucose. It's inflammatory, it's metabolic, but the bottom line is, is threat versus safety, and what we found out with the chronic pain, as you lower your inflammatory markers, the pain disappears.

Dr. David Hanscom:

Same with COVID, is that you have inflammatory markers, the virus, of course, is the threat, you want your immune system to respond, and of course, a vast majority of people fight off the virus very quickly, but the elephant in the room, the obvious factor that has to be looked at, is that almost every person that dies from COVID has "risk factors." What I discovered, again through Dr. Clawson, is that every one of these risk factors has elevated inflammatory markers. The idea is if you take charge of your health and lower those inflammatory markers, then we have this normal cytokine rise. The cytokines is your defense against the bacteria. We have this normal cytokine rise that stays below that threshold. If you hit a certain threshold, the inflammatory response becomes too strong, and you flood your lungs out. You drown in your own fluids, because everything becomes inflamed.

Dr. David Hanscom:

Almost every person who's passed away from COVID has had some risk factor where this inflammatory process is going out of control.

Dr. Joseph Mercola:

Just to highlight and bold some of the comments that you made. It's not that cytokines are intrinsically bad or evil, it is the balance that is the key, or the ratio. It's between the inflammatory and pro-inflammatory, because you need inflammatory cytokines. If you didn't have them, you'd be dead. But if you have an-

Dr. David Hanscom:

Correct.

Dr. Joseph Mercola:

-excessive amount, then you've run into troubles. And just a comment too, also fill in some of the gaps and we can go on to Dr. Porges more. With respect to the diet, it may not be intuitively obvious, you mentioned process foods, so the reason those are so problematic is that typically, they're very high in carbohydrates, which are not intrinsically bad at all. We need carbohydrates.

I think your health would definitely not be optimal without them, but when you have a high percentage on a regular basis, then that leads to insulin resistance, which can lead to inflammatory cytokine production, an increase in that. But even more importantly, the largest contributor from processed foods are the industrially processed omega-6 vegetable oils.

Dr. Joseph Mercola:

This is because of a variety of reasons. They get embedded in the cell membranes, they're not metabolized real easily, and they actually contribute to more inflammatory cytokines, because they form one of the base molecules of prostaglandins and it just pushes them in the wrong direction. You've got to have your diet dialed in, and we're not going to go deep in this, because I do that in many other podcasts, and articles on the site. But what you really bring to the table is a non-intuitive or obvious connection between the results of stress. Not the results, but how stress can negatively impact this balance of inflammatory cytokines.

Dr. David Hanscom:

Right.

Dr. Joseph Mercola:

And then you mentioned your work and Dr. Porges and I think we should stop for a moment and have you discuss his work, because he really is an eminent pioneer in this field, and I've read his book, which was written in 1990, I believe, about Polyvagal Theory.

Dr. David Hanscom:

Right.

Dr. Joseph Mercola:

Really is a profoundly important contribution to the science and he's really an amazing guy. So why don't you tell us a little bit more about him?

Dr. David Hanscom:

Well he’s a person we meet with every week. We talk to him. He's a wonderful guy. He's psychologist, but he really is a behavioral neuroscientist. His wife, Sue Carter, by the way, is oxytocin expert, one of the top five in the world. When the two of them get on the Zoom meeting, it is remarkable what we learn. What he's taught us is that the vagus nerve, which is the 10th cranial nerve, is essentially the autonomic nervous system. In medical school we were taught, well, this vagus nerve is like the brakes, it slows things down, helps the bowel and bladder function, et cetera. The sympathetic nervous system is what keeps us alive. It keeps us moving. It keeps us out of danger. It's the response to a threat.

Dr. David Hanscom:

Well, what he found out is that there's always this parasympathetic brake, the vagus nerve brake on the sympathetic nervous system. In other words, if you didn't have a parasympathetic nervous system, your resting heart rate would be around 120. With this parasympathetic brake, it's about 60 to 80. When you're under threat, the first thing that happens is that this brake comes off and

your heart speeds up, et cetera. And what he showed is that this vagus nerve goes both ways, in other words we were taught that the vagus nerve just controlled things, but 80% of it come into the brain, not the other direction. The vagus nerve is seeing all this input and it decides what to do with your body. There's a direct effect on metabolism, the endocrine system, your blood sugars and the cytokines. Under threat, the parasympathetic brake comes off, the sympathetic keeps at its baseline pace, and you're under threat.

Dr. David Hanscom:

There are two parts to vagus nerve. One is called the ventral part, where you're connected to facial muscles, the neck muscles, and what happens is it allows humans to socialize, it's called co-regulation. Instinctively, we're a competitive species, we want to stay alive. When I walk up to you, I look at your facial expressions, you look at mine, and we do what's called co-regulation, which calms down the autonomic nervous system. The problem with COVID is we have masks on, we can't see each other's faces and we're socially isolated. And as, Dr. Porges points out, it dysregulates the autonomic nervous system. And when I had my panic attack, it was a dysregulated autonomic nervous system, and there was this huge sympathetic charge of inflammatory cytokines. There's some question of whether my panic attack was a cytokine storm, and then once that happened, I couldn't control it.

Dr. David Hanscom:

Again, it's 20 million bits of information per second, compared to 40, the vagus nerve is in the middle of this whole thing. What I'm excited about is that we look at stress as a psychological construct, and it is not. Remember, stress management is a misnomer, because the stress that's most stressful is the stress that you can't manage. It's a chronic stress. What happens, you're under chronic threat, your immune system is fired up, then people become socially isolated, which also fires up the immune system even more. You can't co-regulate, you're socially isolated, your nerve conduction doubles, you feel the pain more, and when this autonomic response is sustained, there are over 30 physical symptoms that occur under chronic threat.

Dr. David Hanscom:

I had 17 of these at the same time. I had migraine headaches, ringing in my ears, skin rashes, stomach issues, back pain, neck pain, burning in my feet, it just went on and on and on. I had no idea what's going on. Again, the sensation is anxiety, which is not psychological, it's physiological. The stress response — stress isn't the problem, it's this physiological response to the threat, and the way you calm down anxiety is simply drop down the body's chemistry. That's what I learned, sort of by accident, and then Dr. Porges filled in the gaps. But he's been researching this response to the environment for over 40 years, it's unbelievable. So for me it's the end of a 30-year journey of how can I go from a fearless surgeon and as I calmed down, all my symptoms disappeared, every one of them.

Dr. David Hanscom:

It's been a remarkable journey for me personally, and when I talked to you last time, I just had the vaguest hit of what was going on, I didn't know the neuroscience, I hadn't met Dr. Porges, but what happens when I can link the mindfulness or when I do mindfulness, I'm actually directly lowering cytokines. That's not psychological, that's a true effect on my body. Same thing with

diet. We talk in terms of all these, it's good for you, et cetera, but when you can link things like diet, relaxation, calming the nervous system down to your inflammatory cytokines, it makes a big difference. That's a long answer to a simple question about linking these responses to your body's chemistry, to me is a huge factor.

Dr. Joseph Mercola:

And it's an important piece to the puzzle, for sure. It's great to see that you received some benefit from that, but for the most part, we've been discussing this at almost an academic or intellectual level for the framework of how this works. But I think many people would be interested in more specific details of how to implement this and how to activate this vagal response, this repair, restoration and healing response that is intrinsic to all of us, but in most of us it has been impaired or hampered, in many ways, very similar to the decrease in metabolic flexibility and increase in insulin resistance that the bulk of the population has, like 90% as a result of choosing an improper diet.

Dr. Joseph Mercola:

Similarly, I believe there's a likely high percentage, as high a percentage, for those who have not been able to access this vagal healing strategy. Why don't you discuss some of the specific details on how one can do this, and I think, before you do that, though, mention that — what I neglected to state earlier is that you've written a few pamphlets, I think two or three, that outline these in more detail.

Dr. David Hanscom:

Right.

Dr. Joseph Mercola:

Those will be available for download, if anyone is interested in the specifics.

Dr. David Hanscom:

Yeah, no, I do have a website, BackInControl.com, one word, that's the action plan of the book I wrote, “Back in Control: A Surgeon's Roadmap Out of Chronic Pain.” I just released an app this week called the DOC Journey. And the exciting part about this process is that it's self-directed. The key issue to drop down your cytokines is to drop down your levels of stress chemicals, which basically drops your anxiety, so anxiety's number one. There are some specific ways to do this. Number one, there's an exercise called expressive writing, and after a 15-year journey in chronic pain myself, it was the first exercise that broke things up. With all my patients that come out of chronic pain, the expressive writing is the first step.

Dr. David Hanscom:

There are over 1,000 research papers documenting that expressive writing drops down viral load, improves academic performance, drops down inflammatory markers. It is unbelievable what this expressive writing does. The research was started back in 1982-

Dr. Joseph Mercola:

Excuse me for a moment. I just want to interrupt here, because the way you're speaking it's a little hard to understand. I just want to make sure it's expressive writing.

Dr. David Hanscom:

Writing.

Dr. Joseph Mercola:

Writing. Yeah, so it just sounded like, “wait, I know what that word is,” but then I realized it was expressive writing. Yeah, it's a powerful tool. I've used it when I was in clinical practice too. It's amazing. Sorry, for the interruption, go ahead.

Dr. David Hanscom:

What it is you simply write down your thoughts, and tear them up. It's that simple. Now, there are different types of expressive writing, but that's the most simple one. Simply write them down and tear them up. What it does, you can't escape your thoughts, but you can separate from them. You tear them up for two reasons. One is write with freedom, positive or negative. The second one, which is more important, is to not analyze these things, because they're just thoughts, just throwing your thoughts, they're permanent, they're not going away, so if you want to analyze and try to fix them, you actually reinforce them.

Dr. David Hanscom:

What you're trying to do is stimulate what's called neuroplasticity, which is awareness, separation, then redirecting. What the writing does, it creates an awareness and separation in one move, the term I use is mechanical mediation. But for whatever reason, it's the number one starting point of dropping down your inflammatory markers.

Dr. David Hanscom:

The second thing is sleep, and the writing does help with sleep. That's how people start with the writing, but you have to get seven hours of sleep, it's a big deal. And chapter 14 in my book is all about sleep. There's bunch of things you can do. The writing helps you to get to sleep, it doesn't keep you asleep. There's a bunch of sleep hygiene things you can do to get some sleep. So anxiety is number one, as you drop down the stress reaction, your sensation of anxiety drops. Sleep is a big deal. If you have less anxiety, you can sleep better. The expressive writing, again, is the core to this whole thing.

Dr. David Hanscom:

But the next one, which is fascinating, and when I really began to heal, every one of my patients, who heals from chronic pain practices forgiveness. There's a lot of actual research on forgiveness. But remember the antidote to anxiety is control. Something creates a threat, creates anxiety, you control yourself, the situation, to survive. If you lose control, your body secretes more stress chemicals, more cytokines, you become angry, so anger and anxiety are the same thing. What happens, they found out that 90% of people in chronic pain have not let go of the situation that caused the problem in the first place, but interestingly enough, the person they haven't forgiven is themselves.

Dr. David Hanscom:

We find that in this whole healing process, that anger and forgiveness is always a tipping point. And when you're angry or fired up, you're in a constant threat, when you're trapped by anything, especially chronic pain or trapped in your house from COVID, you're frustrated. Well, what it's done is actually cranked up your inflammatory cytokines.

Dr. Joseph Mercola:

Excellent. You had a few more components aside from that. Actually, I guess that would be the best ones to address the specific stress, but then what I really enjoyed about your program is that you didn't stop there. Unlike some people who teach about stress management, they would address their strategies, but then fail to include some of the more comprehensive ones. Which you alluded to earlier, but the things like intermittent fasting and certain supplements that you can take, where I was totally aligned with. Do you want to go over those now?

Dr. David Hanscom:

Yeah, I'd like to emphasize the biggest message I want to get out there, anxiety is a physiological response to a threat, your whole body's on fire. When you decrease anxiety, decrease cytokines, this decreases that stress response. Again, if your body's inflamed, you're going to feel anxious. I read an article in December 2019, I'm embarrassed it's taken me 15 years to figure this out, where they reviewed the data on intermittent fasting, which there's a lot of different ways you can do that, I'm certainly not an expert on that, but I read this article, and it has a dramatic effect on cancer, heart disease, all the inflammatory disorders you and I have discussed, and I said, "I'm going to do this."

Dr. David Hanscom:

I've been a diet nihilist, I'm a surgeon. Surgeons may have the worst diets in the world, as you well know, but I said, “I'm going to do this.” Within a day after I read that article, I started my intermittent fasting, which you can do it five days with a good diet, and two days of fasting. Or what I do, I simply skip breakfast and fast 16 hours a day. So I've lost a few pounds, but the key issue is, for inflammatory markers you don't have to lose a ton of weight, but the data on the intermittent fasting is profound. I'm going, "I would be crazy to ignore this."

Dr. David Hanscom:

Again, as you drop your inflammatory markers, your anxiety drops, so not only do you lower your cytokines, and improve your chance of surviving COVID, you're actually dropping your anxiety, because you're dropping your inflammation. It's remarkable. So you don't have to lose a 100 pounds to get healthier, you can go do an anti-inflammatory diet. Within six weeks, you're going to drop your inflammatory markers significantly. I'm going to ask you that question, is that a fair statement? That-

Dr. Joseph Mercola:

Yeah, there's no question. Yeah, it depends on the individual, it depends on how metabolically flexible you are, before you've engaged in the process. But with respect to intermittent fasting, I think it's important to understand that's a broad term, and has many different meanings. To clarify, the type you described is essentially the 5:2 diet, which has really been promoted by

Michael Mosley in the U.K. Where you're eating higher-quality food, but for two days of the week, typically the weekend, you eat very little food. Then you have the Krista Varady's, out of the University of Illinois, approach which is an alternate day fasting. You'll have your regular food, then the next day you'll have 500 calories, and you just continue to cycle through those.

Dr. Joseph Mercola:

What I think is one of the better strategies and the one I personally adopt is, is a time-restricted eating, or TRE approach, in which you – well, first to understand that 90% of the people in this country eat more than 12 hours a day, and a fair number of them, the only time they're not eating is when they are sleeping, and even then, within that population, you still have people waking up at night and eating. That's just a prescription for metabolic disaster. If you start to decrease that window of time that you're eating from more than 12 hours down to six to eight, and not do that overnight or instantly, but I think that will engage the same type of metabolic benefits you described. And actually similar benefits that we know have been well described for longevity benefits with respect to calorie restriction without any of the pain, dangers or complications of compliance, because the person who can adhere to a calorie-restricted diet is few and far between. Probably, well less than 1%, and I don't think it's necessary. You can get the same benefits with intermittent fasting.

Dr. Joseph Mercola:

So I couldn't applaud your recognition more, and I'm glad that you did that personally. You talk about the ketones in the book, which is one of the benefits. When you're metabolically flexible and you're not insulin-resistant, then you awaken your body's ability to generate ketones, which are a water soluble fats that are typically generated in the liver that are easily transported into almost every tissue in your body, including your brain, because it just goes right through the blood-brain barrier with it's MCT (medium-chain triglycerides) that's [inaudible 00:31:00] transported, it gets it right in there. And prior to Dr. George Cahill's work at Harvard, who's since passed, everyone thought that sugar was the only fuel the brain survived on, but no, it works really, really well on ketones, it also works on lactate too, which provides similar benefits.

Dr. Joseph Mercola:

The key is that you can get these benefits by doing intermittent fasting. Why don't you expand on the ketone benefits? At least your observations on its contribution to the stress response.

Dr. David Hanscom:

Well, we also came up with a plan B, where we feel we've come up with a protocol that would solve the pandemic, because it goes through every step of the viral stage. And ketones are big deal, because viruses don't like ketones, they like sugar. And so we feel like a big part of this protocol, which is now being researched in different centers, not my center, but in Baltimore and a couple of other places, in San Francisco, where ketone bodies, which are very anti-inflammatory, but also antiviral, and we think towards the end of a phase where people are really sick on the ventilators, et cetera, that if we would be using ketones instead sugar, would be a marked benefit.

Dr. David Hanscom:

Also, just in your day to day life, why ketones are an anti-inflammatory, part of the anti-aging process, and I'll just ask you a question. I'm curious because as a specialist, I had such a — I will use a word, I would say neutral, even a little of a negative attitude towards diet and nutrition, and it turned out to be such a big deal. I'm just so blown away. And we're just aren't really taught this in medical school. And so it turns out, as far as COVID, you have to take vitamin B and C, vitamin D is a big deal, it's the number one deficiency in the world, and then you have to take zinc and magnesium just for your enzymes to work, and we're just not taught this. I've been shocked, honestly. It's been really fascinating to me as a surgeon to realize what a critical factor that diet and vitamins, et cetera, have been.

Dr. David Hanscom:

But the anti-inflammatory diet is interesting, because I cannot adhere to a diet, but it's not so hard just to skip breakfast. I do the time-restricted eating, and I feel great. I have to say, I feel really good. I'm surprised. It's not so hard. It's not that hard.

Dr. Joseph Mercola:

Nah, yeah. With respect to the ketones, it's my understanding that these are just short-chain molecules, typically two, three, or four carbons long, and not directly antiviral or antibacterial, but they are generated when you have metabolism that is clearly going to help your body in that direction. And they also catalyze these many other metabolic pathways, like they're HDAC1 inhibitors, which has a radical reduction of inflammation directly. They inhibit the NRLP3 inflammasome, activate NRF2, FOXO3a, so they have a lot of — once you get these molecules circulating in your body, it's just almost nothing but good things happen, unless — there are exceptions to everything, if you're a Type 1 diabetic, and your blood sugar is at 500 and you go into ketoacidosis, which is a totally different animal, then that could be life-threatening.

Dr. Joseph Mercola:

And that actually presented loads of problems, especially when Atkins started promoting his work. And there was this massive confusion between ketoacidosis and normal nutritional ketosis, which typically differs by 300% in the level of ketones. Because like anything, you get too much of something it's going to be bad, so same thing with ketones. It's really, really hard, unless you're fasting for more than a week, to get your ketones above 6 or 7, or taking exogenous ketone esters. But with ketoacidosis, you're going to get over 20, 20 millimoles per liter.

Dr. David Hanscom:

Yeah, no, it's fascinating. It's really impressive what the ketones can do compared to these high sugars. Now, of course, the high processed foods just flat out inflame your liver, which goes right into your gut. It's a big problem. Again, as a surgeon, I'll have to admit, I just sort of ignored this for my entire career, so it's been extremely enlightening for me how critical it is.

Dr. Joseph Mercola:

Well, it's sad and you're no different than many other surgical colleagues, which aren't really — physicians in general aren't given a lot of information on nutrition—

Dr. David Hanscom:

No, we aren't.

Dr. Joseph Mercola:

— and it was my passion, even before I went into medical school, even though at the time I was seriously mislead, was under the brainwashing of the low-fat diet approach at that time and high fiber, which I have a totally opposite position at this point. But I still understood that nutrition was important. If you think about it, it just doesn't make any sense why it wouldn't be, but it's definitely been dropped. In 1900 or so, there was a deeper understanding of this in medical schools, but once the Carnegie Foundation got in and changed things around and thanks to Rockefeller it gradually got shifted out of the curriculum and replaced with more of a pharmacological paradigm.

Dr. David Hanscom:

Other things that make a difference, which is fascinating, and this came out — my wife and I and stepdaughter have done these workshops back in New York at the Omega Institute, and they're three- to five-day workshops based on awareness, hope, forgiveness and play. And 80% of people every workshop, every time would actually go pain-free. We were shocked. It turns out that social connection's a big deal, structures a big deal, but one of the basic rules we learned about at the workshop is never discuss your pain. Because when you're discussing your pain, you actually reinforce the pain circuits. One of the worst prognosis for chronic pain is actually belonging to a pain support group, because people talk about pain. The data shows that pretty clearly.

Dr. David Hanscom:

It's fascinating. I didn't realize until I went through this myself, but also talked to my workshop participants, people want to talk about their pain. Probably, 80% of their waking hours, they're talking about some aspect of their pain. What does that do? That's threat. Your brain's there, you're reinforcing [inaudible 00:37:11] circuits. So I'm not into positive thinking, which is a way of negative thinking, but I'm into a positive vision. If you're a patient from my office, I say, "Look, when you walk out the door of my office, you will never discuss your pain or medical care again, ever, with anybody, especially your friends and family. Of course, as your doctor it's different, but stop." Just that one factor was a huge difference. We also say, "Look, quit complaining, no gossiping, no giving unasked for advice, no criticism and quit watching the news. In other words, do things that keep your brain calm, because, again, this mental input directly stimulates your inflammatory cytokines.

Dr. David Hanscom:

Again, it's almost as important as expressive writing, simply not discussing your pain. Dramatic difference. So what you're doing, you're decreasing that threat response to your nervous system, directly lowering the cytokines, a huge impact on people's pain, which is simply quit talking about it. Fascinating.

Dr. Joseph Mercola:

Yeah, that is so important because, especially, when you integrate a fact of neuroplasticity and it's actually which it describes the process, where neurological pathways that are continually

stimulated tend to grow and become reinforced and facilitated and become much — now, you can use that for a beneficial effect or it can be highly detrimental. It's not intuitively obvious that participating in discussing pain, which seems to be a natural tendency that people who have these issues want to do, is one of the most counterproductive things you can do.

Dr. David Hanscom:

Absolutely.

Dr. Joseph Mercola:

Why don't you expand on the neuroplasticity component, because I think that really provides a foundational framework of how to understand why this is so.

Dr. David Hanscom:

Well, the metaphor I like to use is like learning a new language. In other words, if you're going to learn French, you're going to practice French, but you're not going to learn French by not speaking English. When you can speak French, your brain changed, new cells, new connections, new myelin, all sorts of things happen when you learn a new skill. With chronic pain, if you want to talk about your pain, you're going to reinforce those circuits. What I ask my patients to do is I say, "Look, create a vision of what you want your life to look like. What do you want in it? Who do you want in it? What do you want to do?" That's your vision. As you pursue that vision without your pain, it actually changes. It's like installing a virtual desktop on your computer. And I'm now convinced you can rewire your brain around anything.

Dr. David Hanscom:

I just had a gentleman who had 20 years of chronic pain, suicide attempt, alcohol, narcotics, he had 27 surgeries in 20 years, 27. And he's now been pain-free for four years. Again, using a combination of the tools we just discussed. I've just seen people with horrendous — I had over a 120 patients with structural pinched nerves, spinal stenosis in their back. As we went through this process of calming down the nervous system, we call it prehab, rehab before surgery. I always ask my patients to go through this calming down process for at least eight to 12 weeks before surgery. They cancel their surgery. I put myself out of business, honestly. The only reason I made a living as a surgeon at the end was because of the opioid epidemic, because I was operating on infected spines, which is sad. As far as elective surgery, once you calm down this nervous system, people's pain goes away.

Dr. David Hanscom:

So neuroplasticity, you can create any set of circuits you want in your brain. I'm convinced now, even phantom limb pain, which I did not think was possible. Had another gentleman, a gang member, angry as heck, really angry, really frustrated. Started going through the process of calming things down. High-dose narcotics. His phantom limb pain disappeared. We've had that happen several times now with phantom limb pain disappearing. So the neuroplasticity of the brain is dramatic. Your brain changes every second, and you can actually direct in any direction that you want.

Dr. Joseph Mercola:

With your work with Dr. Porges, can you share any other specific recommendations he has to activate the parasympathetic system? You've given us some of the more important ones, but are there others that you could have advised us on?

Dr. David Hanscom:

Well, one thing I've learned a lot, it's very critical to — what I don't have on this "Thrive and Survive" document, which I realized it didn't have is that he's taught us about the direct stimulation of the vagus nerve with, for instance, deep breathing. You're to take deep breaths in, deep breaths out. The deep-breathing exercises make a big difference on the parasympathetic nervous system. Mindfulness, meditation, relaxation, again, directly stimulates the parasympathetic nervous system, humming, just low-grade humming stimulates the back of your throat in the pharynx, and again, calms down the nervous system.

Dr. David Hanscom:

He also has a device listening to music at the level like a lullaby kind of music, directly stimulates the muscles in the middle ear, again. People put a cold washcloth on their forehead, and that again, stimulates the fifth nerve, and again, stimulates the vagus nerve and actually calms down the nervous system. So this mindfulness, meditation, relaxation, acupuncture and biofeedback, again, for me as a surgeon, is fascinating to realize that this isn't "psychological," you're directly stimulating the vagus nerve to actually calm the whole thing down.

Dr. Joseph Mercola:

Well, there are many types of breathing that can be use, and I'm wondering what your favorites are?

Dr. David Hanscom:

Well, one of our most interesting is that just slow breathing. Not necessarily, attentional breathing, but just slow breathing. Just breathing less than 10 breaths per minute will actually calm down the sympathetic nervous system. Then breathing a nice deep breath in and slow breath out, again, another easy one to do. And even just 30 seconds makes a difference to calm things down during the day. Also found out from his wife, Dr. Sue Carter, that when you breathe through your nose, you increase your levels of oxytocin by 1,500%. Now, oxytocin is what's called a love drug, is considered a lactation-type drug, but it's actually the most common hormone in the body. It's in every cell, it's strongly anti-inflammatory, we think it may be the reason why social bonding is such a great thing for chronic pain, because it dramatically drops the inflammation. But just breathing through your nose actually increases levels of oxytocin.

Dr. Joseph Mercola:

Terrific. You mentioned that you have this plan B, and I think there's a plan A too, if I'm not mistaken, and you co-wrote the plan B with Dr. Porges and I think plan A was yours?

Dr. David Hanscom:

No, yeah, correct plan A was mine. The plan B was pretty good, mostly Dr. Porges and Dr. David D. R. Clawson, and I'll take credit for getting these two people in the same room and talking, but they are brilliant. And what they recognize is that the way we look at these different

trials, right now for the COVID crisis, we're throwing in steroids, we're throwing in antivirals, we're throwing these big guns at the virus, but we're not covering the basics. And that's why the COVID solution arose out of the chronic pain work, because chronic pain is solvable just by systematically addressing all the factors we know to affect chronic pain, chronic pain is solvable.

Dr. David Hanscom:

And with COVID, by systematically addressing the fact that vitamins are covered, anti-inflammatory diets are covered, even if you haven't covered those bases and your inflammatory markers are up, there are things you can do in the hospital to actually drop down inflammatory markers. For instance, deep-breathing exercises, having family in the room holding your hand, a washcloth on the forehead — all those things actually drop down the inflammatory markers. There are some dramatic case reports of family members being in the room, helping people calm down, and people surviving. Ketones.

Dr. David Hanscom:

The protocol, it's called plan B, we feel it has a high chance of actually solving this pandemic by dropping mortality, but I think two of the biggest factors right now, which you could probably address better than I can, is that African-Americans are dying of COVID. As you know they have less vitamin D than the average population. Vitamin D deficiency is the number one deficiency in the world, and with dark-skinned people, why they are competing for sunlight to convert vitamin D. Even though they don't have osteoporosis they have low vitamin D levels, number one. They also have fear of authority, poverty, lack of opportunity, which are also threats. So between the societal threats and lack of vitamin D, there's a huge — and magnesium by the way, which works with vitamin D — just by taking care of those factors from a public health basis, you would dramatically drop down the death in people who are African-American.

Dr. David Hanscom:

So in elder people, it's zinc deficiency. They need zinc to be part of the proteins that actually kill the virus, it's like metalloprotein. And so zinc is that critical factor that you need to do that. Plan B is covering those bases first, then recruiting the parasympathetic nervous system, then as the disease progresses, you can actually use vagal stimulation through the ear or through the forehead or actually directly on the carotid artery. There's ways of actually recruiting the vagus nerve to actually help calm down the sympathetic storm.

Dr. Joseph Mercola:

When you first emailed me about your plan, I was skeptical at best. I said, "Oh, okay, what's the surgeon going to do now with this thing?" But I read it and I was really impressed because you, as I mentioned earlier, integrated the nutritional components with the stress, which is absolutely essential to do. You can't have one without the other. And I've never really seen a more comprehensive approach specifically addressed at COVID of ways to moderate the stress and lower that. When you think about the death rate in the hospitals and the strategy that they use, I just last week interviewed Erin Marie Olszewski, who is the Epicenter Nurse who was at the Elmhurst Hospital in New York at the height of the pandemic, and literally firsthand witness to the atrocities that were being done in that hospital, which are representative of many other hospitals.

Dr. Joseph Mercola:

One of the primary reasons that specifically attest to this or basically validates this process is that the family members, no one was allowed to visit them. The only people who they had access to were the hospital staff and that was it. What better prescription can you have for radically increasing stress through the roof? It's no surprise —

Dr. David Hanscom:

Well, let me ask you this.

Dr. Joseph Mercola:

— that they had such a high mortality rate.

Dr. David Hanscom:

Okay, so let me be a little cynical here. Okay, so that's one of the protocols is actually get the family members in the room. That stimulates the parasympathetic nervous system, which drops down the inflammation, but here's my cynicism. Okay, you had COVID, by the way I had COVID, I don't know if you knew that. I actually [crosstalk 00:48:27]-

Dr. Joseph Mercola:

I did not know that.

Dr. David Hanscom:

No, I had COVID. I was sick for four days and better in a week. I have the antibodies, and that was in March when we first started. So I've had the virus, and again, I think I got through it so quickly because I actually practice the things that I'm talking about.

Dr. Joseph Mercola:

Yeah, absolutely. You're a testimony to application of this strategy. It works.

Dr. David Hanscom:

It works, but-

Dr. Joseph Mercola:

There's nothing wrong with this virus. Your body was designed to defeat this. Not only COVID but all these, SARS-CoV-2, but all the other viruses out there. You have the mechanism built within you to do it, if you give your body what it needs and was designed to have, and you're a classic example of that.

Dr. David Hanscom:

And that's what I-

Dr. Joseph Mercola:

How old are you now?

Dr. David Hanscom:

68, 67.

Dr. Joseph Mercola:

Yeah, you're definitely at risk. Your age is a risk factor, it's no question.

Dr. David Hanscom:

And I'm not underweight.

Dr. Joseph Mercola:

Yeah, yeah.

Dr. David Hanscom:

I'm not quite the shape you are — yeah, no, that's the thing. I don't want to digress you, just for — that would be my wish. Why actually quit surgery to do this? Is that medicine has to go to wellness not illness, and what we should be doing right now in a public health basis is not — we have to do more testing, and it has to be better, no question about that. But when I ask African-Americans about vitamin D they go, "What are you talking about?" There's a whole public health effort that medicine has to do to make people healthy. It just has to happen. And we're paying for procedures that don't work. We're not talking to our patients. We're not creating safety there. We're not promoting lifestyles that create safety. We have to change medicine. It's got to change.

Dr. David Hanscom:

Because right now this model's making a lot of money for big companies, but it's not helping people stay alive or survive. And my brochure's called Thrive and Survive because we know stress kills people. I now know it's because of the cytokines and other markers, and so the key is as you train your body to thrive, as you just said, you train your body to thrive then you survive. People in chronic pain die on the average about seven years earlier than the average person. Seven years, that's a long time. Double heart disease, double depression, double anxiety, double the suicide, and it's all about these inflammatory markers.

Dr. David Hanscom:

That's one of my bigger pushes. I realize that's a big idea, but medicine has got to change its entire focus to wellness, and we wouldn't even be having this pandemic. You get a virus and you go home. Anyway, that's my little pulpit.

Dr. Joseph Mercola:

Well, it's one that a rational person would have a hard time arguing with, but in many ways I see the journey that you're on, because I preceded you by a few years on that, and we're about the same age. But I've been interested in nutrition for more than three decades, and I shared a similar position. But once you study this more carefully, you realize that we're dealing with a stacked deck or it's not a fair game, because there are so many other interests involved here that most people are unaware of. There's technocracy, there are these forces that are designed to essentially implement fear into the equations, which is, you mentioned earlier, one of the things that

deactivates the parasympathetic and activates the sympathetic. And they've engineered fear into our culture this year on steroids.

Dr. Joseph Mercola:

And as a result of that they've been able to engineer these restrictions and lockdowns and mask-wearing that they would have never been able to get away with had that fear not been there. But anyway there's these forces that you're fighting against, and these forces are big and significant and they have many resources to influence and brainwash the population and they don't stop.

Dr. David Hanscom:

Right.

Dr. Joseph Mercola:

So it is a very difficult challenge and I'm not certain that there's a solution outside of a revolution, because they've got such massive control at this point.

Dr. David Hanscom:

Well, what I'm doing, I have gone through several different phases of it, but I'm trying to find collaboration like people like yourself, there's a growing group of people who do feel the same way. Patients are getting better. And I think-

Dr. Joseph Mercola:

Yeah, right, if you're impartial, there's no other rational choice. That's the only conclusion.

Dr. David Hanscom:

It will come the public. Doctors aren't going to do this. The business of medicine is certainly not going to do this. I wanted to say something, which is there's three ultimate solutions for chronic pain and COVID by the way, which is the opposite of fear. One is play, your body chemistry is in wonderful shape when you're at play, and that's a learned skill. The second thing is giving back. When your attention's on somebody else, it's a big difference as opposed to being focused on yourself. The third thing is, they call it the spiritual journey, which I define as simply life perspective back. Once you get your perspective back and get your brain over here, then you're calm and regenerated and not fired up and under a threat. So it's basically creating safety versus threat. And it's not so hard to do, and so that's sort of my — It takes some steps to get there. That, I think, eventually, is the solution for chronic pain.

Dr. Joseph Mercola:

So not only do you get to radically lower your likelihood of getting the infection of COVID-19 or SARS-CoV-2, but you actually will reduce any pain that you have. And sadly most people have pain, which is pervasive. I don't know the stats, personally, I haven't had pain for many, many, many years, at least not chronic pain. Acutely, if I stub my toe or something of course, but that's a normal response. What are the stats on chronic pain?

Dr. David Hanscom:

There are about a 100 million people with chronic pain and about 30 million have disabling chronic pain. My observation is that it's grossly underestimated, because anxiety, the mental pain's a much bigger problem than the physical pain, because you can't escape it. And so the anxiety — I actually blog for Psychology Today, the blog is called Anxiety: Another Name for Pain. Now, if I give my patients the choice get rid of either leg pain or arm pain with surgery versus get rid of their anxiety, they want to get rid of the anxiety. Same thing with me. I have arthritis in my hips and knees, it hurts, some days pretty badly, but I don't have the anxiety. And so if you look at anxiety as a human condition, it's pretty universal. And that's just so much fun about the process, if you quit fighting these unconscious powerful circuits, you really can thrive.

Dr. Joseph Mercola:

That's great. Well, I want to congratulate you on your efforts, for your evolution as a physician. You've made a transition that most physicians don't. I would say it's far under 10% who are actually able to understand and appreciate the fundamental reasons why they've got into this business to begin with to help people, and that typically their strategies are just miserable failures. Not because they're inept as a physician, they are just implementing strategies that just fail to address the fundamental reasons that are causing the problems they're treating. So you've made the transition and you've come up with a really terrific collection of strategies that can help so many people in so many areas, in pain and also reduction of their risk of SARS-CoV-2.

Dr. David Hanscom:

Yeah, I'm excited about it. The data shows only 20% of physicians are comfortable treating chronic pain and less than 1% enjoy it. And I was one of those people who would just get frustrated with it. We're not trained at all with this. I have a fourth year medical student in my round table, she hasn't heard of any of this stuff, nutrition information, nothing. So we're not trained in a way that's productive, we're throwing random solutions at complex problems, where the real cause is this inflamed nervous system. And so we're throwing really quick treatments at symptoms, instead of going after the root cause, like you just said.

Dr. David Hanscom:

And what's exciting for me is that not only do people come out of pain, their anxiety drops to the floor, and they really thrive at a level that they never knew existed, even before they went into pain, and myself included. I've lived with chronic pain for 15 years. I'm living a life I never dreamed was possible, and so that becomes by far and away my most rewarding part of my practice as opposed to being something, "Well, what do I do next?" So, yeah, it's been a remarkable transition for me and I'm very excited about. I'm not happy I went through the chronic pain, I've got to tell you that, but —

Dr. Joseph Mercola:

No, no. I would correct you on that one. I would embrace it and be glad and be grateful, so grateful because it's really what catalyzed your transition, morphing into a more broadly knowledgeable healer or clinician who really gets it at a higher level. And it's like being an inverse paranoid, another name for it is pronoia, where you are just being [crosstalk 00:57:43]-

Dr. David Hanscom:

What did you call it? Pronoia?

Dr. Joseph Mercola:

Pronoia, P-R-O-N-O-I-A. It's a real term. You can look it up, it's not made up. And it really describes this process where you are so deeply appreciative for the challenges that come into your life, and pain can be one of them, and it certainly is. And knowing that it's because of that challenge, it's morphing you and changing your life in some profoundly beneficial way that at the time you're going through it you had no idea of what it's doing, but it does. And in retrospect it's easy to see. When you're in the retrospectoscope now, so I would shift that to massive gratitude that you had that.

Dr. David Hanscom:

I agree. I agree that's a great — I do feel extremely honored to be able to pass this on to other people. Listen, we have well over 1,500 people who are just flat out pain-free.

Dr. Joseph Mercola:

Yeah, yeah. I'm sure... 1500 that's crazy, there aren't many doctors in their whole lifetime who can't help 1,500 people out of pain.

Dr. David Hanscom:

No, it's exciting. Incredibly rewarding, I'm incredibly grateful, and so again, the contrast between people damaged by the medical profession versus going pain-free, I couldn't agree more. No, I agree. I am [crosstalk 00:59:01]-

Dr. Joseph Mercola:

Well, you're only 68, you've got a lot of years in front of you. So I want to extend my sincere appreciation and gratitude to you for helping so many people and really even more so for serving as an example to other physicians of what they can and should be doing. Because they really need to examine their current strategies, and think hard about why it's failing in so many cases. Because if you're using a conventional approach, that's almost universally directed at symptomatic Band-Aid treatments, it's going to fail, there's no question. If they're honest and objective, they're going to have to admit it failed. If you can inspire other physicians to do that, that's a double victory. Because as a physician of course it's a highly leveraged scenario, because they're going to affect so many other individuals themselves.

Dr. David Hanscom:

And I think it's particularly true in spine surgery where knowing are you doing an intervention that's random, people really are damaged badly by spine surgery. And so became such a — spine surgery's big problem is there was probably a few things worse than a failed back surgery.

Dr. Joseph Mercola:

Yeah, yeah, yeah. No question about it. And the best way to treat something is prevent it before, it's so much easier.

Dr. David Hanscom:

Right, right.

Dr. Joseph Mercola:

At least it's like an ounce of preventions worth a pound of cure, so a 16:1 ratio, and I think that's pretty valid.

Dr. David Hanscom:

Yeah, and I really applaud your efforts. I've watched them over the years and it's a big difference, and as you know, we're not necessarily welcomed by the medical profession and the [crosstalk 01:00:36] but the public is—

Dr. Joseph Mercola:

That's an understatement.

Dr. David Hanscom:

Yeah. But the public's engaging it slowly, and I think the public's getting the idea that things aren't quite right at home. And so, yeah, no, I applaud your efforts also. I think it's just a wonderful effort.

Dr. Joseph Mercola:

It's still a challenge though, because the technology's improved so much and artificial intelligence and their ability to acquire data and really manipulate behavior has changed, effectively, especially through things like artificial intelligence and deep learning. They have so effectively brainwashed the population that it's difficult to — even though the message is so clear if you're objective and sane and not prejudiced in a way to look at it, but that's not the case. They've got virtually everyone convinced of this narrative that is just a lie, from the beginning to the end. And so it's a challenge we're up against, but it's okay. It is what it is, and just be grateful that you had the opportunity to make a difference, because one of my guiding principles of life is to be grateful.

Dr. Joseph Mercola:

And it's such a powerfully — it's like fertilizer for life. It really helps your body, your mind, your spirit and your soul. It's just such a powerful strategy.

Dr. David Hanscom:

Well, again, people think in terms of psychology with gratitude but actually it cranks up your anti-inflammatory cytokines. Obviously, there are some psychological benefits, but actually has direct physiological effect on your body, right?

Dr. Joseph Mercola:

Yes it does.

Dr. David Hanscom:

So that link to me has been really important in actually understanding after 30 years of searching, “Why did this happen?” And it's so clear that what you can do as feeling such a direct effect on your body's functions, it's really been remarkable.

Dr. Joseph Mercola:

All right. Well, this has been great. We will have links so that anyone who wants to get download your material. They're not a book so it's an easy read. Part A is a lot easier than part B, which is Dr. Porges really goes more into the deep science of "Polyvagal Theory, but it's still good, if you're interested in the subject. And Dr. Porges has written a book too and if you're even more interested you can pick up that book, but he's done fascinating work. And it's not just for a treatment of acute diseases, it's really for optimizing your health, because the rest and recovery element is really one that is not well-addressed at all. Nutrition's better addressed than rest and recovery from my viewpoint, because it's not as easy to understand or implement it, so there are a lot of variables in there.

Dr. Joseph Mercola:

But anyway, he's done good work and I'm so glad you're collaborating with him.

Dr. David Hanscom:

The other thing if it's — I like to encourage people. We just put this app out this week called TheDocJourney.com and-

Dr. Joseph Mercola:

Was it not dotjourney?

Dr. David Hanscom:

TheD-O-Cjourney.com.

Dr. Joseph Mercola:

Oh, docjourney. Okay, that's an acronym for?

Dr. David Hanscom:

The Direct your Own Care.

Dr. Joseph Mercola:

Direct your Own Care, okay.

Dr. David Hanscom:

And my wife basically kicked me off the project, and so what happen, she looked at my work, she goes, "That's not an app." And so it's creative, it’s about music, connection, so it's designed to create experience of feeling safe. It's about play. Play doesn't sound very medical, but guess what? It's one of the ultimate ways of actually healing your body and regenerating is to relax. And so the app will take you through steps of actually what we call sematic work of calming

things down, breathing, et cetera, and it's very concise and I think something that will be very effective.

Dr. Joseph Mercola:

Okay, well, good, we'll put a link to that too. So thanks again, and keep up the good work.

Dr. David Hanscom:

Thank you.