



Love is the Best Medicine

Guest: Niki Gratrix

Niki Gratrix: Hello, welcome to the Trauma and Mind Body Super Conference and this presentation, Love is the Best Medicine with me, Niki Gratrix.

Now what we're gonna cover in this presentation today is the definition, prevalence and the impact of vitamin L deficiency on health and well-being over a lifetime.

Vitamin L being love deficiency.

We're gonna talk about the mechanisms. So how does this vitamin L deficiency impact the biological, neurological and psycho-energetic bodies? And we're really going to dig into the definition and impact of developmental trauma, which is the underlying cause of this vitamin L deficiency.

So a little bit more about me. I trained at the Institute for Optimal Nutrition back in 2004, and I'm a functional health practitioner, I'm also a medical empath. And I co-founded a very large clinic, The Mind Body Clinic, one of the largest in Europe almost 20 years ago now. And I've been in clinical practice for many years, I've done over 10,000 consultations with patients and clients in 40 different countries.

And when we started out the clinic, we were working on many of the unexplained illnesses, chronic complex illnesses like chronic fatigue syndrome and fibromyalgia and lyme, undiagnosed lyme. Many of the diseases with unexplained symptoms or very little understanding about root causes like autoimmune conditions as well. But what we realized from the very beginning when we co-founded this clinic, is that we needed a body and a mind approach. That just limiting ourselves to just the body or just psychology wasn't going to be enough.

So we had two divisions in the clinic, a functional health division, as well as a psychology division. So we were working with clients concurrently and we started a clinical study and got the preliminary study working with many, many hundreds of clients every month. And we got data published as a preliminary study in the British Medical Journal Open. That was back in 2012. And so I've been working for a long time with this framework of a mind and body approach.

And the clinic, the theoretical foundation of the client was based on the work of the great theoretical psychologist, the most read academic writer in the US. Ken Wilber, who's been called the *Einstein of Consciousness*, one of the greatest thinkers of our times. And it's really his model that has set up my approach and the framework that I'm coming from now. And I've collaborated with Ken on previous summits.

I ran the largest ever at the time Summit on overcoming chronic fatigue back in 2015 as well. And I've studied with many other world leading experts since then. And I've interviewed hundreds of them through summits and podcasts I've done and I've also been on many of those as well, probably been on maybe over 40 health summits now as well.

So that's my background and experience. And really just to say how I got into developmental trauma was because of seeing that just, even biological systems biology, if you like, approach to these chronic complex illnesses is needed. But it wasn't enough, we also needed to understand more and psychology as well.

And then it kind of came across some major studies, which I'm going to cover in a second, which is really the inspiration for this entire Summit and this presentation.

But just a little bit more just on vitamin L deficiency.

It's really caused by developmental trauma and it's where we have a love deficiency for ourselves and quite often that spills over onto other people that we have relationships as well. And it actually creates a chronic internal stress response that starts at a very early age where we don't have a sense of internal safety abilities to self-soothe, and this sense of self-love. And it becomes lacking in us because of developmental trauma, which is trauma that occurs in childhood while the brain and body is still developing.

And some of these states become traits. They become the way that we are in adulthood. It sets up a lot of things in adulthood. And the vast majority of developmental trauma is due to issues relating to emotional bonding, our relations with our key caregivers in childhood.

This is also known as attachment trauma or attachment styles.

So we learn to love ourselves or express love or feel emotional and compassion towards ourselves and others, we absorb that from the people around us. We'll do and we'll sense and absorb based on what people around us are doing.

So when there's a deficiency in our social environment, this gets translated into our internal biological systems, which sets up certain processes for a lifetime. Now, attachment trauma is the number one most underexposed risk factor for all chronic complex illnesses. And it's based on this study that I just mentioned that inspired this whole Summit, which is the *Adverse Childhood Events study* completed by major mainstream institutions, Kaiser Permanente and the CDC. It was an epidemiological study where they started looking at over seventeen and a half thousand adults and they were assessing the levels of adverse childhood events, developmental trauma.

They defined ten different categories of what they were calling ACS, adverse childhood events. And they essentially assessed whether people under the age of 18 had experienced things like parents separating or divorce, physical, sexual or emotional abuse, physical or emotional neglect, domestic violence, mental illness in the family, substance abuse, incarceration by a related family member. So you see that's all very much social relations orientated.

We're not talking about the type of trauma, for example, being in a car accident.

It's all this ambient, relational, ongoing type of relations with key people in our family environment, family and school environment.

So this is the study, a picture of a here relationship of childhood abuse and the household dysfunction to many of the leading causes of death in adults. And you can look that study up, so you have the reference.

So early life stress, also known as adverse childhood events or also shortened to ACEs. What did they find in the data from that study? They found that, first of all, 67 percent of adults said they'd been exposed to early life stress, at least one ACE. And of those, 80 percent said they'd experienced more than one ACE. They'd also, if you had a high level of ACEs, it led to a dramatic increased risk of 7 out of the top 10 causes of death. They also found that if you had early life stress and these latest studies also confirmed this, you have a 6-fold increased risk of illnesses like chronic fatigue syndrome, which is why really chronic fatigue, fibromyalgia, many of the unexplained illnesses, including Lyme (I would put that in that category as well) they're almost like the poster children of early life stress. Very important to assess diseases like that.

The ACE study also found that people with 6 ACEs had a 20 year reduction in lifespan compared to people who had zero ACEs. So the ACEs study showed that if you had just 4 ACEs, your relative risk of diseases like chronic obstructive pulmonary disorder is two and a half times higher than those people with zero ACEs. Hepatitis is two and a half times higher. Depression was four and a half times higher. Cancer two and a half times higher. Diabetes 1.6 times higher. Stroke 2.6 times higher. Being suicidal was twelve times higher. If you had just 4 ACEs as an adult, you were more than 12 times as likely than somebody with zero ACEs to be suicidal.

Now if you have 8 ACEs, you have triple the risk of lung cancer and three and a half times the risk of heart disease. The top two killers in the west.

So that's why I can substantiate the fact, that statement, that this is the most underexposed risk factor. If we look at the correlation of autoimmunity risk in women with ACEs, it's as strongly linked as smoking and lung cancer. And very interesting that autoimmunity is a female dominant illness and you are 50 percent more likely to have ACEs if you are a woman.

So that's perhaps an interesting correlation about female dominance in autoimmunity as well. This was the study showing that childhood trauma and risk of chronic fatigue syndrome, showing that there was this six fold increased risk of chronic fatigue syndrome if you had early life stress.

So it was originally a smaller study and then the same group of researchers repeated the study and proved it again. This was a very large survey of 28,000 adults and their ACEs based out of California. And it shows that if you had 4 ACEs, you were 4.6, 5 times as likely to seek help from a mental health professional. And over 4 times as likely to be diagnosed with diseases like Alzheimer's and dementia. So a major impact on brain health and mental health if you have ACEs as well.

Now, just to mention here, that 67 percent of all adults was actually an underestimate. And we have a nice quote here from one of the world's leading experts in trauma, Professor Bessel van der Kolk. He's The New York Times bestselling author, and he's also had many published publications in the area. And he said to me in an interview that I did with him, "the ACE study was a nice, superficial study done on a very large sample. So you had to ask particular questions, but it misses the subtlety of what really happened to people. It's a fantastic study and a landmark study. But in some ways, it's just the tip of the iceberg."

So we'll talk about this a little bit more, but it's very hard to, if you ask somebody very superficial questions, did you have a happy childhood? It's very hard to self-report and tell the truth and people also aren't able to express, they might not even know they experienced trauma, especially things like emotional neglect. How can you self-report emotional neglect if you've never actually experienced the opposite of that, or you didn't have a healthy enough childhood to be able to reference that and realize how you should have kind of been treated. And also, it's not always safe to be truthful, especially in a kind of a formal environment, or superficial questions, people won't self-disclose. So this is why experts who work with trauma every day in clinical practice and so on and in research are saying it was actually probably much higher than that.

And also, this early life stress does relate to attachment. So Professor Bessel van der Kolk, he did a survey of 40,000 children being treated nationally for multiple traumas, that's in the US. And he wrote that, "most do not meet the criteria for PTSD as the majority of issues are not specific traumas, but issues in their attachment relationships." So I just want to make the point here that developmental trauma is not the same as PTSD. PTSD arises in response to often discrete, singular events like a car crash, like an act of nature or also called an act of God, a volcano or an earthquake, something like that.

Developmental trauma or attachment trauma is also not the same as a single, say, physical or sexual assault, a singular event. So singular events create trauma and symptoms whenever a person later and afterwards has any kind of thoughts about that event that happened. And PTSD, you want to treat it differently than you would developmental trauma. And the point takeaway is PTSD, which is in response to individual events, is actually very rare compared to developmental trauma.

Developmental trauma is at epidemic levels. It's a silent epidemic that has been overlooked. And it's related to PTSD just in relation to anything which triggers thoughts and feelings about that singular event with developmental trauma, it's all the time the person is living with the internal sense of lack of safety, lack of self love, isolation and all these other physiological and emotional symptoms. And so it needs a completely different approach.

One other thing I'll just briefly mention here as well - the prevalence about adverse childhood events, trauma, developmental trauma is intergenerationally inherited. So if you look back at your own childhood and you don't see that you have many ACEs, it can have happened in utero. So mom could have been stressed or traumatized and the baby, the research shows that the baby can absorb that and it affects their stress response systems. And also, it's absolutely been shown it shouldn't really be controversial anymore, there's enough research in mainstream studies showing that we do inherit the epigenetic changes that occur in our parents lives due to trauma they experience.

So this is passed on in memory and for example, the grandchildren of those people who experienced the Holocaust have the same physiological and psychological expression of symptoms as their grandparents who were in the actual Holocaust itself. So just bear that in mind as well.

So the quality of our social relations in childhood impacts us across a lifetime and social relations in general as an adulthood. How you relate to other people, whether you have good quality, supportive social relations in adulthood is often defined by the quality of your relations in childhood. And it's so important, this landmark study in 2004 of over 300,000 people showed that social support was a stronger predictor of survival than physical activity, body mass index, hypertension, air pollution, alcohol consumption and even smoking 15 cigarettes a day.

So this shows you just how important in both adulthood and childhood the quality of social relations are, and our relationships and our attachment relations.

This is another study that a 2015 meta-analysis from researchers at Brigham Young University showed loneliness is as deadly as well-established risk factors such as obesity, smoking and lack of physical activity.

Now, our sense of loneliness and isolation often is not related to how many physical people we have in our social environment. You may have heard people say, you have many people around you and still feel isolated and alone inside. That's because it's sort of energetically imprinted in childhood and it can set us up for feeling isolated, even though it's not the reality when we grow up. But we can still hold that sense, it's all about perception. And the body responds to your perception. It doesn't know if everything in the outside world is actually fine, the body doesn't respond to that, it's responding to your perceptions of that reality.

So the all-important question, just how does childhood biography become adult biology? Clearly the data shows that this early life stress has these massive impacts on how likely we are to develop all these chronic complex illnesses. So vitamin L deficiency leaves both a biochemical imprint on the body.

So from the early years that we experience this attachment trauma our biochemistry has changed in response to that, and is it been imprinted. There's a neurological imprint that also occurs from early life attachment trauma and stress and it also leaves an energetic imprint as well, so the memories are stored in our energy field, if you like, aura of the body, if you like. So we really need to examine all of those three different areas.

Let's focus first on the impact of early life stress, on biology on biochemistry. And what you'll find is that early life stress, we know we have over 40 years of psychoneuroimmunology research showing that stress will impact the immune system. It impacts the epigenetic expression of genes, how genes are expressing. It's going to affect how well we detoxify toxins in the environment. It affects our gut health. It's going to affect how our hormones are balanced and whether we have neurotransmitter imbalances. And it also impacts something called the cell danger response, which you're going to hear quite a few times in the Summit, and I'll expand on that in a second.

So just briefly, some of the studies that show, for example, the epigenetic impact of early life stress, there was a 2004 landmark study that started looking at rats, in this case rodents. And it was Moshe Szyf and Michael Meaney that was a geneticist and a neuroscientist. And while they were working at McGill University, this is in Montreal in 2004 they discovered that the type and amount of nurturing that a mother rat provides in the early weeks of the rats infancy determines how that rat responds to stress later in life.

The upshot was that the rat pups that received a less nurturing upbringing were more sensitive to stress throughout their lifespan. And this was later confirmed in humans in 2009 by some of the same researchers.

So essentially what that means is that our threshold of what triggers a stress response in us is raised. So essentially we don't need much of an external stressor to cause us to respond and that's what changes. And it doesn't just change temporarily. It's the epigenetic expression in our response, which is changing. And so what they found is, the researchers, for example, here found a critical break is switched off when the child is marinating in stress hormones and inflammatory cytokines from a young age, and they have a lowered threshold response to stressors. So essentially this stress response this inflammatory response all goes together when we have a stress and when the cortisol rises, for example.

This is started, so when in adulthood we might get the autoimmune disease, perhaps, 30 years after the stress response actually started in very early childhood from this trauma. Or this stress or these poor attachment relationships from a very early age, even from in utero, the stress response changed.

Now the early researchers were hoping that it would just be one gene, the glucocorticoid receptors and the gene expression of glucocorticoid receptors would change. Of course, that's not true; it's never a single gene, especially in chronic complex illness.

So what the later studies found. This is Dr. Joan Kaufman, I believe, from Yale Medical School, found that childhood maltreatment was associated with widespread differences in methylation, that's gene expression across the entire genome. So essentially early life stress and trauma and childhood maltreatment led to changes in gene expression relevant to changes that you see in psychiatric and substance abuse disorders, heart disease, stroke, respiratory disease, diabetes and cancer. So the whole range and so multiple gene expression is changed when we have early life stress. And essentially what someone goes on to develop in terms of if they go on to develop a particular ailment, symptoms or disease depends on people's weak link, if you like, in the genetic chain.

So all of us have certain propensities to certain diseases or health states. And in the face of this environmental, emotional stress, well, some people will have the propensity to be more affected by diseases related to the brain like Alzheimer's or the gut like IBS or heart where we might have metabolic syndrome or diabetes and so on.

A very important correlation to make here is that early life stress changes the gut flora, which is going to have an impact on things like dysbiosis and also impacts intestinal permeability as well, which means it's leading to things like leaky gut.

Leaky gut is the foundation of food intolerances, of malabsorption of nutrients, it's one of the core processes that is the start point for developing autoimmune diseases as well. So these early studies actually all the way back in 1999, they were already looking at monkeys and they did it with rodent experiments as well clearly showing that attachment trauma, early separation of mother and baby, where they would simulate attachment stress, would change the gut bacteria. And that for those functional medicine practitioners and a functional medicine community out there, this is where it starts. And there's also something very important you'll hear about this, what we call cell danger response.

And a lot of people are talking about the work of Dr. Robert Naviaux, who was the president of the Mitochondrial Medicine Society. He's a systems biologist extraordinaire. A lot of people love Dr. Robert Naviaux's work because he's a very extraordinary and bright mainstream biologist and researcher and biochemist and he's focusing on mitochondrial function and cellular health. And he defined something called the cell danger response.

There's a paper he wrote, if you want to look it up, called *Metabolic Features of the Cell Danger Response*, in 2014. And he stated in that paper, "psychological trauma, particularly during childhood, can also activate the cell danger response, produce chronic inflammation and increase the risk of many disorders."

So what is the cell danger response? Essentially, we all thought that the mitochondria and the cellular, the mitochondrial function of the cell and mitochondria are found in the vast majority of all of our cells, that mitochondria produced ATP. In other words, produce the energy and the energy currency for the whole body. It's where a lot of the biological processes can take place because we have the energy from ATP, which is produced in the mitochondria.

Now the problem is and this is relatively new understanding. It turns out the mitochondria don't just do that, in the face of a threat, the cell will switch off the ATP production that's called the cell danger response.

So it has a defense response. It's not just about energy. The cell is also assessing for threats, it's actually playing an immune system role and it will assess for not just virus threats and infections or toxins like heavy metals, as Dr. Robert Naviaux said, "it will also receive messages from psychological stress, through the nervous system from the brain via the vagus nerve."

So literally, your cells are listening to you. And if you have this early life stress and you are in a chronic state of often semi unconscious chronic fight flight response. You're switching down your cells as well and your cells will switch down their energy and go into self-protection mode. So it's not only do we go into self-protection mode at a psychological level, like we might isolate ourselves because we don't want to go and have relationships, because we're just going to get betrayed again. Your cells are also ready and waiting in threat response. And when we have mitochondrial dysfunction, which is essentially what a chronic cell danger response would do, mitochondrial function is kind of important for so many processes in the body. Whether it's gut function, hormone balance, neurotransmitters, muscles, across the board.

So if we are switching on chronically our cell danger response, we are not going to have health and we're certainly not going to have energy. So this is really, some of this research is showing you profoundly beyond some of the early work of people like Candace Pert, *Molecules of Emotion* and her book, now, this is where it's at now, we've gone beyond even peptides.

We're now talking about, your cells are listening to you, your mind and your body is truly one thing. What's going on for you psychologically, you could start talking about diseases as social diseases, because if there's a whole area where there's a ton of attachment trauma because of a social culture, you're going to start seeing certain diseases show up in that culture.

So, right, I could get carried away on this so I'm going to keep going on track and on focus.

So we need to address the biochemical, the epigenetic imprint of this developmental trauma because of all the biochemical changes and I just named a few things there for you. Attachment, developmental trauma creates these changes in the biochemistry, so we need functional medicine to address these. We need to be looking at things like this early life stress would have created a blood sugar imbalance. It would have led to an imbalance in the hypothalamus pituitary adrenal axis, and it would have led to an HPA axis dysfunction. This would have led to adrenal or thyroid imbalances, we know it causes leaky gut and dysbiosis.

There's a condition called pyroluria that we talk about on the Summit, which is stress induced. You can have adult onset pyroluria where we lose certain nutrients that in turn disarm the immune system and allow toxins in the body to build up. And we get deficient, other nutritional deficiencies as well. But pyroluria can be the precursor to developing heavy-metal toxicity, Lyme and opportunistic infections.

This early life stress and trauma leads to neurotransmitter imbalances, sleep disturbances, we've mentioned mitochondrial dysfunction. We know 40 years of psychoneuroimmunology that chronic stress suppresses the immune system while also creating inflammation. This is fact, this is scientific fact. So we can't ignore this area anymore.

And we also know, for example, we're getting more exposure than ever to environmental toxins. The more early life stress and trauma that's gone untreated that we have, the less well we can process it because we have things like pyroluria, which are disarming our detoxification systems, which makes us more likely to get opportunistic infections. And so all of this early life stress is also not only setting us up for chronic infections, inflammation, autoimmune diseases and inflammation is the basis of the majority of chronic complex illnesses.

We're also going to lose resiliency to viruses that will show up and pandemic is something that we're going through at the moment. So it's relevant, very relevant to this current situation as well. All of this suggests that it is very important to address the functional level and address lifestyle medicine. We need lifestyle medicine, we need functional medicine. And this is when we are dealing with, very often when people come into our clinics and speaking as a practitioner and I see all these imbalances.

Early life stress is one of the top causes and unresolved trauma, unresolved emotions can be one of the top original causes. Now, some of that trauma may have been resolved already, but it's left the biochemical imprint. So we want to do things like a diet that balances blood sugar. We might want to take some herbs or nutrients that balance HPA axis dysfunction. We might want to take nutrients and supplements like zinc, manganese and B6 to rebalance the pyrroluria. We might want to take some amino acids that help with neurotransmitter imbalances. We might want to support our cell membranes and take things like d-ribose, and niacin, and carnitine and other nutrients to help reboot mitochondrial dysfunction. We might want to take immune modulating supplements to help boost or balance immunity, natural anti-inflammatories and so on. And there's also many lifestyle interventions, how much exercise we're doing, time in nature, exposure to sunlight and how exposed we are to EMFs.

All of these factors are going to impact and help us improve. And the cycle is, if we basically have early life stress and that's impacted our nervous system and psychoenergetic fields as well, I'm going to get to in a second. But then we have this compounding factor that now also the biology is out of balance. You will not be able to heal as well doing psychology work if you haven't done simple things, like eating a diet that manages your blood sugar, circadian rhythm management, taking good levels of omega 3, which is helping to build brain function so you can think and process trauma properly. We need this biochemical intervention to support what we're doing on the neurological and psychological side. That work will work better when we haven't ignored the functional health approaches. So I've made that point there.

And the other impact, what is the impact of this early life stress on the brain and the nervous system? So one of the things it does is, it gets us wired into a sympathetic stress response. That's the fight or flight response, which is the sympathetic side of the autonomic nervous system. It leads to brain inflammation, something called limbic kindling, which I'll talk a little bit more on in a second and also, low vagal tone. The vagus nerve is the largest nerve of the parasympathetic side of the autonomic nervous system. The rest digest, detoxify, feed and breed on the autonomic nervous system.

So what are the implications of that? So when we have this over activation of the limbic hypothalamic pituitary adrenal axis this leads on to limbic kindling, which is this excessive response to small stresses. So we become stressed, whether it's to chemicals, EMFs, super sensitized to other people's emotional state, to external trauma. It's like the brain has been kindled, it's primed into responding and we've lost our threshold to kind of not respond and overreact to things in our biological environment and emotional and social environment and this has this cascading impact mainly through the autonomic nervous system getting stuck in sympathetic stress, causing this change in the HPA axis, which basically changes the signaling down to the adrenals. Now the adrenals are pumping out too much cortisol. Eventually they'll start to get drained and we'll have low cortisol, which will reinforce the fatigue and so on.

So the nervous system and the hormonal system are completely connected as are the immune system. And one of the things about developmental trauma, when this trauma and this stress is occurring in childhood, what would normally just be a temporary state induced

if this trauma happens to us in adulthood, in a child that state becomes a trait which can become your biological fate.

So this is a paper by Dr. Bruce Perry and his colleagues, *Childhood Trauma, the Neurobiology of Adaptation and the "Use-dependent" Development of the Brain, How States Become Traits*. That's what I mean. We become wired into a fight flight response that gets built into our personality traits. I'll talk more about that as well.

Researchers and this is quoting the researchers. Microglia, which showed the immune system cells in the brain in response to chronic early life developmental stress, quote, "go berserk when there's chronic stress." That's what's thought to lead onto things like Alzheimer's and other brain disorders.

So when we are emotionally stressed, our brain is stressed, our brain goes into inflammation and we have our immune system in the brain go berserk. This is a paper by Dr. Leonard Jason, who's the world's leading expert in the case definition of chronic fatigue. And he talked about how he thought, essentially his theory is that he thinks that chronic fatigue is in large due to kindling theory.

You could explain it with kindling theory, which is where repeated exposure to an initially sub threshold stimulus could eventually exceed threshold limits, resulting in persistent hypersensitivity and ultimately spontaneous behavioral manifestations. Now that stimuli, it could have been a virus, it could have been a chemical, could be a bacteria, could be electrical from EMFs, it can also be from psychology, it can be from OP, other people where if we are, it's death by a thousand cuts.

So we may have verbal abuse, chronic verbal abuse and then we become sensitized to that and we might internalize that everybody responds differently. But kindling theory affects the brain and it actually can lead onto many of the illnesses and symptoms that are unexplained. Like it if you have limbic kindling, so that's hypersensitivity, we're wired for a stress response. It can lead to pain, chronic fatigue, adrenal fatigue, digestive issues, sleep issues, affective disorders, anxiety, depression, epilepsy.

The researchers have associated limbic kindling with all these multiple chemical and electro sensitivity OCD, post-traumatic stress disorder, POTS which is postural orthostatic tachycardia, autoimmunity of all kinds, medically unexplained symptoms. Now, the interesting point I just want to make about this is that, if you want to heal these things you need to change the brain. So it's actually you need to stop, you need to retrain the brain from the overreaction. So, for example, if it's a digestive issue, it's not going to get solved with probiotics, you need to do a brain retraining, that's the point about limbic kindling.

So all of these, there'll be other interventions you might want to do as well, but you're going to need to retrain the brain because this is neurologically induced, that's what we're saying. So I'll talk more about how to do that in a second.

And just touching on low vagal tone, the vagus nerve, tremendously important, tremendously important to help rebalance the nervous system, to help people physically feel a sense of safety and calmness again in their body. They need to be stimulating the

vagus nerve everyday. Low vagal tone so being stuck in this chronic fight flight response, which results in a low vagal tone, also measured as heart rate variability. So the greater the variability of our heart rate, that's actually a sign of resilience and adaptability. When it starts to drop, that's a sign of low vagal tone means that our parasympathetic rest-digest-detoxify compassionate state is now dropping. It's associated in the mainstream medical research, low vagal tone with increased inflammation, diabetes, Alzheimer's, depression, Parkinson's, dementia, major depression, obesity, heart disease, PTSD, anxiety, ADHD, childhood trauma which one of the ultimate causes of it, cancer, poor cognitive function, fibromyalgia, chronic fatigue syndrome, you name it.

So heart rate variability, which is a measure of vagal tone, is a greater predictor of mortality from all causes of death in the elderly than all other markers, including what medications people are on, their history of heart disease, alcohol consumption, major studies have shown that. So the vagus nerve stimulation is very important.

Vagus nerve stimulation's FDA approved for treating severe depression, treating epilepsy, insulin resistance, being overweight, types of neuralgia, migraines, kidney injury. It can reboot mitochondrial function, which is very interesting because you've got Dr. Robert Naviaux saying that getting the vagus nerve back on line is what helps the cell danger response switch off and get into healthy mode again.

Vagus nerve stimulation helps prevent nerve damage, it reduces fear and anxiety, improves PTSD, it's been found to cure fibromyalgia, which is incredible. It can improve and cure arthritis and many inflammatory conditions and it heals intestinal permeability as well, so you can heal leaky gut, this is a huge topic in itself.

The vagus nerve has been overlooked when we are just looking at the gut alone and we're doing things like just giving probiotics or we tried to give supplements that heal the gut. If we haven't fixed the vagus nerve, none of the biochemistry is going to work properly.

What you do in biochemistry will not work if you are in a stressed state because it means your vagal tone is down. So are you in a healing state or are you in a stressed state, because you want the functional medicine interventions and the lifestyle interventions to work, you need to have balanced your nervous system.

Many, many scientific, proven ways of increasing heart rate variability, increasing vagal tone.

You might need to stop the video here because I'm not gonna go through all of these.

Just mentioning some of the biggest ones, deep breathing, yoga, time in nature, singing, om chanting, tai chi, Qi Gong, essential oils, gargling, essential fatty acids. There's so many things, meditation, positive social relations. There's many things it needs to become a way of life, it needs to become a lifestyle.

I have to get my clients and patients to create a miracle morning.

Even if you just start with three minutes in the morning, you do three different things that stimulate the vagus nerve. Like maybe you do some breathing, you do some meditation and

maybe do some gratitude journaling and start your day like that, you're starting to retrain the nervous system.

So all important ways to retrain the brain and the nervous system, so we talked about the functional medicine level. And many of those things are covered in the Summit and you might want to see a professional practitioner to do that as well. What can you do to help retrain the brain and the nervous system? Recently I have had many people ask me about vagus nerve stimulators, I did finally find an affordable vagus nerve stimulator.

I have no financial affiliation with this company. In my research, I found it to be hugely helpful for my clients and patients and it's actually had a massive impact on my health as well. It's called www.modiushealth.com and it works beautifully with a smartphone. And you actually put it on the head there, as you can see in the picture. It stimulates the vagus nerve via the vestibular nerve. So you're actually stimulating the vestibular nerve, which is found behind the ears and you actually connect these pads that are a part of the band behind the ears, and it actually starts to stimulate the nervous system and the vagus nerve. So you only wear it for an hour a day and you can do other things. So it retails for about \$500. So you're welcome to take a look at that and investigate it and do your own research.

There's actually many research studies published on the website, it's been created by an Irish neuroscientist. So you can check that one out. I've just included it because I've had some success with it and you might want to investigate for yourself.

So there are other vagus nerve stimulation devices. Dr. Norman Doidge talks about one in his latest book, *The Brain's Way of Healing*. I think that is his latest book, Dr. Norman Doidge, the neuroscience researcher.

PEMF therapy is excellent pulsed electromagnetic frequency therapy. This is where we're using electrical stimulation, very low level electromagnetic frequency stimulation that has a positive therapeutic effect, it works through entrainment and resonance.

So we're moving away from the molecular model and we're bringing in other tools which work through resonance. And this is based on the science of physics now rather than biochemistry. And this is great, we're looking at a whole new level that works in tandem with what we do in biochemistry.

Red light therapy will stimulate stem cells as well, PEMF therapy as well helps regenerate nerve cells as well as support entrainment and calming the nervous system and nervous system regulation.

There's thousands of papers, research papers on those therapies and we've got people on the Summit talking about this. I encourage you to research and listen to the Summit talk on that area as well. Thousands of papers on them and they've been kind of overlooked. There's tremendous research there that everybody should be looking into.

Neurofeedback is a little bit touch and go. You need to find a good practitioner to do it, but there have been some extraordinary results, especially with things like ADHD, I believe.

But the most important thing is to find a good practitioner with neurofeedback. I believe that the trauma center in Boston is offering neurofeedback. So I'd possibly start there with that and also do your own research as well.

Competitive plasticity is very important. So this is where we are training the nervous system, we're going to replace the old response, the old conditioned response with a new response.

So neuro linguistic programming has been found to be very useful for things like limbic kindling, things like what we call stop processes in chronic fatigue this is the lightening process, in The Optimum Health Clinic, we called it the stop process.

Dynamic neural retraining by Annie Hopper is employing competitive plasticity. CBT, which is one of the conventional interventions for things like chronic fatigue has had some success in that too.

Competitive plasticity again is actually explained in the latest books by Dr. Norman Doidge, which I encourage people to look into if you want to find out more about that. It's also been used by doctors for OCD as well. And Dr. Norman Doidge talks about that, he covers competitive plasticity in both his books.

Things like Feldenkrais, therapy, yoga and exercise have profound impacts on the brain and the nervous system, literally telling the brain how to build new neural pathways. It's not really done with talk therapy so much as actual physical body movement. Very important for brain development to get kids off the screens and off the computers and doing physical movement, as they will get more intelligent doing that than they will be even through just only doing academic work.

Mindfulness and meditation definitely has been found to help the connections between neurons in the brain as well and modulate the nervous system. NARM therapy, which we've got Dr. Lawrence Heller, his creation specifically for developmental and attachment trauma. He's on the Summit and you can look into his therapy, so that's Dr. Lawrence Heller's work.

Psychoanalysis and psychotherapy will start to retrain the brain and change our awareness and focus and how we think and feel, internal family systems, you can read more about that in Bessel van der Kolk book, *The Body Keeps the Score*.

I highly recommend that book, by the way, Bessel van der Kolk, *The Body Keeps the Score*, one of the most important books written on this topic of trauma in general. He also talks about Somatic Experiencing, sensorimotor psychotherapy, these are the body-based work.

Somatic Experiencing is Dr. Peter Levine's brilliant work for trauma.

Sensory motor psychotherapy is Pat Ogden's work. We're calling this kind of bottom up approach here so it's not talk therapy. But it's retraining the nervous system to overcome these imprinted stress responses that are coming from PTSD and it can be applied in different ways for developmental trauma as well.

And there's another therapy called psychomotor motor therapy, that's included also in Bessel van der Kolk's book.

So there's a lot we can do at the nervous system brain level. And it's doing your own research, finding the right practitioner that resonates with you and the right type of therapy. This whole Summit is designed to help you get a taste of all that because one particular type of therapy might really resonate with you and you want to go with that. So we've tried to cover as many as we could in the Summit.

And finally, the last section here, the impact of early life stress on the psychoenergetic field or body, as you could call it. So this type of early life stress affects the relationship with ourselves and others. This is going to affect our resilience to stress and the likelihood of whether we get PTSD in adulthood or not. It is a massive underlying factor for a lot of addiction and for personality drives and I'll expand on that in a little bit.

So I've mentioned a few times, that when we have attachment trauma, when we are not seen, felt, we didn't feel loved, seen or we were verbally abused, or worse physically or sexually abused. All of this creates negative emotions that become traits that get stuck in our energy field. They also become attitudes, memories are constantly informing our behavior in the present.

So we are now responding to the present moment with traumas from the past. It's also known as regression as well. I think we've all probably experienced regressing back to a very childhood response to events happening at the present moment or found ourselves completely over responding to things.

There's a lot of people walking around only semi-conscious of the fact that they actually feel isolated or alone. They don't have a sense of safety or ability to self soothe because this wasn't transmitted to them in childhood. They can have self-hatred, they can have powerlessness, they can be chronically in rage and anger, they're holding despair and hopelessness.

Now, this isn't always at the conscious level, but it will start to show up in all, like one of the top ways it will show up is a chronic complex illness. So when we have these repressed emotions that we haven't faced up to directly, they'll show up because we keep, for example, attracting romantic relationships, partners who are narcissistic, for example, who keep treating us badly. We attract people who don't love us. We self-sabotage every time, we try to go and become successful financially or writing books or getting accolades, somehow we always seem to self-sabotage. Feelings of worthlessness all of this kind of thing.

Now, this becomes, what I think it was Eckhart Tolle, termed the pain body, and it's kind of with us all the time. And it's informing our behavior that it's leading to many addictions and other things because we need to keep the pain out of our conscious awareness, so we do things. Compulsive behaviors, OCD is a way of not facing the pain.

So, for example, that's relational, it's not related to a single incident. So it's not curable with a pill or a psychology intervention that might work very well for pure PTSD, which is in relation to a single discrete event. It's not localized to a single trigger, the trigger event is

you walking around this planet with you. And you have to kind of be yourself and wherever you go, there you are, and this is where it becomes more expressed in traits. So it's very interesting, there's a huge, Bessel van der Kolk makes the point that the quality of your social relations trumps the impact of discrete traumatic events resulting in PTSD.

What does that mean? It essentially means that if you had, they actually studied soldiers in war zones and some soldiers develop PTSD and some don't. And the ones that had the high risk of developing PTSD all had higher levels of developmental trauma, they had attachment trauma, they had less resilience; some events in adulthood are inevitable loss of a job, loss of a loved one. Soldiers are putting themselves in very specific traumatic situations.

But when we have attachment trauma, we don't come fully equipped with all the tools to self-soothe and to feel self-compassion and to be able to just bounce back from events, and to have a sense of self-love through things when they go wrong, which they inevitably do. Everybody experiences loss of quote-unquote failure at something. But if we have negative self-perception set up by key caregivers who gave us the impression that we were no good, we were unlovable, we weren't worth it, then we don't have the same level of resilience. And we talk about people being stressed, all the stress studies, adult stress studies are all based on perception. So people who have high stress levels are perceiving high levels of stress. Their framework of perception comes from what? It comes from early life experience.

So the more somebody is sensitized to stress and feels worried and threatened and is in survival mode all the time, the more likely that they weren't transmitted a sense of safety through touch, through eye contact, through loving expression, verbal. All of this touch, eye contact, sounds, tone of voice. All of these unconscious expressions of emotional love and pure emotional energy. These are the things that we absorb as children and take as a signal of everything being okay and that life okay and I'm okay.

When there's a disruption in that, that's when it affects our perception for ourselves and our entire life and how resilient we will be in adulthood. It's also one of the reasons why I have not specialized in PTSD, particularly because the precursor to PTSD is this internal sense of, do you feel separated or connected within yourself? Do you have self-love? Do you have this feeling of being able to connect with others safely or not? And so on.

So early life stress is also a huge cause of addiction. So early life stress, if you had just four ACEs you're more than 12 times as likely to attempt suicide, more than 10 times as likely to use injection drugs, more than 7 times as likely to be an alcoholic. You're also almost 3 times as likely to be a current smoker, more than 3 times as likely to engage in binge drinking and risky sexual behavior. And this is the area of people like Dr. Gabor Maté, who's on the Summit, and also Dr. Paul Thomas, who talks about addiction and Bessel van der Kolk who's talked about this as well.

People will do anything to avoid feeling the pain body, they'd rather have risky sex than just be in a quiet space and actually have their feelings actually come to the surface. We'll do anything to avoid feeling and we'll use addiction and compulsive behaviors including workaholicism, by the way. There's many things we will get addicted to because we don't want to feel what's going on underneath that. It's too painful, so we'll express it in other ways.

And lastly, personality drives, we in the clinic at the Optimum Health Clinic, we used a personality typing system called the Enneagram. And you can go to enneagraminstitute.com and there's a questionnaire on there, and I'll talk more about that in a second.

We found that certain personality types were particularly prone to chronic complex illness, because they responded to trauma in childhood with stress responses. Now, it turns out that we all have different adaptive styles to do that, to not having good attachment relationships.

Some people will go down a little bit more of a dismissive or, you could say in some cases sociopathic response. So they downplay emotions and emotions of self and others. For example, that would be, for example, a number eight, the challenger on the Enneagram type. They don't have the same stress response as the people who become like super perfectionists, the type one reformer types, as it's called in the Enneagram, they create a lot of internal stress.

The helper types, the response to early life developmental trauma is okay, well I don't seem to be getting my needs met, so what I find is I seem to get noticed and I get my needs met when I help other people. So they become chronic healers, they become the therapists. This is the story of the drama of the gifted child, the book written by the famous therapist. Where we basically have a gift of being able to help others and the only way we get social acceptance is by chronically helping other people.

The achiever, we don't feel worthy inherently, so we have to focus on all this external success, usually material, usually status orientated, usually money orientated, all of those types right there, you're leading to your walking into burnout and chronic fatigue or some other chronic complex illness and the behaviors are compounding it. So it's not only the nervous system now wired for chronic stress, but you're also not taking breaks. You're getting addicted to workaholism, perfectionism over-giving.

The loyalists, type 6 was also when we saw that it was common in chronic fatigue related conditions, for example, because there's a lot of anxiety there. And loyalists have trouble feeling a sense of safety, it's as if the floor's going to open up and they get swallowed up at any moment, these chronic feelings of dread. And that again, and so they have they end up doing compulsive behaviors to try and feel safe. The truth is, there's nothing unsafe, there can be things unsafe in the outside world, but not to maybe the extent that they're projecting that. So the problem is on the inside, not on the outside.

So how do we heal the psychoenergetic body and start to feel great again? We've talked about biochemistry. We talked about the all-important nervous system. We also need to re-imprint the energy field, and I'll talk about this in a second. One of the first things you can do is to build awareness. There's an ACE score you can do that's available for free on my website, there's no sign up required. It has a link on there, too, to formal questionnaires created by professor van der Kolk and the trauma center in Boston that he originally co-founded. So you can do an ACE score, I have my own extended ACE score on that link and you can actually start to assess your own developmental trauma levels.

I also recommend Dr. Jonice Webb and her work, her book *Running on Empty*. And there's a questionnaire on her website which is for emotional neglect. I have so many people because

it's so hard to establish and know if you had emotional neglect or not. It's at epidemic levels and it's what I call a silent ACE. It gets massively overlooked because it's not what happened, it's what didn't happen. And it's much harder to self-report on that or self-assess for it.

So I recommend Dr. Jonice Webb for that specifically, and also I mentioned that you can start to have fun looking into personality typing and the Enneagram Institute dot com. They have a questionnaire that is paid for, but you can also learn a lot just by reading different types. And you might find that some of them, you might know people from certain types or perhaps or somebody intimately well.

Now just some final point here, it's very interesting, where our memories, beliefs and their associated emotions are stored? Now, obviously not stored in molecules alone. They're also not only stored in the nervous system. If you cut up a nervous system, a neuron, you're gonna find the memory that relates. They've done a lot of work on brain mapping, but have never completely been able to find exactly where a memory is really stored.

Now, there is a renowned German neuroscientist, Karl Pribram, who promoted the idea that memory, learning and skills are encoded not in specific neurons or even in the connections between neurons but in the cumulative electrical wave patterns that are the result of all the neurons firing together. In other words, it's the fields surrounding the brain. So we have a field that is imprinted with our memories and emotions that is controlling and informing the nervous system, the brain and in turn, the biology. So this is the next level in terms of levels of healing that we want to consider.

The great work of probably over 40 years of the work of HeartMath, over 45 years now, looking at emotions and heart rate variability. And their research has shown that there is actually an electromagnetic field that emanates from the heart and creates a kind of toroidal field that you see in this picture. And this electromagnetic field that surrounds the heart several feet away from the body. This field is actually a hundred times stronger than the field around the brain, which is fascinating. And incredibly, they found a 75 percent correlation of the patterns of heart rate variability with different emotions. This is really key. So if we are carrying around lots of rage, depression, hopelessness, powerlessness, we're reducing our vagal tone and we're going into what HeartMath would call an incoherent state.

Now an incoherent field will in turn inform the neurology and the biology so we don't want to miss this level. And it's why I've taken the time, the extra time to make sure we covered this too. So we want to work purely at the psycho energetic level to re-imprint the information in this field, which is actually in many ways it's the master controller of biology. In some ways it's like the information field which informs the biology and the nervous system.

So this is one of the reasons why you haven't really heard me talk much about talk therapy. Talk therapy doesn't really work, it's not been that effective really. And emotions have resonance and they are also information. So we can't talk ourselves out of an emotion. We can't think yourself out of an emotion.

You can only vibrate yourself out of that emotion because that emotion is responding to resonance and frequency, it contains information itself. So this is where I'm not completely trashing talk therapy, it definitely has its place and it helps with neurological re-imprinting. But there's also this other level. And there's another way of communicating with our energy field, which is more of this unconscious non-verbal communication. And by the way, when it comes to attachment trauma, a lot of it happens before age 4 when the cognitive brain isn't even online yet. So we're just these emotional balls, like a sponge that absorbs the feelings. It's not about words. It's a feeling. So that's kind of the level we're talking about with emotions. And when we want to re-imprint emotions and memories and the frequencies that are in the field, there are different interventions to do that.

Now, very interestingly, one of the top conventional interventions, conventional, mainstream researched interventions that are actually based on this energy field type of framework, is eye movement desensitization and reprogramming, EMDR.

This is the number one top recommended therapy for PTSD. And it's actually based on a similar premise as Emotional Freedom Technique, which is actually based on an understanding of the Meridian systems and an energy field. It's energy psychology. Which I find quite amusing because obviously commercial medicine kind of refuses to acknowledge a lot of the energy field work and yet here's this conventionally well researched, highly effective or relatively effective, especially with PTSD, relatively successful at healing PTSD.

Professor Bessel van der Kolk basically says. "PTSD is relatively curable." and this would be your top recommendation if you have PTSD, go for eye movement desensitization and reprogramming.

Emotional Freedom Technique is also on the same premise. You're tapping on the endpoints of the meridian points. So tapping has been around for years, it's not just the recent work that you hear about with EFT. It's been around for a long time and trauma experts have been using it for a long time. And this is where you are literally tapping, as I mentioned, on meridian points that are literally changing, they're disrupting old or imbalanced frequencies that are frequencies, vibrations or the resonance of particular traumatic memories and experiences.

There's an intervention called Matrix Reimprinting, which is like the next step of EFT. And Matrix Reimprinting is very good for developmental and attachment trauma because you're actually through imagination, you will guide a client or a patient back into their childhood. And do this in a very positive way where you actually change the outcome of something that happened that might not have been a very good experience. It's done in a very safe way, it's not retraumatizing and it's very empowering. And so you can send back a support person back into your childhood and change the outcome. So you're changing the imprint of the memory.

Obviously, you can't change the physical event as it happened, but you're changing the imprint in the energy fields so that you're also resolving the trauma. So in Matrix Reimprinting terms it's never too late to have a happy childhood, which is great to know, means everything can be healed.

My favorite that I've discovered that I use all the time and I think is going to be a potentially very big support for many people is sound therapy, biofield tuning therapy. And the work of Eileen McKusick is fantastic, she's on the Summit. Learn more about that from that talk.

We've got a Qi Gong master, there's things like Tai chi, which are also going to help balance the energy field. Acupuncture, obviously, Chinese medicine and Reiki, everybody will get different things and resonate with different types of interventions.

Essential oils actually partially work on this level. Ayurvedic medicine, family constellations therapy is an energetic intervention for intergenerationally inherited cultural trauma, very interesting. Dietrich Klinghardt works a lot with that.

Cranial sacral therapy is very important and helps retrain the brain spine, balance the energy and information around your posture. And that can have a profound impact and things like homeopathy obviously also working at the pure energetic level. So these are the sort of things that work and that you would want to investigate at this level.

And as I mentioned, one of my favorites is sound therapy, brain entrainment is scientifically validated music and I have this self-love meditation. Love is a coherent frequency that can be transmitted through music and resonance. So there's a feeling state being transmitted and hopefully I've done that in the self-love meditation that you can download for free below.

This is one of the core parts of my work, music therapy, sound therapy - they remind me of essential oils in the sense that it's a thing people love to do, and love to listen to and essential oils smell great, and there are great things around the house and using uplifting things like music, it's an enjoyable process and it's something you can bring into your life and it become a lifestyle. So I hope you like self-love meditation. Please feel free to reach out to me if you do this for 30 minutes a day.

I've had really amazing testimonials and feedback about what's happened when people have done self-love meditation. It's not only brain in entertainment, it's also a subconscious type of hypnosis, if you like, where it's also reprogramming your unconscious beliefs as well as thoughts. So would love for you to download that and please enjoy it. And know that sound therapy is one of the energetic interventions that will help re-imprint the energy field, to resolve trauma and unresolved emotions and memories.

So just a few comments from some of the major researchers, scientists and doctors. Professor of Medicine Dean Ornish says, "I am not aware of any other factor in medicine that has a greater impact on our survival than the healing power of love and intimacy, not diet, not smoking, not exercise, not stress, not genetics, not drugs, not surgery."

And the great Dr. Bruce Lipton, molecular biologist on love, "the most important growth promoting signal in the world today for a human is love. It exceeds nutrition. A child getting love will grow. A child not getting love will be stymied in its growth. For example, in Eastern European orphanages where kids were given a lot of nutrition but no attention, their growth parameters, their intelligence, their height, every aspect of their development is reduced by 30 percent or more, most of them become autistic."

And, of course, John Lennon, "love is all you need." It was said, it's already been said a long time ago and with music.

So thank you very much for your time. I hope you got something out of that and it's also helped you navigate the Summit and why you'll want to be listening to a lot of these different approaches.

There's so much hope out there for you, so many new things that aren't well known about to address this epidemic. This silent epidemic, which is a scourge in our society and it's costing our children's lives and the lives of so many adults as well.

So enjoy the Summit and take care, everybody and I hope to see you soon.