Heart-Brain Coherence: The Key To Facilitating Trauma Related Recovery Transcript

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Introduction to Trauma and HeartMath

Hello to you all. My name is Dr. Isaac Eliaz, and I'm grateful for the opportunity today to talk about trauma. Trauma is such an important topic, which is fundamental to the well-being of all of us.

My two guests today are two remarkable people from the HeartMath Institute. Dr. Rollin McCraty, PhD, is the director of research of the HeartMath Research Institute.

For decades, Dr. McCraty is a psychophysiologist in the uniqueness of his work that he's been able to quantify and demonstrate the effect of our psychological state for our mental state of different emotions on our heart, on our heart rate variability, beat to beat variability, and how by addressing it, we can affect ourselves, and we can affect people on a community level and even on a global scale.

Rollin has been featured in multiple documentaries such as Aim the Truth, The Power of the heart, Solar Revolution, The Living Matrix, and many more. My other guest, Dr. Jorina Elbers, is a pediatric neurologist with clinical expertise in specialty in treating chronic stress and trauma.

And Jorina has developed tools within the heart meant to specifically address trauma, both for the patient, for the individual in training coaches and health providers.

How to use this approach? So Rollin and Jorina, welcome to this interview. I'm looking forward to this discussion. I really have been admiring HeartMath for many, many years and really recognized its importance and vital role in quantifying and demonstrating the role of the heart in our well-being, but also in offering substantiated and simple tools that actually can have a profound effect on our well-being.

So welcome. Welcome to to this interview. Thanks so much for having us. Excited to be here. Yeah. Me too. So, really, Rollin, I know that you have been involved with, with the HeartMath Institute for a very long time and really have been a pioneer in the research.

And you've been featured in many, many movies and documentaries about topics that are related that many people have watched. You know, the truth is the power of the heart, solar revolution, the Way of miracles, and many more.

And so maybe we can start before we we dive really into our focus today, which is how to bring coherence, the key to facilitate trauma related recovery.

And for me, it's really important because I think now the importance of trauma is finally coming to the surface. And I don't think there is one living being who doesn't have one level, one or another level of trauma.

And from this perspective, this work is so important. So maybe you can share with us what is HeartMath and heart coherence.

Defining Heart Coherence

It's the basis of the HeartMath approach. I'll take a crack at that. I mean, HeartMath We think of it here, as the heart map system, which is a, series of tools and techniques that allow us to self-regulate, our physiology, our thoughts, our emotions, our behaviors and technologies that allow us to practice and train how to shift our physiology into what we call a heart coherence state.

And that's, heart coherence. We can maybe dive deeper into that later, but it's a physiological state where the

activity in our higher brain and within our nervous system becomes more synchronized.

So we a lot of our work over the last 35 years has shown that that is a measure that reflects how in sync we are, and that's what underlies our ability to make better decisions, to think clearly, to self-regulate, our choices and our behaviors, especially when, it's a stressful context, you know, the heat of the moment.

How do we then maintain our composure and really shift into that coherent state and make better decisions? And. Well, I'm going to I'm going to pause there and let Jorina, jump in here to.

Yeah. Well, I think from a trauma perspective, we're really starting to understand that the physiology changes. It's not just a psychological process, but it's actually a physiological process.

And we know the hormones change, and we know our nervous system changes, and we go into, an autonomic state of fight or flight or faint or freeze and and at the root of it is dysregulation within the nervous system.

and our behavior dysregulated, our behavior dysregulation our emotions. And so being able to shift from that dysregulation, caused by this sort of perpetual state of anxiety or fear or shut down, towards regulation and coherence, is it's really a game changer in the, in the field of trauma work.

And when you mentioned running, you mentioned the term sync. When you talk about sync, are you referring to synchronizing the nervous system or synchronizing the nervous system in relationship to the heart?

Both. Both actually, I mean, a fundamental and Jorina would know this as a neurologist, but the, the brain has to be able to synchronize its own electrical activity to even be conscious and awake.

Right? So in my my field, psychophysiology, that's becoming kind of, one of the major focuses and understandings now is that the synchronization within the neurons, among the neurons at the level of just the brain for information to be able to flow through, you know, the brain into the different parts of the brain, into systems to become a conscious perception or these types of things.

But it's also a, when I say synchronization in this context of coherence, it's also a synchronization between the heart and brain. for example, just sitting here now of most people who might be watching this about somewhere around 12 to 15% of our brainwave activity, say, like the alpha rhythm, theta and so on are synchronized to the heart.

So there's a natural part, brain synchronization. And when we are able to shift from that in a coherent or dysregulated state into a coherent, a more regulated state, that degree of synchronized activity, which we can measure between the heart and brain, is significantly increased.

And, so, that's what I'm suggesting. Underlying is better performance, whatever that might be. our ability to self-regulate, to, understand what's going on under the radar, if you will, in our emotions and the underlying triggers, if it's in a trauma context.

And as we start to practice the shift in our physiology into a more coherent state and practicing and being incoherent more often long enough, that starts retraining the brain and nervous system into that as a new, familiar state.

That's what we call a shift in baseline. And that's when it really becomes transformational. for people. And that's any any additions, Jorina, you want to add?

Yeah. I would just add, you know, one other thing, because especially in the context of trauma, where people feel like they're at the mercy of their triggers, they're at the mercy of their body, they're at the, you know, that they don't have control.

And one of the most profound impacts of this work with, with my patients is that they feel the difference when

they're coherent and they feel that they have control over their their nervous system.

Like, I can do that. Like I can actually feel this way anytime I want. And that's you know, that's really empowering for people when they have been disempowered for so long.

Yeah, yeah. And I think that the empowering on its own is even before the technique, just the feeling of being empowered is so important for people with with trauma.

And so I thought before we dive deeper into the work with trauma and some of the evidence, maybe you can take another moment. Both of you.

Coherence, Wholeness, and Personal Regulation

I would like from the from the psychophysiology and from the clinical, point of view, what does coherence mean to you? This, this word, this term, you know, sometimes is that word that, bigger than the word, you know, the it's hard to really put a whole state, the whole reality into a word, but, Rollin, what what what what does coherence mean to you?

I think most people have an intuitive sense of this term coherence. But in science and coherence is a term. It's used from the, the study of the very small subatomic levels all the way to the, the scale of the universe.

it is used in all branches of science in this way. In this context, it's used typically used to describe how the parts of a com of a more complex system, how well do they work together, or are they working together in a harmonious way, or not?

You know, it could be various degrees of coherence within a complex system. And when in a coherent system where everything's working together in harmony, you know, which which embraces things like synchronization and entrainment and these things, it implies a lot of things.

For one thing is that means that the parts of that system have to be talking to each other somehow. There has to be communication among them. Right. And that they're stable over time.

And, it's an energy efficient system when you're in a coherent state versus incoherent state. And another key concept, that out of coherence is that the wholeness is greater than the sum of the parts, right?

In other words, we're more than the parts. if we're talking, especially if we're talking about a living system as we are here. You know, in Germany, you know, this this last sentence of Rollin, the that the wholeness is bigger than the part very much intuitively addresses, the feeling of isolation that many, many trauma people feel, you know, they're not understood.

They are isolated. The environment is not safe for them. We very much they live in a part of the whole. They don't experience the whole. So I wonder from this point of view, how do you how do you see this, this term of coherence?

Yeah. Again, you know, I think there are multiple levels of coherence. And we talk about, you know, personal coherence, our ability for the heart to be in alignment with our, our nervous system, to be in alignment with our digestive system, our alignment with our immune system, our inflammatory system.

So our whole physiology changes. And I kind of describe the heart as like the pacemaker for the body. When the heart is coherent, it is generating a rhythm that brings the whole body into alignment.

And where the some of each of the different organ systems, which on its own is working independently when it's all working together, then we have, a highly efficient, incredible body that has the capacity for incredible things.

much more than just a heart and a set of lungs and a brain sitting on top and a digestive system. So, you know, I

also think to your point, this idea of really connecting to something larger, and we, you know, at her mouth, we talk about the intuitive guidance system, so, you know, the heart as a connection to something larger than ourselves, some wisdom, some inner guidance.

intuition. And that really starts to come on line. The more coherent we are, and we start to see that we're part of something bigger than just ourselves.

And that's, you know, I guess, the sort of spiritual side of this kind of work when you start to work with patients because they actually, you know, we don't talk about it very often in medicine, but many of the patients that I see do want to talk about that, that deeper part of themselves and connect to that deeper part of themselves and heart.

Math is a very easy and accessible way to to have people have that experience. And then to be able to talk about their intuition or their inner wisdom or their authentic self, and they intuitively connect the heart to that.

Yeah, it's it's really, I think, for the audience, we have to understand that there are different pacemakers in the body, you know, in different like the like the digestion has its own, its own rhythm, you know, and and really, the heart is like the king of the, of the it's a big pacemaker that was given to us to synchronize ourselves, to be in a state of coherence.

We don't invent coherence. Coherence is who we are. We just lost it when we went off, when the system not working together. And in this sense, from my perspective, I see one of the biggest contribution of heart math that you offer a simplified understanding.

We substantiation in simple methods. You know, that kind of can take away. They need, you know, to be in the mountains like I spent, you know, years and years and years every year for 2 or 3 months, isolated was incredible, but was going to do it and I probably wouldn't do it again. It was amazing.

You know, it really made me who I am, but it's not suitable. So in this sense, really, I really want to. I mean, it's remarkable. And just as the audience know from the point of view of evidence of the heart method really works well.

And can you share some of like key key findings through your extensive, you know, 35 years of research? Well, when you're saying, does it really work that that's a pretty big range or scale we're talking about there?

I think there last I heard, there were now over 500 independent research studies using heart man. so it's across a wide range of populations and many contexts.

obviously a lot of clinical focus studies, you know, like lowering blood pressure, improving blood sugar regulation and diabetes, heart failure, these types of all been studies done, but also a lot of studies in, other contexts like mental health, being able to reduce depression, anxiety, improved outcomes in trauma populations, for example, pain management, or also a lot of heart math is used in hospitals to train the nurses, doctors and nurses how to how to maintain their coherence as they move through the day.

Just, you know, to reduce stress and burnout. a lot of studies also in education, helping children not only do better on tests and academic learning, but I think that's one of the more important parts from my perspective is they learn. They're learning how to get along with each other better.

and, and teachers using it for a different approach to classroom management. so it's, I guess that would be the best way I could answer your question.

Yeah, of course, of course. So, you know, during the and this is really more probably for you. So how does the heart coherence practice help trauma patient.

You know, trauma clients help people who have trauma to really weaken, reconnect with their heart because often, you know, people would even say, my heart feels cold, like I can't feel it anymore.

And really and connect with a deeper, intuitive self. Creative synchronicity. Yeah. Well, I think, the heart math system, you know, is it involves a couple of different things.

The one being that coherence practice, which is facilitated by heart rate variability, biofeedback so we can connect patients to or clients to, a pulse sensor.

Research Evidence and Clinical Applications

And they can visualize their heart rate variability pattern and match their breathing and, heart quality such as appreciation or care, gratitude and generate a coherent heart rhythm that they can see through through the heart mass app.

And you know, that in its simplest form is bringing regulation into the system. And like I was saying earlier, that ability for people to be able to see like, oh, wow, I can actually do this.

Like I can change just by changing my breathing or just by changing how I feel. I can change my my body and my heart rhythm pattern. And I can feel, you know, that this is working.

And so we're training the system and we're training the, the, the brain and the nervous system and the heart to become more regulated. And the more we do that, the more flexibility we bring into the nervous system.

So the more resilience they have, the more sort of bounce back ability after a stressor, the more they're able to tolerate stress. So from just a plain physiology level, heart, heart math is really, you know, shifting that, that, the ability for the nervous system to be more regulated.

the other piece is, is the emotional regulation piece. So to be able to shift from a state of worry, anxiety, acute panic to focusing on the breath and shifting an emotional state to maybe it's a calm or neutral or ease that helps them move from that state of panic or anxiety to being able to bring their body into coherence and be able to make a different choice.

And so that is in the moment that, you know, you don't have to be connected to a sensor to do that. You just you're recognizing I'm I'm incoherent. I'm dysregulated. Right.

And I have a tool in the moment that can bring me to closer to regulation, tamp down the, the, the, the anxiety, and the stress response and be able to respond with greater mental clarity and composure.

And, and then the third piece, of course, is what you had mentioned is really connecting people to that, their spiritual center, their intuitive self or, something larger to themselves.

And I think that that's the actually the most exciting part of heart math for me. And doing this work with my clients is, is having them connect to that deeper part of themselves.

And, and watching their journey in that. Yeah, it's really, you know, I think again, for the audience and my, my intuitive sense is that even it is simply a tool.

And the first level of learning by by using a tool to regulate, you know, your rhythm to regulate your heart, your heart variability really offers an overarching basis that whatever other treatment you're doing is going to work better because you're coming to it from a place you know, spaciousness and the term of resilience is a very important term.

For me, resilience is like taking a rubber band that has been very stiff and making it flexible again. And what it allows us is to handle a stressor and let go.

And the trauma is when we have a stressor and we just can't let go. So we all go through. Right? Endless trauma. I mean, some of them are very minor. They can take a few hours, but they can accumulate.

It's not always just a huge trauma. It's also can be an accumulation of a small trauma that create a nervous system response and a biological dysregulation.

And in this sense, it's so neat to really use a simple tool and realize isn't you. If you say to you, you don't only feel different when you do it, but it gives you, I think, an overarching ability to handle deeper changes in your life.

And, yeah. So this is I find it's very, you know, very, very fascinating. And so, you know, we look at our own trauma, a different individuals and often people who have been traumatized naturally as part of protection become very self-focused, you know, because they're just, you know, they are lost in this in the story.

You know, in, in the country, we often see the bigger world and role. And I know that is a hard message, has done amazing work on the inner connectivity between us and others, which, you know, during the ties to the spiritual aspect, but really ties to the understanding of the interdependence between us.

You know that we are not like an isolated event, just like from my perspective, organs in the body are not isolated event like you. You really, you know, make it out.

So really can can you share some of this work? Because I see it actually is related to healing from trauma. yeah. I can. I. Kind of cut short. When are you asking me about coherence?

Because there's really three what I call them, three spheres of coherence that our research, is involved in personal, as we've talked a lot about, you know, how coherent are we in our physiology and our, the heart and brain and our heart and mind, but also, social coherence or relational coherence and the same thing if you think about a group and that could be a family, it could be a leadership team, a work team, a sports team.

But any any group that hangs out together works together, plays together. there's relationships amongst those, those individuals. And we can measure in various ways how coherent is that group.

And it's the same thing the more coherent. Well, first of all, the more self-regulated and coherent the individuals who make up that group or that community, the more likely you're going to have a coherent group.

Heart-Focused Breathing for Trauma Recovery

Right? but we also have programs and training programs to, to help take that deeper, within groups to, to help them become more in sync and more getting along better is a simple way to say it more harmoniously.

And because that often takes some deeper work, because we build up history. So you can call it a little baby traumas with people, that create separation, just like you're saying.

and then that decreases group coherence. Just like when in our body, when the system starts not being in sync with the others. That's disease. Right? Or incoherence.

so it's the same thing, and and it's probably not for the topic of today, but we're also looking at what we call global coherence, where we're looking at the actually the rhythms of the earth itself in, in our physiology and how in sync humanity is with, or we are and humanity in groups are with the rhythms we live in of the earth.

And, some studies are already showing that as we practice the coherence techniques, we have direct evidence, published evidence, this not only able to become more coherent, more healthy, we become more in sync, literally, measurably.

The heart rhythms synchronize between people in groups, and that also carries over and creates in synchronization with the rhythms of the earth that we live in.

Now. The reason why I asked is because I see that societies can go through a trauma of society, of a country, of a nation, and often you see similar patterns popping up in different parts of the world as part of a disharmony on a

global scale.

And this is, for me, a great, a greater trauma, you know, and we have to remember, within our body we have like 100 trillion guests in our, you know, in microbiome that we have a relationship with, you know, so our bodies used to really deal with, with, with, with multi-function.

So the reason is that I think this kind of work I mean, the more the, the disharmony we see in the globe often is a reflection of, of an inner inner disharmony, and it is often triggered by, by trauma. So.

How how do you see doing the how do you see. You know, the heart coherence shift affecting a trauma dysregulated person? If we talk specifically about the trauma person, you know, towards a more healthy a baseline where they don't react to a stimulus of the present time, the triggers their energy going back to something that happened and triggering is a reaction that is not appropriate to what's happening at the moment.

Can I jump in here just for a second, Gina? Because I know Gina, probably she's very humble, but Jared is doing a lot of work. and I'm very large scales to help with trauma.

the work you're doing, for example, with the Syrian refugees and, what you've been doing there and training the facilitators there, that might be. I don't want to put words in your mouth, Gina, but that might be a good example for what Isaac's asking about. It's a great example that what I was referring to talked to a community in trauma.

Yeah. Well, we, you know, we've, we had someone who was working really closely with Syrian refugees in Lebanon, a number of years ago, Mount Carmel, mass.

And, you know, the stories that he told us about the work that, I've, I've using heart math with children, for example, who were bedwetting and, you can imagine in, in these refugee camps and in these tiny homes where there's maybe one bed for multiple people and parents and three children, that a child who wets the bed, you know, that can be highly, highly triggering for the whole family.

and it's very difficult to clean, and it affects everybody, and it affects everybody's sleep. And, and so one of the things that he found was even just having kids connect to the heart and doing the heart focus breathing technique, and this is not any sensors or anything like that, but that it was actually resolving their bedwetting, which, you know, for me, there is that that that in and of itself starts to show how, you know, we're not even focused on the bedwetting.

We're not focused on anything. We're just helping children connect to their heart to become more regulated, to be able to, feel, you know, love or heart.

You know, that heart quality is appreciated and feeling safe, that, that has, you know, an effect just on, on something like bedwetting. and so that's, you know, that's a very tangible outcome.

I think for many people, they just start to feel, a different level of confidence in themselves, an ability to stick up for themselves when maybe they weren't able to stick up for themselves before, feeling confident in a conversation, feeling that they, they're, you know, able to to start a job or to, you know, start a relationship.

and so some of these things are less tangible, or you might say, well, how do we know that that, you know, was from the heart, but, you know, that is is harder to, to, to measure, of course.

But, you know, that's where people's connection to their, their, you know, their deeper, truer part of themselves, their true heart starts to show in just daily life and their ability to be themselves.

And it doesn't have to be something, you know, that you can measure. Well, it's, you know, it's can you I mean, you know, talking about a simple advice and you just brought a very simple technique.

You know, you mentioned breathing. It affects the heart rhythm that was used for children. And, yeah, it's it's often

about just even just taking a deep breath, you know, because the oxygen is kind of helpful when you're in survival mode.

So can you maybe elaborate on a practical level? What do you mean when you talk to them? I mean, so people get a sense of you're not talking about like learning it for two months.

What is kick in? Can you tell us what like give us an example of such of such a technique. Yeah. So, you know, I teach every single one of my patients this technique the first time I meet them.

And it takes all of three minutes. and I just, I encourage them to practice it, but I essentially have them take their focus of attention to the area of the heart, to the chest area.

And, I invite them to place their hands. Feel feel free to actually do it right now. I would like people. Okay. Yeah. And otherwise there are so many concepts like letting people experience.

What do you mean when you say simple? Okay, Rollin, do you want to do this or. Do I go for it? You teach it to all your patients. I'll be a patient now. Okay?

I'll, I'll I'll start that again. And we can, slice splice that out. So I use, heart focused breathing with every single patient. I teach it in the first visit at the end of the visit, and I just walk them through this very simple technique.

it can take a few minutes. And so I, I'd like to I invite you to practice this technique with me now, just taking your attention from the call from, what you might, you know, what you might be doing or what you were doing before this call and taking that attention and bringing it to the center of the chest, to the heart area.

And you can place your hand over the heart if that feels comfortable for you. It's not necessary. I like to have my hand on the heart in the other, on the belly.

And as you bring that attention to the heart area, imagine your breath is flowing in and out through the heart or chest area, breathing a little slower and deeper than usual.

And finding an easy rhythm that's comfortable. Can I usually like to have people experience that for 30s?

Heart Rate Variability and Resilience

And then taking a moment to notice how that makes you feel. Maybe you feel a little calmer. Maybe you notice your shoulders dropped. Maybe you notice less tension in your body.

Maybe you didn't notice anything at all. And that's also okay knowing that the more you do this technique and the more you give these messages to your body, the more it'll help it settle with the the breathing and the heart.

Focus. and, and I do differentiate this from other breathing techniques. So there are a number of breathing techniques out there that square breathing and diaphragmatic breathing.

and, and the reason I like the reason I love heart focused breathing, number one is it's not forced. You're not forcing anything like with the diaphragmatic breathing.

I find people who have experienced trauma fine, die from attic breathing really difficult. and they get frustrated and they're not sure if they're doing it right.

And that just defeats the whole purpose. similarly with, you know, square breathing, you know, you have to find a square. And if you're driving, you know.

So I love the heart focus breathing because you can do it anywhere. So I really encourage my patients to start doing it while they're driving, because that's one of the easiest places to remember.

And there's lots of opportunities to practice because inevitably you get triggered by whatever, even just being late, and just focusing on the breath and the other pieces, the heart focus.

And that's qualitatively different. I tell my patients, I mean, we're not talking about focusing on your big toe. You know, we're focusing on the heart.

And when you when you when you compare it to that, you know, comparing the thinking of your big toe and thinking about your heart and flowing energy through the heart, you know, you can tell that there's a qualitative difference to that.

And so the heart focus is a very important aspect of the technique. Wow. So sharing from my end open heart medicine. So when I teach meditation and once we create a certain sense of spaciousness and we loosen the grasping, my introduction to the heart is I hear people put their hands on their heart exactly for years.

And what happens, you know, interesting from Chinese medicine point of view, the point right here, it's called, you know, eight pericardium, eight double logo.

And it's a point where the authoring of the heart comes out to the body. So when you put your hand on your heart, you are closing as a circle. The whole flow of the heart energy from a physiological point of view, of nourishing it with blood, right, and oxygen from an electromagnetic point of view.

The electromagnetic field, the synchronicity that that is improving and from an intention point of view. And what happens? You are really you are really, you're really amplifying it.

And that's why, you know, people can feel well on my hands if they see they can heal people. That's heart energy, you know? That's powerful. So this is that for me. Wow.

I'm rejoicing because it's it's part of how I create the basis for deep, you know, for, for deeper transformation. So hard breathing is fundamentally different because we are not connecting to the lung in diaphragmatic work.

We are connecting to the endless potential of the heart, you know, and it's affecting your role in all your work with the effects of the heart, you know, on the global scale.

I mean, starts right here. So, yeah, I mean, this is great. And I'm sure people can feel different. And I encourage everybody to try it, you know, just and of course when you're driving you need to visualize the to put both in there.

It may not work. until we get to the automated autonomous car, but even then, you know, it's so in any case. Yeah. Thank you. Thank you so much. Because it gives a practical flavor to to to really to to this whole understanding.

And maybe we can visit a little bit more about heart rate variability, why it's important in general and how it's disrupted in trauma and how it's benefiting.

It can help our well-being. Before we, go into that, I just like to add on to what you were just saying about heart for the heart focused breathing technique.

And it's, what's so wonderful about it is it's something that you can do anywhere, anytime. Like when you're driving, of course, you keep your hands on the steering wheel, but, you can have your eyes open.

This is something that you can do when you're having an interaction, when you're talking with someone, your loved one, or especially if it's someone that maybe started to trigger you or you're getting a little frustrated, you can just start doing heart focused breathing to help you regulate.

No one else even know you're doing it. So the more you do it, the more often you do it. That's part of that retraining that we were talking about. But it is important to emphasize the lung breathing system is voluntarily.

We can hold our breath for 30s or 60 if we hold that, if we hold our heart breath, the heart movement out, we won't be alive. So we are really connecting with the breath.

We're bringing our awareness into our big pacemaker, and we're allowing the heart to take over and run. And as you said, it's creating a habit. You know, I mean, from a meditation point of view, there is a space like I'm talking to you, but for my perspective, I'm talking to you from my heart because I'm trained for many years.

I hear you in my heart and I think in my heart, and then it's part of a global system. So of course I wasn't. I had a lot of things to peel off. So I have to spend so many decades doing it.

You're offering a very simple technique to connect with it, and that's really that's a game for me. It's a game changer because when you connect with your heart, you connect with flow.

When you get stuck in a thought, you connect with fixation with stuckness. And stuckness is in rhythm and availability. Don't live very well. One next to the other.

So maybe we can a little bit elaborate on how to wait for biblical, because I feel. I feel it's a concept that even cardiologists are looking at again sometime from a materialistic, no heart function point of view.

But it's really a contribution that is his kind of brought the the curiosity of, you know, many people in the medical field. Well, certainly I would say hopefully every cardiologist out there is familiar with heart rate variability.

if not, well, they're probably from another age. The, we don't know what heart rate is, which is simply how many times did the heart beat in a minute.

But in reality, when you look a little bit closer, we find that the heart rate is changing with each and every heartbeat. So what heart rate variability is as we measure that measure very accurately the bumps, you know, the heartbeat, the electrocardiogram.

And then you measure the time interval between each consecutive pair of heartbeat and what you find is that time interval is always varying. It's always different. And that's what's called heart rate variability.

Variability right. It's varying now this amount to this natural or intrinsic variability that we have. It's a very good thing. We want this variability and we have more of it when we're young.

And it actually gets less as we age. And you can think of it as a measure of flexibility. You know, that came up earlier in the conversation. In fact, I would say one of the hallmarks of aging is lack of flexibility, not just physical.

that's kind of obvious, but mental flexibility, emotional flexibility. we, we, you know, it's become less, less and less flexible and less tolerant of change.

And, these types of things. So variability is really kind of the whole system wide measure of that flexibility, our ability to adapt, to, to change, right in the moment or over the long term.

So it's ultimately what creates our heart rhythm. Because if you think about it, if the time between each pair of heartbeats is always the same, heart rate would just be a flat line, it always be the same thing.

So it used to be this, incorrect idea that the heart built up like a metronome, is absolutely the opposite of that. It's always varying up and down. In fact, it's that heart rhythm pattern you can.

Heart rate variability is also what creates our heart rhythm. So we can also use the term heart rhythm. You know, for variability kind of interchangeably.

Once you understand the relationship between the two. And when we're talking about coherence, it's we're looking at the pattern of the heart rhythm. So for example, when we feel frustrated or impatient, you know, or anxious

anger especially that creates when you look at the the plot out the rhythm, what it's actually doing, the beat to beat changes in the heart rate kind of looks like an earthquake plot, you know, it's very chaotic.

And that's what we call an incoherent rhythm. And then if you do something as simple as heart focused breathing, we can shift that incoherent rhythm into a coherent rhythm, which looks like a rolling hills sine wave kind of pattern.

And that's reflecting, the, the inner synchronization within our brain and nervous system.

Social and Global Coherence

So when we're in that incoherent or that chaotic looking rhythm that's reflecting that the neural activity in our brain, the nervous system, is fighting each other.

You know, a good metaphor? I think, for it is like driving your car with one foot on the gas pedal and the other foot on the brake at the same time. Right.

which is a lot of people do when you're first learning to drive. but that's not a good thing, right? We, you know, we and I ask you to ask audiences. Well, why why not?

While you're putting more stress on the car. Yeah. That's true. that's that's also a pretty tricky ride for the passenger or yourself. You know, those around you.

But what people usually don't think about is your gas mileage. When we're in that deep, synchronized or incoherent state, we are using a lot more energy.

So this is why a lot of people just those subtle things throughout the day, you know, those little irks and frustrations and anxieties and worries, are created that incoherence.

And we're not using our energy efficiently. And so that's why so, so many people will say at the end of the day, they just don't have the energy that they would like to have to do the things that they want to do or, so, so many people these days are reporting that they're tired and exhausted, at the end of the day.

So that's one of the biggest benefits of learning, you know, throughout the day to, to maintain our coherence, to make those shifts. ultimately, it's energy management.

I would say enjoying it. I would love to hear from you. But I want to add because really, you're offering so many profound advice, it is almost hidden between the word.

You know, we mentioned resilience and I mentioned the flexibility and the heart rate variability is is really is a measurement of the flexibility that is resilience.

And the interesting thing, like we all are part of this boat is that when we do it on the level of the heart, every other system is affected because of the nourishment, because of the electromagnetic field, because we are just in a different state.

And in this sense, you know, it's it's so fundamental. I think another important thing is that a lot of meditation techniques wants you to sit in a quiet place, in a dark room.

And I've done this before. I before the last, you know, 35, 40 years when I'm doing Buddhist meditation, which is always open eyes, people close their eyes, they create a separation between the meditative state and life and the beauty of practicing like, like Juvenal said, when you when you're driving, you make it part of life because you and it's not you observing life, it becomes part of your life, which is really what's required to allow this variability to do, really penetrate into our body.

And the other thing that just you said, running kind of flowing through it is about aging. So as our body becomes

less flexible, if we are just aging biologically, if we're not doing our inner work, you know, in Kabbalah, they will say the decline, the fixation, you know, in different traditions.

Then we also becoming inflexible in our mind. But if you look at the great masters of different traditions, they become more flexible with their mind, more open minded, because it's part of the recognition that when things get more subtle, obviously our physical body is going to get less flexible, but it's time that we shift our mind and make our minds and hearts actually more flexible.

And that's why, from my perspective, aging is an amazing gift. If we can connect with this quality. I know for myself, I was very disciplined physically, like when I went on retreats and I realized, no, I can't be so, so disciplined that physically I'll get injured.

But I can be disciplined in staying in the flow and being flexible in letting go in, not holding. So in this sense, and maybe during age, related to the spiritual part that you were relating in this sense, what the heart is offering from connecting to our heart is to preserve and develop the flexible part of us that we were born with.

We lost in our journey through to traumas, and now there's a way to really regain it. So during I feel free to jump into this and share what your your thoughts and feelings about it.

Yeah, no, I would just echo, all of the what you guys have, what you have said. you know, I would just add, Daniel, Daniel Siegel talks about the, the, you know, the, the river and the borders of where we run typically, and that when we have experienced trauma, we might run at a, at the edge of rigidity, or we might run around the edge of chaos.

And, and that's often how people experience their life. Either they're in chaos all the time or they're incredibly rigid. And so this, you know, this coherence practice, this hurt math practice, increasing resilience brings us away from those edges of chaos and rigidity and towards that flexibility.

and that's when, you know, bringing it into your life and, and noticing how things are less rigid and less chaotic. People start to notice that, that those are the biggest changes.

So in this sense, if someone is listening has is dealing with trauma and PTSD, which is so prevalent, can you give us an example about how such a person will go about using your tools?

What will be the process, what they can do? Just like what would you do if they were like like walking into your practice? You know? Well, like I said, the first thing that I teach everybody is hard focus, breathing, a self-regulation tool that they can use in the moment and that is one of the gifts of heart mass, is that it's not something you need half an hour for.

You don't need somebody else present for you don't need to be home to have a hot shower or a hot bath. So a lot of us have tools in our tool belt of things we can do to regulate, but they're not at the ready.

And the heart focused breathing is always at the ready. And so it's the first thing that we can do before we do anything else. and so that's, that's the first tool that I, that I give people.

Practical Trauma Tools and Resources

The second thing I do is I recommend that they get an HIV sensor, the Coherence plus from the heart math, website. And there's, a journey that they, you know, when they download the app, the journey walks them through seven days of coherence.

there's different journeys that they can then look at in practicing the heart rate variability, coherence practice every day and bringing that regulation into their system.

and then I recommend people, you know, practice their, you know, their heart focused breathing either in the morning or in the evening whenever things, whatever is more difficult time for them.

If they can spend a few minutes just focusing on the heart and doing their practice, even without the sensor, just to connect into the heart. and so I think if, if people can even do one of those things that, you know, the self-regulation in the moment, the daily practice with our focus, breathing and the coherence practice, one, two or all three of them, those are, you know, excellent ways of bringing that coherence, and connecting to the heart and really making some big shifts in people's lives.

I'm going to ask a question here because, of course, Gina well knows that heart focused breathing is just one of many hard math techniques. And it's the first step because it goes on from there.

But it's where people often have to start, junior to usually go into some of the additional steps and with your patients in later sessions or. Yes. So usually in the second session we start talking about emotions and the depleting emotions and the replenishing emotions.

And you know, resourcing, you know, resourcing clients is something that, you know, any practitioner should be able to do. and so quick coherence is a is a resource that where people do the heart focused breathing and then they can bring in, a feeling of appreciation, care, gratitude.

It can even just be the feeling of, you know, light, you know, shining on your face or, you know, feeling of love that you have for a pet. So these are, again, sort of that second layer of emotional shift that can really shift our whole physiology.

We know that stress increases cortisol and, you know, that it affects our nervous system. And likewise, when we shift our emotions towards a heart quality, that our whole physiology shifts.

And that's a really powerful tool as well. Thanks for pointing that out right. Yeah. Thank you. Yeah. So so I really for for the audience. So there is a, there is the techniques and the approaches and working with yourself, but it's also a tool that helps you to make sure that you that you are synchronized, which is, which is really neat.

You know, it it really does. Okay. Yeah. You can see a physiological change in for people often it's reassuring, you know, that they can actually see with their eyes.

And in this sense the whole biofeedback is ancient as it is now. Right? Rollin is is very powerful. You know, And I would just add too, because, you know, many times when people have experienced trauma, they, they're quite disconnected from their body and they're used to, not being in touch with how they feel and how their body feels.

And so when they do some breathing techniques, they may not be coherent at all. they might feel relaxed, but they don't actually their body isn't relaxed.

And so when they hook up to the heavy sensor and they can actually see and connect with what's happening in their body, you know, that is really helpful because a lot of these people, they just wouldn't be able to connect otherwise to how they're feeling.

Yeah, it's very interesting, if not really for the topic. I'm almost debating if to share it, but the most, most, most esoteric Buddhist meditation techniques emphasize the breathing through the heart.

And actually and all the physiological breathing, people say, oh my God, it's a disaster. You know, you got to breathe deep. You got to focus on your diaphragm.

And so I trained for decades in breathing with the heart, you know, like 24/7. And you get to you have to get used to it. It's a different way of breathing.

And then now with all the research I'm in the last few years I'm experiencing experimenting with other breathing. But for me, it is so refreshing to see that this ancient Himalayan wisdom for millennia actually is is showing, you know, in the hills, in the mountains of Santa Cruz to remember in the Himalayas of Northern California, I do to have values.

So while I'm waiting to really share it with some of my family members who are, you know, ordained in this, in this, in this tradition, so what is the best way for people to reach out to you, to the HeartMath Institute, and to really use this remark, remarkable, simple, but profound tools.

That's really the beauty of it. You know, it's simple, but it actually create something profound. I would say the best way is to go to our website, which is HeartMath.org.

and there's a lot of free resources there. And there's also I'll let Jorina talk about the her her, the course she created for trauma informed, care. that is a awesome resource for people to to be able to take on, on our website as well.

But I would for people who want to get maybe their toe in the water here and really learn about HeartMath I would recommend the book called Heart Intelligence is the name of it.

it's a very good way to get started. It's available on audiobook or print, ebook, whatever people might want. there you, yeah. I think a good place to get started on training Jorina What would you.

Yeah, there's also the HeartMath experience, which is a 90 minute, they teach, I think, four different techniques, and, it's free. and so you can get, you know, a 90 minute video series of, the different techniques and how they work and coherence and experience with them.

you know, we really I think the vision for heart math is really is to, to bring the tools to people. And so however that can happen and even if that means, you know, creating a 90 minute free resource, activating the heart, hearts of people is really is really the goal.

and then if, you know, we also have several courses, so there's courses for coaches, there's coast courses, courses for heart. there's health practitioner course, which is a trauma sensitive heart math certification called the Resilient Heart.

and that is an extensive program, 12 hours of, trauma, sensitive techniques and trauma information. we go over developmental trauma and collective trauma.

and then, you know, a big part of it is working with the caregivers themselves, the practitioners, and having them experience the techniques, having them often, you know, what we're hearing from people taking the course is really healing their own traumas while they're taking the course.

and so there's lots of different ways of, of connecting and, but the first place to start would be, the website. Great. Yeah. Really. Thank you so much for joining me.

I'm, I'm, I'm more than thrilled and grateful and, I really I, you know, the science the research is there Rollin, but the experience is there. The tools that we can actually feel, we can feel in a somatic level.

So I really want to thank you for your remarkable work and really pray that, you know, this expands and touches as many people as possible. So thank you so much for joining me today.

My pleasure. Thanks so much for having us. Really enjoyed chatting with you.