



**How to rewire your brain: neuroplasticity to recover your
mental health and treat cognitive decline
with Dr. Ilene Naomi Rusk**

[The MindHealth360 Show](#)

Episode Transcript

Host: Kirkland Newman

Guest: Dr. Ilene Naomi Rusk

The MindHealth360 Show - Dr. Ilene Naomi Rusk

Dr. Ilene Naomi Rusk:

So bringing the neurology and the psychology together are very, very important for me. It's really a neuroplasticity model that incorporates healing old wounds. That's probably the simplest way to say it. It's a psychotherapy model and a neuroplasticity model, knowing that the brain can change. I think the brain wants to change and maybe that's the spiritual piece. I think we want to heal. I think we're imprinted with all of the necessary apparatus to heal.

Kirkland Newman:

Welcome to the MindHealth360 Show. I'm Kirkland Newman. And if you, your loved ones or clients suffer from mental health issues such as depression, anxiety, insomnia, poor memory, poor attention, mood swings, exhaustion, et cetera. I interview the leading integrative mental health practitioners from around the world to help you understand the root causes of the symptoms, many of which may surprise you and suggest solutions to help you heal. If you like this interview, please do subscribe and forward to others who might find it helpful. If you want further information, please go to www.mindhealth360.com or find us on social media.

Kirkland Newman:

Dr. Ilene Naomi Rusk, Thank you so much for being on the MindHealth360 Show. I really like your approach because one of the things that you do, and I haven't seen done in many places, is you really combine the psycho-spiritual with the biochemical. And in fact, one of the things that you call it is trauma informed functional medicine approach. And I love the way you talk about that. So I'll go back to that. First I want to introduce you, but just wanted to tell our listeners a little bit about you. So you trained as a neuroscientist and neuropsychologist in Canada and the UK, you've authored over 20 research based scientific publications. You're currently the director of an integrative brain health clinic in Colorado that works with patients who want to optimise brain health or those dealing with dementia or brain injuries.

Kirkland Newman:

While training with Neurologist, Dr. Dale Bredesen, in a Functional Medicine Approach to Reversing Cognitive Decline, you developed a team-based approach to integrate functional and personalised medicine with trauma work, to optimise cognitive and psychological health. In addition to your hard sciences background, you've extensively explored the areas of spirituality, mysticism, and mindfulness for over 30 years. So I think we're really in for a treat Dr. Rusk because I think somebody who combines the science and the biochemistry with the psychospiritual aspects to me is gold dust. So I'm really excited to talk to you. And I'd love to hear about your approach, because I know that you have a whole brain health program, which I'd love you to tell us about. And your approach is very specific, really helps people improve and optimise their brain health and recover from cognitive decline. So can you talk us through your approach?

Dr. Ilene Naomi Rusk:

Absolutely. I feel like I want to go back a little bit. I'll go back 35 years, let's say, okay?

Kirkland Newman:

Yep.

Dr. Ilene Naomi Rusk:

I was actually working right up the road from you, Kiki, in Birmingham, in a lab in Birmingham at the university of Birmingham in the Psychology Department doing neuropsychopharmacology work, how drugs act in the brain to affect psychology. And in those days I was so interested in the tiniest of fine molecules that would affect change, that would change behaviour. So I would be getting little packets of drugs from all over the world back to our lab from different pharmaceutical companies. And we'd be testing those tiny little molecules, looking to see how they could affect change, how they could change behaviour. And that was what I would call this silver bullet approach, looking for the tiniest molecule to affect the biggest or most specific change.

Dr. Ilene Naomi Rusk:

And flash forward, I had been so invested in finding treatment strategies for very complex illnesses. I was like a detective. I wanted to find out how we could address Parkinson's disease because I was working on dopamine. I wanted to find out what we could do with Alzheimer's disease or psychological or psychiatric illnesses. And flash forward to 2014, I did work in Canada in the interim as a neuropsychologist, worked in hospitals, prison system actually. And flash to 2014 and, Kiki, there was a paper in the Journal Aging by Dr. Dale Bredesen who had been doing parallel work over the 20 or 30 years at UCLA and the bucket stood on aging and his approach was to look at the many variables, the many factors that might contribute to cognitive change over time and protect, prevent, or reverse. He used the word reverse Alzheimer's. I don't really use that word anymore. I don't use that word. I think we can effect incredible change to protect and prevent and alter the course, but at that point we had absolutely no tools in our toolbox. And now we have more of a looking through a telescope at all of the possibilities for how do we affect change in complex illness. As it's a huge problem.

Kirkland Newman:

It's a huge problem, and it's also interesting. Did you feel discouraged that you weren't finding that silver bullet? I mean, how did you move into what you're doing now? Was it because you were disillusioned by the fact that you couldn't find that silver bullet pill to improve cognition?

Dr. Ilene Naomi Rusk:

So how did I move into what I'm doing now?

Kirkland Newman:

Exactly.

Dr. Ilene Naomi Rusk:

It taps into my approach. And my approach is actually an older and deeper story because my mother had breast cancer when she was 38, 39. I actually specifically remember the moment that I realised strife, sadness, discomfort in her relationship with my dad, by the way they have a beautiful relationship now, those were the root causes.

Kirkland Newman:

Fascinating.

Dr. Ilene Naomi Rusk:

So I had that awareness when I was a teen, that there was something bigger going on and then there was another link. When I was a teenager as well I was in a cabin in Northern Ontario that was struck by lightning and I had electricity through my whole body. I had an out of body experience and then the next few days I hallucinated, that's right. And so that made me aware of the power of first of all, being on this side of life how I realised there was something and some force that kept me on this side of life. And I also realised that it is so scary not to have your mind. So I have so many stories that answer your question around what the precipitating melding of me, knowing there were many deeper things that we think about affect our body, how we feel affects our body. Other people's interaction with us affects our body and our health.

Kirkland Newman:

That's amazing. And so essentially first of all, I think the breast cancer experience, your mother is fine now?

Dr. Ilene Naomi Rusk:

She's so healthy and strong and feisty and a yoga teacher at 83.

Kirkland Newman:

That's incredible, well done.

Dr. Ilene Naomi Rusk:

She found a journey from that, that's right.

Kirkland Newman:

Well, that's often the case. We often find our journeys from our hardships. Right?

Dr. Ilene Naomi Rusk:

So right.

Kirkland Newman:

And then your experience with the lightening, I mean, that's insane. And also it sounds like you had a near death experience and that must have been very powerful. And so taking all of these experiences and the fact that you realise the importance of the psycho-spiritual melded with the biochemical, what is your approach? Because obviously you run this clinic, you work with patients on their brain health and one of the things I love, I mean, I run this website called MindHealth360, it's all about the 360 degrees of mental health. And how do you implement this in your practice? Because you really do. I mean, you walk the walk and so what's your approach?

Dr. Ilene Naomi Rusk:

I'm kind of a stealth. I do it kind of stealthily. I must say that I work with several wonderful trauma therapists and I'm trained in trauma psychotherapy as well. So bringing the neurology and the psychology together are very, very important for me. It's really a neuroplasticity model that incorporates healing old wounds. That's probably the simplest way to say it. It's a psychotherapy model and a neuroplasticity model, knowing that the brain can change. I think the brain wants to change and maybe

that's the spiritual piece. I think we want to heal. I think we're imprinted with all of the necessary apparatus to heal. Whatever that means to you or to the listener, we have it inside. So starting there, I think that's what neuroplasticity is about. We talk about it from Donald Hebb's expression, "Neurons that fire together, wire together." The more we practice a certain pattern, the more we rehearse certain thoughts, the more we feel certain feelings that does become how we act, how we feel, how we behave, how we interact.

Dr. Ilene Naomi Rusk:

So that's the less formal scientific way of describing neuroplasticity, but there's incredible potential when we learn new things, have new experiences and we can do that using all of the pillars of brain health. We can engage neuroplasticity using all of the pillars of brain health. Some of them are trauma healing, but there are some standard ones that several universities around the world are using in Alzheimer's prevention clinics, like sleep, nutrition, exercise, getting to underlying medical root causes. So I said nutrition. And the mental health sleep cognitive training and the mental health piece is very important to me. And that's the way we do it in our clinic using all of those components and pillars of brain health. But we have that extra portion that focuses on healing old wounds, helping people connect with their own nervous systems and get in touch with old thoughts and ways of being that no longer serve, whether they're looking for prevention or they're looking to treat.

Kirkland Newman:

Because this is one of the fascinating things to me is the impact of trauma and adverse childhood experiences on our biochemistry long-term. And so when you say healing old wounds I wonder if that's purely psycho-spiritual wounds or if the actual psychological wounding actually has a biochemical wounding effect on the brain for instance. And so are these wounds purely psycho-spiritual or are they also biochemical? Because I mean, obviously you approach these wounds from a therapeutic approach, but also you restore the biochemistry through lifestyle habits and supplements and things like that. But would you say that is the psycho-spiritual side, very integrated with the biochemical side in the sense that adverse childhood experiences have a very definite biochemical pattern and imprint?

Dr. Ilene Naomi Rusk:

I'm happy that you're talking about that actually, because I wondered if we would speak about ACEs. I'm not an ACEs expert at all, but adverse childhood experiences, do your listeners know about what the ACEs are? Or should I just describe a little bit?

Kirkland Newman:

Yeah, maybe just tell them. That would be great.

Dr. Ilene Naomi Rusk:

I think that's important because everything that happens to us in our childhood leaves an imprint. I am actually of the belief that, that which happens to us before our childhood leaves an imprint too. So I'm not saying this from a psychosphere, wearing a psycho-spiritual hat. I'm saying this from a biological epigenetic perspective. And what happens to us in our childhood leaves physiologic imprints, psychological imprints are physiologic imprints, emotional imprints are biological imprints. Our brain runs on chemistry and electricity. And that's what I did in Birmingham and in Canada for many, many years. So we can alter and create new thoughts with chemistry and electricity, to put it simply, so we can

actually manage our own thinking. We can manage our own chemistry depending upon what thoughts we have, what feelings we have and how often we repeat those. Now I know that's not what you asked me. You asked me about ACEs.

Kirkland Newman:

No, but that's also very interesting because I'm fascinated by that, by the physiological imprint. And I was also always fascinated by this thought of do our thoughts and feelings determine our physiology, or does our physiology determine our thoughts and feelings?

Dr. Ilene Naomi Rusk:

It's both ways.

Kirkland Newman:

It's both, right? Is that correct?

Dr. Ilene Naomi Rusk:

It's totally right.

Kirkland Newman:

Yeah, because we often try and separate the two, psychotherapists work with their patients on a very cognitive level and leave the body behind and non trauma-informed psychotherapy and cognitive therapy. There's often a real separation between the brain and your cognition and your behaviour. So CBT, for instance, cognitive behavioural therapy, is very divorced from the physiology and obviously it impacts the physiology, but that link is not necessarily made explicitly. And I feel that that can be a real hindrance to healing because I think the two are inseparable. And so you have to incorporate the physiology and the physiological impacts of your thoughts, but also the impact of your underlying nervous system and your physiology on your thoughts. We often think, "Oh, well our thinking determines our feelings," but actually maybe the way we feel in our body then impacts our thoughts. And we start to find things to get stressed about or upset about.

Dr. Ilene Naomi Rusk:

That's right. And I think you're speaking to a lot of the new theories in psychophysiology around the communication between mind-body, and body-mind, how the heart sends information to the brain, much more often with more frequency than the brain sends information to the heart. And HeartMath does a really good job at teaching people how to do that simply. There are so many other informational sources that go from our, I always call it south of the neck towards the brain. And so what you're saying is true, the new psychologists are very focused on experiences in the body. And we can moderate those with just something as simple as breath, just as simple as paced breathing, we can inform our body. We can inform our mind using our body. And most of the new body-based psychotherapy, somatic based psychotherapies, speak to how much we can influence the body. And the body does hold the wisdom as Dr. Van der Kolk says, "The body bears the burden."

Kirkland Newman:

100%, and then it's always interesting and in our current medical model, how there is this separation between the body and the mind. And I think in your clinic, what you do is you really incorporate both

sides, all the pillars of brain health. Can you tell us a little bit about this approach to brain health and your brain health program which you implement in your clinic?

Dr. Ilene Naomi Rusk:

Absolutely. The umbrella is it's a neuroplasticity based model and that there are many root causes. And I think that Dr. Bredesen brought us that approach. There are many holes and a leaky roof that need patching. And the psychospiritual piece is one or an umbrella that I look through, but certainly not all practitioners look through, but in our we're very trauma informed. I'm trying to think of a good example of a patient. Let me tell you a little bit about some of the pillars first.

Kirkland Newman:

Yes.

Dr. Ilene Naomi Rusk:

One of the pillars is social connection. And the reason I wanted to talk about social connection now, Kiki, is because we want to honor this pandemic extreme time for people. We want to honour that this is a time where people have experienced great isolation, great disconnection, and these feelings of isolation have impact upon the brain. And one of the things I want to do in speaking to you today is give people a sense of what's gone on in their nervous system, even though it's been different for everyone. And to make people aware of what COVID has done to our minds, our psychology, our psyche, our sense of trust, our sense of connection. Social isolation has been a really huge thing for people. It affects the brain. Social connection is one of the pillars of brain health.

Dr. Ilene Naomi Rusk:

We want to connect with each other because it stimulates so many positive pathways and engages us emotionally. In polyvagal theory, it's the ventral vagus that is our social connection system. So that's a nerve, speaking of mind-body connection, that's connecting mind and body, thought and feeling all the time. When we don't have that social connection, indeed we are deprived. And social isolation is as bad as smoking 15 cigarettes a day, some of the journals show. So social isolation is really impacting our health. It affects the prefrontal cortex, it affects the amygdala. We're losing signaling in the hippocampus. These are regions that you probably know are affected in cognitive decline, especially the hippocampus. The hippocampus is taking a hit during this COVID period because mask wearing also affects regions that allow us normally to get cues from each other, to pick up that micro expression, information that we're constantly assembling and reassembling and interpreting in our brains.

Dr. Ilene Naomi Rusk:

So these regions that are inhibited because of social isolation or social distancing and mask wearing are affecting different parts of the brain. The temporal lobe is very affected with mask wearing as is the hippocampus similar to social isolation. And the reason I'm mentioning that is because I think we need to do everything we can do to engage in a meaningful way. Just the way you and I are now, you're talking about something so important to you. I'm talking about something that's so meaningful to me. How could we encourage people to just dig inside just a little bit, find out what's meaningful to you and connect that way socially? Social media doesn't do that. You know what I'm saying? So that's the invitation here.

Kirkland Newman:

I totally agree. And I think that's so important. It's such an important point to make. And one of the other things I'd love you to do is to talk us through, one of the things I love about Dr. Bredesen's approach is as you say this leaky roof with all the holes in it, and the 38 factors that can contribute to cognitive decline. And you've mentioned one, which is social isolation. If you could take us through the top causes of cognitive decline, or the decline of brain health, what would they be?

Dr. Ilene Naomi Rusk:

That's great. Sleep and lack of sleep is another one. The reason it's interesting to talk about sleep right now is because sleep has changed in the last year. We don't know if many of our lifestyle factors that contribute to cognitive health or decline are going to change for a long time, or they've just changed for this year. My suspicion is that we have a long road ahead of us in terms of healing, the imprints and impact that this year has had. It's really changed our physiology and changed our psychology. And maybe it's changed our spirituality too, I believe it has. But sleep, sleep has changed during COVID. Sleep's always been a very important root cause for healing, preventing cognitive decline. And it's something we can modify and moderate. If we don't sleep well, and we have sleep apnea, we don't get enough oxygenation to our brain. When we sleep, we consolidate information from the day and that's very important for learning.

Dr. Ilene Naomi Rusk:

The things to check on are how well you fall asleep. I'm going to break it down a little bit. How well you fall asleep. These are things I assess in my patients, so I'll share with you. How do you fall asleep? Do you stay asleep? What's the quality between when you fall asleep and when you wake up, when do you wake up and how fresh do you feel in the morning and buoyant, or do you feel like you're in a slumber still? Do you write down your dreams? Are they important to you? Do you like to sleep? What did your parents feel about sleep and how well did they sleep? Because I believe epigenetically, we get this information, I've seen this. Okay. I have a great example of a patient, couldn't sleep, very young patient. She had early cognitive decline and sleep was such a big issue for her. So we started to do a little bit of scratching beneath the surface, it turned out that not only could she not sleep, but in the male lineage of her family, nobody slept. She had accepted this imprint of the male lineage of her family. Her mum slept great. And that side of the family slept really well. So when we did some investigation work and healing work around that, and she dis-identified with the patterns and worries of her father's family, it was interesting her sleep improved. That's just an interesting example, like a little weave in story about how to connect this healing trauma work with a lifestyle pillar, like sleep for brain health, right? Dreaming. COVID dreams have been different. Will they continue to be different? There's something that's been nicknamed corona dreams.

Kirkland Newman:

Well, I was going to ask you about this because you said our sleep has changed during COVID and I'd love to have some specifics, like how has it actually changed? Because I would agree with you personally, but what do you know about the general population in terms of how sleep and dreaming have changed during COVID?

Dr. Ilene Naomi Rusk:

I've just tried a little, it's not my area of expertise, but it's a great area of interest for me. Remembering dreams has increased a lot. I noticed my dreams had changed. Personal disclosure, so I started to research dreams. Remembering dreams has increased by 30 or 40%, that's huge. And some of the speculation is that because we have regular sleep cycles and irregular sleep architecture, often our dreams are happening in the morning. And because of people working at home and staying at home, people are actually not necessarily dreaming more, but maybe they're remembering more because of that extra sleep in the morning. So that's one speculation.

Dr. Ilene Naomi Rusk:

I think that the consciousness of the planet has changed with this global pandemic. So that's an undocumented, unempirical explanation for why people's dreams are changing and why people are remembering their dreams more. People are also trying to figure out. Remember I said, sleep is a time for processing information and integrating the day, integrating memories. I think people are trying it out at night. So the dreaming has changed, people are remembering their dreams more. We rehearse scary things at night to help us with the next day. We know that about dreaming. So maybe people are doing that at night as well with COVID.

Kirkland Newman:

Okay. So the sleep and the social engagement are the two things that are real risk factors for cognitive decline. So lack of social engagement and not enough sleep. What are the other factors that you would want to focus on?

Dr. Ilene Naomi Rusk:

I'm thinking if I finished with sleep, I talked about oxygenation at night. That's an important one. I really think people need to get checked for sleep apnea so that before we finish with sleep, I want your listeners, this is a very treatable condition, sleep apnea. And a lot of people are walking around with sleep apnea and not knowing it. So that's the piece around sleep that I wanted to link in there. Of course, exercise is huge. That's another pillar.

Kirkland Newman:

And coming back to the sleep apnea, because that is interesting, is it because when your brain is starved of oxygen, because you're not breathing properly, what is the impact that, that has on your brain and on your cognition?

Dr. Ilene Naomi Rusk:

Well, the brain needs oxygen and that's why it's one of the simplest and most important reversible causes of cognitive decline. And for some reason it is not always checked. It's something we check in all of our patients either have them to do an at-home sleep study. So you don't have to go to a sleep lab anymore, even though some people will be offered the opportunity to go to a sleep lab and have a full sleep study. It is important and I'm not a sleep doctor, but many patients can do an at-home sleep study. And that's a day or two or three checking oxygen levels at night. And yes, it's oxygen at night. Your brain gets starved of oxygen and our brains do not want to be starved of oxygen. We do everything we can to keep our brains oxygenated, breathing, and breath work something we also often don't do well or pay attention to oxygenates our brain and body and exercise does as well, which is the next thing that we were going to talk about.

Dr. Ilene Naomi Rusk:

Studies show that if you exercise the way it's recommended for brain health, then you have basically a huge prevention strategy that you've already taken. It's so beneficial and I don't think that talking about it enough necessarily moves the needle because people have resistance to exercise. We have old patterning that makes us not want to do things we're not comfortable doing or not used to doing, but exercise induces neurogenesis the growth of new neurons, the growth of new connections and dendrites. We have neural stem cells that are stimulated with exercise. And exercise can be divided into several categories. So some people don't like to do certain types of exercise, but like to do other types of exercise. In our brain health model, based upon the data there's high intensity interval training, there is just aerobic exercise, walking, increasing your heart rate. There's a resistance training, our muscles like to be getting challenging information and they give that challenging information to the brain. Leg strength is associated with brain strength. So this is all data-driven. Leg strength, leg muscles are associated with brain strength, brain size. And don't quote me because it may not be size and volume of the brain, but there's a very strong correlation between leg strength and the health of your brain.

Kirkland Newman:

Are you serious? And what is that due to? Is there any explanation?

Dr. Ilene Naomi Rusk:

Connections. Remember the opportunity for neuroplasticity grows when we are stimulating the main connectors in our periphery to our central nervous system and our legs, with weights or walking or hiking, our leg muscles provide this information to our brain, which actually I think is very motivating and exciting. I've just talked about the strenuous type of exercises. There's data showing that people who do high intensity interval training, and I'm sure many of your listeners know what that is, it's not great for people with moderate to severe dementia. It doesn't necessarily provide benefit, but high intensity interval training is excellent for people, just increasing your heart rate and getting out of breath. That's what we tell our patients. So long as you have medical clearance, getting out of breath several times a day is wonderful. And you don't have to exercise one hour period a day. You can do three shorter periods. You can do bursts. Some of my patients are exercising for 15 minutes, several times a day. It's quite exciting. Now I don't include necessarily Tai-Chi, Qigong. Some of the slower, I don't include them necessarily in exercise, but they are exercise. They're also stress reducing. That whole category, Kiki, allows us to use a quality called interoception. A quality that if we bring interoception to all of our movement, whether we're walking, running, doing weights or doing yoga practice, if we bring awareness back to your conversation around healing the mind, using the body. If we bring the body in, in a still and aware in conscious way, and we get feedback from what's going on in the body and we're doing deeper work.

Kirkland Newman:

Yeah, no, I think that's absolutely true. But I also wonder in terms of actual cognition, because I heard you on one of your podcasts, say that by doing regular exercise, you decrease your risk of dementia by 50%, which is huge. So you speak of all these different types of exercise, but does it have to be a certain type of exercise for it to have that cognitive effect? Is it about the blood circulation and the oxygen to your brain? So for instance, if you say, "Okay, I'm just going to do yoga for a week." Is that not enough? Is it the aerobic part that's actually really beneficial?

Dr. Ilene Naomi Rusk:

I think that the reason a prevention program includes several types of exercise is because we're going to get to the next category, the next pillar of brain health, that links with this exercise, which is challenge, novelty, cognitive stimulation. I used to call it a disorienting dilemma. You have to give your body and mind something that's a little bit disorienting to create that neuroplasticity, to make that firing happen. So it's varying the exercise, it's providing your body and your mind with a little bit of challenge. So yoga is great if you've never done it before. My patients say, "Are crossword puzzles enough?" It's similar to you saying to me, "Would yoga be enough?" It is enough and more would be helpful. Crossword puzzles and yoga, just doing those doesn't optimally benefit neuroplasticity or neural signaling or changing the body to change the mind.

Kirkland Newman:

Is that because you're so used to doing it? So for instance we all have this yoga practice that we just do over and over again. And so the brain doesn't really have to think about it. It goes into autopilot. Is that the problem?

Dr. Ilene Naomi Rusk:

You just said it, the brain doesn't have to think about it. And if we summed up most of what we're talking about today, the brain has to think about it. And that's why I brought in the term disorienting dilemma, because it has to be a little bit of a dilemma, slightly uncomfortable. Do we like discomfort? We don't love discomfort. So wrapping ourselves around the discomfort, noticing what it is, that's the resistance. And again, it could be from old habits, old patterning childhood wounds from ACEs that make us say, "I don't like breathing hard. It brings up feelings that are not comfortable for me." Many patients don't actually like having that feeling of increased respiration. Why? When we increase our respiration, we're creating an arousal response, a sympathetic arousal response. You know this, that could be stimulating a fear response. For me, it might be exercise and invigorating, and for you it might be stimulating something scary.

Kirkland Newman:

So even when you're breathing hard, because you're running or exercise that could actually trigger your fight or flight pathways essentially that are ingrained in you?

Dr. Ilene Naomi Rusk:

Yes, that's right. You asked it beautifully because sympathetic arousal is sympathetic arousal until we attach a belief or a thought or a feeling to it. Just like we say this could either be exciting or stimulating for me to be doing this exercise or "My goodness, this is a fear response. I'm breathing hard and I know this feeling from my past. It makes me nervous." So I have a patient who I'm thinking about. I saw her a while ago and it was very difficult for her to exercise and she wasn't moving and she was afraid to move. And this is very common. Afraid to move because this increase in respiration, this increase in heart rate, made her feel grief. And underneath the grief was old wounding. Until I, or someone else speaks to that grief or speaks to the wounding that's underneath that grief, getting her to push through an increased heart rate and build on that is going to be very difficult. And this is the integrative part of our program that I think is beneficial that I really want to know that other people who are doing this as well.

Kirkland Newman:

Well, I think it's so important. And one of the things that you're making me think of is we all know the importance of self-care, radical self-care, to prevent disease and to maintain and optimise our health. But the problem is when practices of self-care such as breathing and exercise can trigger fear responses that are in our cellular memory then it becomes a lot harder for people who've been traumatised or carrying unresolved traumatic energy to actually engage in self-care practices. Would you say that's correct?

Dr. Ilene Naomi Rusk:

Yes. I think that's exactly right.

Kirkland Newman:

How do you then deal with that? And the other thing I would say also to insert a biochemical component here, I mean, we know that dopamine for instance, is the motivation neurotransmitter. If you're already low in dopamine, surely that's also going to prevent you from wanting to get off the couch and exercise, it'll reduce your motivation. So it's almost like a vicious circle. So how do you encourage people to engage in these self-care practices when they might be biochemically challenged or psycho spiritually challenged? How do you address that?

Dr. Ilene Naomi Rusk:

Slowly. And I think that's the new way of healing actually. I think it's sometimes slower than we realise. It's sometimes getting to those root causes, it's pacing, and it's also very relational. It's very relational. And speaking directly to it, I think is important as well. But it's such a poignant question because it is around feeling the worth to do all these things. So you can't deal with any of the main pillars of brain health because people don't necessarily have the will or the want or the experience taking care of themselves. So that's why I think my healthy brain checkup deals with questions around that. "How motivated are you? How self-sabotaging are you? How much do you care about your own health to make the changes?" Assuming someone's cognitively healthy or they have a caregiver. And so that's why sometimes the healing is first around self-compassion, taking a breath and noticing what it feels like, becoming familiar with self-sabotaging behaviours or resistance to taking away sugar or not eating at night, finding the root cause of those is something that I think is very important.

Kirkland Newman:

I think that's fascinating because there are so many things that one doesn't usually think about. One can prescribe all this lifestyle medicine and say, "Well, you need to eat better and you need to meditate and you need to exercise," but there's such a fundamental issue, which is that we are our own agents. And if we're being hampered by lack of self worth, low dopamine, issues with our sympathetic nervous system where we interpret things like breathing and exercises as threatening, then there's this whole other piece. I mean, it's all very well to know that this is good for us, but then how do we get beyond these barriers to our own healing? And so I think that's a really good point that you raised. Yeah.

Dr. Ilene Naomi Rusk:

Thank you. And when people sit here in our clinic, at least in my office and with our trauma therapists, we are slowing it down. We're not coaching someone to exercise. We're finding out why, what's the why,

what's the resistance to taking care of yourself? And I think that's the unspoken that you're bringing up. Is so valuable.

Kirkland Newman:

That's fantastic. Okay. And then the other pillars. So other things that can precipitate cognitive decline that can contribute to it. So you've mentioned sleep, exercise, lack of social engagement. What are the other key ones?

Dr. Ilene Naomi Rusk:

I think basically it's very important that people have a great physician they're working with, someone who can be checking some of the root causes that are easily modifiable. I'm not saying easily, easily modifiable. In some cases they are though. Polypharmacy, taking too many medications.

Kirkland Newman:

How does that contribute to cognitive decline? Because I have heard that, but what is the mechanism of that?

Dr. Ilene Naomi Rusk:

There are many medications that directly and indirectly affect acetylcholine, an important neurotransmitter for cognition. I'm trying to think of some others that would directly. Often it would just be people who are on too many medications that are not working well and may cause them more fatigue. It may cause them an inability to exercise because their central nervous system is too depressed. If they're on painkillers, their central nervous system is too depressed. So I think it's important to go to someone who understands drug interactions and knows whether or not medicines are affecting cognition or acetylcholine or other neurotransmitter systems working against brain health or healthy emotion.

Dr. Ilene Naomi Rusk:

And something else that's very important is making sure depression is treated. Depression is a prodromal causative, I think causative factor, root cause of cognitive decline.

Kirkland Newman:

Interesting.

Dr. Ilene Naomi Rusk:

It's interesting because depression affects many networks in the brain, but it affects the hippocampus quite directly. And the hippocampus is a very exciting, very tiny part of the brain in that it has the potential to regenerate and have neuroplasticity throughout the lifespan until through our aging. But depression shrinks the hippocampus as does Alzheimer's disease. And I've seen many patients who've had long-term depression before they suddenly broke into a more formal cognitive decline. One of our first patients about six years ago. And of course I have permission, even though I'm not I'm not identifying anyone, these are people I've spoken to who it's totally fine for me to be mentioning the case, just so you know while maintaining confidentiality. But I remember that she had so much grief. She was a very young woman. She had so much grief that never was healed, never was healed. And that's

what she presented with at her first appointment in our clinic. And working with the grief was very helpful to her.

Dr. Ilene Naomi Rusk:

So it turns out that treatments for depression, if they're the right treatments, and that means it might mean psychopharmacologic route, it might mean supplements. I don't do that, but I have functional medicine doctors, psychiatrists, who I work with, who do, and there's some wonderful supplements and mind-body techniques that I'm sure you know about. Trauma release techniques that can show changes after time, cognitive behavioral therapy techniques combined can change the size of the hippocampus. So I'm saying that treatment for depression properly can benefit the brain. And I consider depression a root cause.

Kirkland Newman:

Of Alzheimer's. Is it because of the fact that both are mediated by inflammation? Is it the inflammatory link? The fact that both Alzheimer's and depression are both in some sense, inflammatory diseases? And what is the correlation between depression and dementia? And I know that there's a link between depression and BDNF brain derived neurotrophic factor and nerve growth factor, and the fact that in people who are depressed, there's less of this neuronal growth. Can that be then what's contributing to cognitive decline? I mean, what is the mechanism?

Dr. Ilene Naomi Rusk:

It's a good question. I don't know the mechanism. I know there are many mechanisms and I know a lot starts with gut health.

Kirkland Newman:

Yes.

Dr. Ilene Naomi Rusk:

A lot starts with gut health and that might be the common denominator that links many of those illnesses that cause neuro inflammation because now we're starting to think the brain has its own ability to be inflamed and have an immune system and respond to signals that it's getting from the body. And many of those signals come from the gastrointestinal system.

Kirkland Newman:

Going back to the pillars, the causative factors of cognitive decline. I mean, one of them being depression, which I think is very interesting. And then you mentioned the gut. So what is the relationship between the gut and cognitive decline? I was talking to Professor Emeran Mayer who wrote The Mind-Gut Connection. And it was fascinating because they found these bacteria that can predict the onset of Parkinson's, that are present in the gut 14 years or 15 years before the onset of Parkinsonian symptoms. So there is a strong connection, but it seems that there's still a lack of understanding of the exact mechanism. But in your practice, how do you attend to the gut and the importance of the gut in helping people with their cognitive decline?

Dr. Ilene Naomi Rusk:

I think we'll probably find that there are general mechanisms that are similar in all of the neurodegenerative diseases and one of the mechanisms, and I think you're talking about alpha-synuclein for Parkinson's disease, but if the gut is leaky, if there are junctions in the gut, and that's why I'm saying maybe there might be one model to explain many neurodegenerative diseases. But if the gut is leaky, then things go into the bloodstream that are not normally supposed to go into the bloodstream. Lipopolysaccharides leak into the bloodstream and they might trigger cytokines. So they cross over. And when things get into the bloodstream that aren't supposed to be in the bloodstream, our body has a natural immune reaction to the foreigner. So it could be Lyme, it could be mould, it could be many things that change the permeability of the gut. And then those lipopolysaccharides induce metabolic changes. And those lipopolysaccharides could create sleep issues or depression or anxiety. So we're seeing a common thread here. And that's why functional medicine doctors spend so much time on gut health.

Kirkland Newman:

And what are the key factors that disrupt our gut health and that cause a leaky gut? You mentioned mould and Lyme, presumably stress, but what are the other key factors that you would look for?

Dr. Ilene Naomi Rusk:

That's not my area of expertise, so I don't want to speak to that next question and go in greater detail. Well, I want to say basically for all listeners, gluten for all of us, there's sufficient evidence that gluten is very bad for the gut and increases the junctions, opens up the junctions for extended periods of time, even if you're not celiac. So there are certain common factors. There's mould, there's Lyme. There are many other pathogens that increase permeability, but that might be a section that you don't want to talk to me too much about.

Kirkland Newman:

Fantastic. And so then if we continue along the path of the risk factors for cognitive decline, are there any others that spring to mind that we've not spoken about?

Dr. Ilene Naomi Rusk:

Are you willing to talk about cognitive stimulation?

Kirkland Newman:

Yes.

Dr. Ilene Naomi Rusk:

As a category of its own. And the reason it's so important, it's because we can modify and moderate that in our everyday lives, Kiki, that's something that we have agency over. And that means we need to be doing things for our brain that are challenging, but that we're interested in. So cognitive stimulation does not just mean crossword puzzles as we were saying before, it's more about doing different things, varying our activities. So yes, learning a language, music, listening to music, singing music, we sing to music that we're familiar with or unfamiliar with what does that do? It also stimulates the vagus nerve. So there are many ways, we can hum, we can chant. I'm interested in enhancing life for our patients. So anything you can do that feels like a life enhancement, something that makes you more buoyant, more connected, makes you feel more meaning in life is great to link with a cognitive exercise.

Dr. Ilene Naomi Rusk:

That's why when people say crossword puzzles or Sudoku, they're great challenges, but they might target a specific anatomical region in the brain or a little pathway. So we have to vary it. We have many domains of cognition that most people don't know about. We don't just have memory. We have attention, concentration, we have focus. We have motor skills that we engage when we exercise. It's still considered a cognitive domain in the brain. Sensation, perception, executive functioning, how quickly we process information. How quickly we process information determines our likelihood of getting cognitive decline. So a huge study in the United States, the National Institutes on Aging study called the Active Study, A-C-T-I-V-E showed that maybe eight weeks of regular cognitive stimulation that increased speed of information processing, basically how quickly we think. We rarely think of how quickly we think, but I'm sure you all know that there's some people who think more slowly or more quickly about certain things, but increasing our speed of cognitive processing can be protective. So if everyone knew about that, it would be like everyone would take that medicine if it was in a little pill, but it's effortful, right?

Kirkland Newman:

Yeah.

Dr. Ilene Naomi Rusk:

So those are the cognitive domains I wanted to share with you and with your listeners because it's good to know that there are many we can be working on and I can give you ideas of how to work on them too.

Kirkland Newman:

That would be great. Give us some ideas. And the other thing that occurs to me is some kids are diagnosed with slow processing speed and ADHD, slow processing speed. Should they be worried about getting dementia later on? Are they more likely to?

Dr. Ilene Naomi Rusk:

Oh my goodness, there may be a whole literature on that or there may be none, but because we know from the ACEs study that we are more likely to have any of many chronic illnesses because of adverse childhood experiences, because learned helplessness is something that happens early in those kids. We know that they're going to be at greater risk for immune, auto-immune illnesses, cancer. So I think we need to be much more proactive with our kids. This is really my opinion. We need to be more proactive with our children who have attentional difficulties and who've had trauma and maybe we've all become more trauma aware in this world of COVID, but I think trauma is going to be something that we need to be working on more and more for those children, because any changes in the brain early on or increases in stress responses, which are chronic toxic stress responses makes us much more likely to get other physical illnesses later on in life. So yes, addressing our children is very important.

Kirkland Newman:

Very important.

Dr. Ilene Naomi Rusk:

Really important. We don't want to say that having ADHD young makes us more likely to have Alzheimer's. Too scary a thought, not enough data. But speed of information processing can be trained. So giving the audience, am I allowed to say a product name on the program?

Kirkland Newman:

... Yeah.

Dr. Ilene Naomi Rusk:

Okay. I really like Michael Merzenich's program. When I was training as a neuropsychologist in Canada he was developing these online cognitive programs with a lot of data to support them. In fact, I think they were used in this National Institutes of Aging study. I just mentioned, and BrainHQ-

Kirkland Newman:

BrainHQ, yeah.

Dr. Ilene Naomi Rusk:

... by Posit Science has some very good speed of information processing games. And I'm sure there are many others that are great. That's the one I use because we use it with the Bredesen protocol. But him and I know the data is very, very strong.

Kirkland Newman:

Well, we'll put these in the show notes because I do think these resources are important for people. And I think that's super key. And in your clinic, what do you focus on, what's your program to help people regain their brain essentially and retrain their brain? If somebody comes to you and says, "Look, I'm suffering from cognitive decline." And a lead on question for that is when do we know that something's wrong and that we should come and like we forget names or we forget the words don't come as easily as they used to. Should we be worried about that? Should we seek help and then if we seek help, say we come to you, what then do you do about it?

Dr. Ilene Naomi Rusk:

I'm so happy that you asked that question Kiki. And the reason I'm happy is because I forgot to talk about it and it's key. Before we know what's going on with someone's cognition, just the same way as we don't know what's going on with someone's blood work until we've taken their blood and looked at it, we have to assess their cognition. Neuropsychologists are the people who can do neurocognitive assessments and all of those domains that I was talking about earlier, motor skills, attention and concentration, different types of memory, different types of focus, those are all the skills that get assessed by a neuropsychologist. And we don't know what's going on with someone's cognition until we've sent them to a neuropsychologist to get an assessment. So part of a brain health program, Dr. Bredesen actually calls it a colonoscopy, it's really a series of tests that I think we all should have once we become 50 years old, or if we're noticing cognitive changes. I do not think it's enough to go to your general practitioner and get a very short 15 minute test.

Dr. Ilene Naomi Rusk:

I think that there's too much we can do now preventatively and proactively to wait until we have severe cognitive decline. And unfortunately, many of the patients who come to us have been through a traditional medical model. They're not offering prevention strategies, they're not doing a lot of the lifestyle things that they could be doing to enhance cognition. So I feel like a neuropsychological evaluation gives you data and says, "You know what? This type of memory is good. This type of memory

suffers quite a bit, your speed of information processing is not great. Actually, did you know you have attentional problems? I know that you're 68 years old, but I don't think those attentional problems are Alzheimer's disease. I think you have undiagnosed ADD or ADHD." And guess what? We can specifically test you for ADD and for attentional problems, we might even be able to get you on some supplements or some medicine and some brain training to help focus your attention. And guess what? A great meditation program will be so good for your attentional problems. Let's do a focused meditation program for you where you focus on a mantra, a word, a chant, and maybe that will help your attention too because the literature shows it does.

Dr. Ilene Naomi Rusk:

But first we need to start with getting the data empirically with a neuropsychological evaluation and that's a safe way to go. And often neuroimaging, if there's sufficient cognitive decline to warrant an MRI with volume metrics like neuro quant or neuro reader assessing the volume of different brain regions and that we can track over time. Hopefully it's all normal. Usually we derive data that gives us something to work with, and that starts as a baseline. Then we begin with lifestyle interventions and sending to functional medicine.

Kirkland Newman:

So I was going to ask you that, that was my next question is if you find that there is some mild cognitive decline, are you able to then intervene with your brain health program and reverse things?

Dr. Ilene Naomi Rusk:

Yeah. I never use the word reverse. My ethics are high and I feel like we don't know. It really depends on engagement. So all the factors that we talked about today that inhibit somebody's ability to work for themselves play into it. If they don't want to work on old traumas that make them less kind to themselves, less able to do some of the interventions, if they don't want to change their diet, if they don't want to... I want to talk a little bit about generational trauma, but we'll leave that. But yes, we can do so much. Those are the kinds of patients I think ought to be seeing integrative practitioners now, the mild cognitive impairment or subjective cognitive impairment, those are the formal nomenclatures for having some cognitive decline that no one could really find on any test material, subjective cognitive impairment or mild cognitive impairment, SCI and MCI. Those need to be taken very seriously because the data shows, Kiki, that those people tend to go on to having greater cognitive decline.

Kirkland Newman:

Hmm, Interesting.

Dr. Ilene Naomi Rusk:

So important. I'm so happy you're asking about this. So if you think you have cognitive decline and you worry about cognitive decline and you're very, very negative in your thinking, then we have evidence now from a very recent study, a 2020 study, that persistent and repetitive negative thinking builds amyloid and tau in the brain.

Kirkland Newman:

Wow.

Dr. Ilene Naomi Rusk:

Wow. So this pulls together some of the things that, if we really come full circle, it pulls together so many of the things we're talking about. If we don't heal old wounds, if we continue with old negative patterning, it makes it more difficult to heal as we age.

Kirkland Newman:

Absolutely. I think that's fantastic. And so people with this mild cognitive impairment, I mean, you will then go on and work with them. You have functional medicine doctors. So you work presumably on their nutrition, on their exercise, on their toxicity levels and then on the psychospiritual side. So you work on everything and then to address their brain health and their mental health. And you get great results presumably with that approach.

Dr. Ilene Naomi Rusk:

That's right. It's a neuroplasticity program. We do all of the interventions you and I talked about that our lifestyle. We'll tweak those interventions to a personalised program. They'll see an amazing functional medicine doctor who then checks gut health, hormones, levels of toxicity, metals, candida, fungi. Those are things getting back to the gut health thing, those tie into gut health as well. Other root causes, other than the ones I mentioned, stress is an obvious one, and try to address those things and also look at the medicines that they're on. So the functional medicine doctor will look at all of the medications that the patient's on to see whether or not anything's interfering with cognition directly or indirectly through gut health or blood-brain barrier. Mould, we haven't talked much about mould and Lyme. Those are key root causes. Many people are walking around with Lyme and co-infections and don't know it. That's why I think it's very worthwhile to get assessed early on before you have a lot of cognitive decline, become more brain aware. Keep your brain in mind so that things like mild cognitive changes, you don't brush over. You're saying, "I'm really willing to take a look," be courageous and take a look at that.

Kirkland Newman:

Yeah, that's fantastic.

Dr. Ilene Naomi Rusk:

You asked me questions about the gut brain connection, and I told you that there are things that can create a leaky gut and that lipopolysaccharides leak into the bloodstream and are potent triggers for cytokines. And the way that impacts the brain indirectly or directly, and I don't know if we have enough data now on that, is that a leaky gut is often evidence of a leaky blood brain barrier. So I feel it's important to note that it's possible that Lyme, mould, COVID all of the things that we talk to that lead to increased permeability in the gut can increase permeability in the blood-brain barrier as well.

Kirkland Newman:

Wow! That's fascinating.

Dr. Ilene Naomi Rusk:

I want to mention to your audience that we talk about meditation a lot. We didn't talk about it too much in this interview, Kiki, but we talk about meditation a lot and we talk about it because it has a stabilising force for us emotionally and psycho-spiritually. We also know that it has a very positive impact upon brain health and our stress systems in our body and brain. But what we didn't talk much about that I

want to bring up is this purpose and meaning. Meditation is sometimes an avenue to purpose and meaning. And sometimes that's where self-care starts getting a sense that you're here for a bigger purpose, that everyone here has a sacred reason for being here and to help each person look inside themselves to find their own meaning. Faith doesn't mean religion. It doesn't mean necessarily meditation, but to help people find a sacredness and a purpose and meaning inside is very, very primary, I think. And for anyone to be able to begin that self-care process, that self-compassion, it also has a lot of data showing that it changes nervous system activation and changes the brain when we begin self-compassion, self-kindness. Kristin Neff's work, you might know her work.

Kirkland Newman:

Absolutely.

Dr. Ilene Naomi Rusk:

So I feel like developing a practice, some practice around meditation, prayer, God, everyone uses different words, nature, clouds, whatever you look at or look to and can spend some time with some concentrated devoted time with anything that you can repeat that is meaningful and sacred to you like prayer, like meditation is very good for the brain. And in our next talk, I'll share with you some of the God and the brain data, but it's important to bring up having that spiritual life is really good for your brain as well.

Kirkland Newman:

I think that's really important. And also that sense of purpose and meaning. It's interesting because two of the most searched for pages in my website, MindHealth360 are about purpose and meaning. And I think there's this thirst to find a sense of purpose and meaning because intuitively people understand how important this is for our health and for our brain health. And I think your idea to meditate in order to find that stillness, which can then help us find a sense of purpose and meaning is really an important point. So thank you for that.

Dr. Ilene Naomi Rusk:

You're welcome. I think it does something else. I think it connects us with ourselves. Maybe the continuous soul journey that we're all on. For those of us who use that language or our life's purpose, if we use that language. It also connects us with each other in a very important and sacred way to create even a deeper sense of meaning and purpose.

Kirkland Newman:

Yes, completely. That makes total sense. And if people want to work with you, just tell us what your website is. This will be in the show notes, but for the listeners who are not...

Dr. Ilene Naomi Rusk:

Oh, sure. Ilenenaomirusk.com. I-L-E-N-E N-A-O-M-I R-U-S-K.com. Healthybrain.clinic. Those are our two websites and I would welcome... I do consultations all over the world with people. My most recent one was in New Zealand a few weeks ago. So I'd love to do consults with anyone who wants guidance. Often I will find people, people in their areas, which I think is really important. It's good to have a provider in your own area, even though I'll do consults all over the world. So I provide resources like that. And I do a healthy brain checkup, which is important. It's about an hour and a half to two hour consult. And it

covers all of these topics. And patients leave with a plan. They leave with a plan that they can implement as much as they want to. They can work with another provider if they want, but it's a great neuroplasticity plan. So that's another idea for people.

Kirkland Newman:

I love that you call it the neuroplasticity plan. I mean, you can improve your neuroplasticity. It's wonderful.

Dr. Ilene Naomi Rusk:

I think so.

Kirkland Newman:

And just one thing before I let you go: the mould and the Lyme that you mentioned, why are they so bad for your cognition? Is it an inflammatory mechanism?

Dr. Ilene Naomi Rusk:

It goes back to what we were talking about, the cascade, an inflammatory cascade and inflammation. Whether it's targeting whole brain or particular regions, neuroinflammation is a very big problem right now. And I really want to get the word out for people to start to think that way around neuroinflammation and develop the vocabulary to be asking about it, asking their practitioners about it and taking a deeper dive into it. "What root causes might be going on inside of me that I can address?" And as you know not many providers are necessarily mould aware or Lyme aware or heavy metal aware or stress aware for that matter. So it's important to find the right provider who understands, while continuing to work with a solid and understanding general practitioner who can support you with your medical needs.

Kirkland Newman:

Yeah, I think that's fantastic. Well, Dr. Ilene Naomi Rusk, you've been incredible and so wonderful and so thoughtful. And I could talk to you for hours, just giving us a sense of this and I'm sure people will go to your website and you're just a phenomenal resource. So thank you for all the work that you do.

Dr. Ilene Naomi Rusk:

Thank you, Kiki, for all the work that you do to get this information out to people who really need it and are going to be more empowered by the work you're doing. So thank you.

Kirkland Newman:

Thank you.

Kirkland Newman:

Thank you so much for listening to the MindHealth360 Show. I hope that we've helped you realise that mental health symptoms have root causes that can and need to be addressed in order to sustainably heal. And have given you some ideas about steps you, your loved ones or clients may take to start their healing journey. Please share this interview with anyone you think may find it helpful, and don't forget to subscribe, to keep up to date with our latest interviews on integrative mental health. If you want further information, please go to www.mindhealth360.com or find us on social media. This information is for

The MindHealth360 Show - Dr. Ilene Naomi Rusk

educational purposes only and is not intended to diagnose or treat any disease or to replace medical advice. Please always consult your healthcare practitioner before discontinuing any medication or implementing any changes in your diet, lifestyle, or supplement program.