Introduction to Psychology and Cognitive Decline

Welcome to the Reverse Alzheimer's Summit. I'm absolutely thrilled to have Doctor Brant core right here with me today. He is going to break down these connections between depression, anxiety and dementia.

We know we can't completely unwind them, but he really makes a case for why, if we're not taking care of our mental health, we're only focusing on the physical.

We're really leaving half of the potential benefit on the table. Talk to your quit rate as a licensed clinical psychologist, professor, and bestselling author.

His recent book, Functional Psychology for anxiety, depression, and Cognitive Decline, integrates the principles of functional medicine, diet, and nutrition with psychology.

His previous book, The Neurogenesis Diet and Lifestyle, was an international bestseller. He practices psychotherapy coaching and does consultations from his office in San Francisco and via zoom.

He's available at Brant Cortright, Brant c o r t rig ht.com and this book, The Neurogenesis, diet and Lifestyle is the one that I'm most familiar with, and I recommend it to absolutely anyone who has an interest in preventing or reversing cognitive decline.

It is foundational for understanding the mechanisms, the science of why these things work, and also very practical and laying out how to do it. Doctor Cartwright, welcome.

I'm happy to be here. Heather. So let's dive in to why the psychology is so important to cognitive function. Yeah. Good place to start. So I think beginning with the sense that we are multidimensional beings is where we need to start, right?

We exist on different levels of consciousness physically, emotionally, mentally, spiritually. We exist. And all these claims, these are different vibrations or different frequencies, different levels of consciousness that all get integrated into the brain and into the self.

So cognitively, intellectually we know certain things. We are self-reflective. We have language. We need a certain kind of mental food to develop mentally.

Same emotionally. Emotions give us information about the world that we don't get any other way. They motivate us. Everything we do comes out of a feeling.

If our feelings are blunted, our sense of aliveness is blunted.

Stress, Isolation, and Hippocampal Damage

Physically, we have a brain. We have a body. We exist at this sensory motor neural level. And spiritually also. Right. The world spiritual traditions are unanimous in saying that we are fundamentally a spirit, a soul, a spiritual being.

At core. So the brain integrates all of these. And another way of talking about it is that we have a psyche and a brain, right? So the psyche, mind, emotions, senses, spirit, and we have a brain and there's a split in the health professions, mostly when either medicine focuses on the brain or psychology focused on the psyche.

But the two don't really talk to each other very much. And it seems to me that only really a holistic approach, one

that involves both sides of this conversation, are going to be helpful here, because Alzheimer's is dementia.

Mental health, for that matter, is a psycho physical process. We are psychophysical beings. So I think that's the place to start that we need to involve both sides of this equation, because neither one can be reduced to the other.

We have a self, a psyche, and we have a brain. They actually aren't separate. That's one whole being that we are. But we have these two dimensions. And the psyche we can talk about is mind.

Emotions, spirit as well. So we live, I think, in an environment that is incredibly polluted, that is incredibly toxic. I don't think most people appreciate just how toxic the environment is that we live in.

You know, like that old story about the frogs in, water that slowly boils and they just sit there and they eventually get boiled. They get used to it.

We've gotten used to an increasingly toxic environment over these past 50 years that is unlike anything we've ever seen before. So rates of anxiety and depression and Alzheimer's and dementia in general have skyrocketed in the last 50 years.

And I want to clarify here that you mean like chemical toxins, heavy metals, maybe mycotoxins, chemical toxins, not just like the toxic sort of polarization and the political climate or the kind of toxicity of what we see on social media or in the news. No.

Meaning both, meaning both that there is an emotional toxicity that exists right now that has never existed before. There is a kind of mental toxicity that also exists.

There is a spiritual vacuum that exists now there. So it's it's both this dimension as well. And it is physical. And so when I think of what we need to do to grow and get us to develop a strong self and brain, I think both in terms of we need to avoid toxins, we need to avoid physical toxins, neurotoxins, and we need to avoid emotional, mental, spiritual neurotoxins.

And we need proper nutrition. We need to be fed, engaged, stimulated, mentally, emotionally, physically, spiritually. All of these ways. So we suffer both from toxicity and from malnutrition.

Right. Spiritual malnutrition, mental malnutrition, emotional malnutrition. When we don't get certain emotional nutrients, that has a big impact on our brain as well as how we feel, you know, with something like Alzheimer's, which is a physical process that can be measured, we often tend to neglect the psychological dimension of it and to think that it's purely physical.

Well, there are a lot of physical causes, no doubt. And I think that that is really important. But there is also a really important psychological dimension as well.

You know, the whole field of psycho neuro immunology has really opened up just how profound our emotional state is on our physical state. Stress, for example, chronic stress, which probably most people experience to some degree is profoundly neurotoxic.

It's when we get chronic, when we get chronic stress.

Relationships, Emotional Nourishment, and Self-Care

It really the the chemicals that come into our system, cortisol, a number of chemicals like that, that has an effect on our hormonal system. It has an effect in creating diabetes and insulin resistance.

It creates, inflammation. And we know that inflammation is behind most of the major chronic illnesses cancer, heart disease, Alzheimer's. High levels of go ahead.

But there is so many components of this toxic environment that directly impact cell function in the brain. And and then, you know, to add on top of that, this recent history around Covid, where then everyone is isolated from each other and there's, the toxicity of fear right around being exposed to this virus.

I'd love for you to kind of put this in that context. Okay, good, good. Because we're suffering not only from a, an epidemic of and a pandemic of, of Covid, but also a fear, right?

In some ways, fear may even be more toxic than the Covid that has been washing through this society. The world. So what happens when we isolate? Boy, this has huge impact on our brain functioning.

So one of the drivers of stress is loneliness. People who don't have contact have high levels of cortisol, high levels of anxiety, and the self begins to fragment.

If we right. The self is relational, fundamentally relational. And if we don't have contact with people or a very limited contact, the self begins to fragment its fragments along its fault lines.

So we experience shame. We experience anxiety. Early wounds get activated. The self begins to really shake and as a result, we get high levels of stress hormones.

Now when that happens, we get I mean, I talked about insulin sensitivity, changing hormone levels, osteoporosis. It causes heart disease. Just stress.

Well, they do experiments with monkeys when they put them in high levels of stress. And many of them do have heart attacks before they can even finish the experiment.

Had a big impact on heart health, but also brings about depression, anxiety, and cognitive decline because high levels of stress actually are neurotoxic, actually can kill cells in the hippocampus.

And the hippocampus is really important for regulating, particularly anxiety and depression, and has a big impact on cognitive function, because the hippocampus is where a motor where memory is processed.

It's not where memory is stored, but where new memories are processed. And so when the hippocampus begins to go, new memories start being able to be formed.

And the bottom drops out of the self. Right. Memory undergirds the whole sense of self. It undergirds executive function. Being able to do several things hold several things in our mind at once.

It undergo it undergirds much of our functioning. So high levels of stress can actually reduce your hippocampus by one quarter by 25%. That's like saying, you know, you only have three of the four chambers of your heart.

I mean, that's that's huge. So and I want to caregivers I want to underscore that for all the caregivers who are listening here because caring for someone with dementia particularly, I mean, this is orders of magnitude higher in terms of stress when that, patient with dementia has Lewy body or frontotemporal dementia.

But just caring for somebody who is losing their mind is highly, highly stressful. And making sure that we're doing prioritizing the self-care right. Putting your own oxygen mask on first, not serving, not trying to serve from an empty vessel, but really taking care of ourselves.

Not unless it really isn't like the most profoundly unselfish way. Right? Because we have to do that in order to care for someone else. And so just hearing what you're saying, like that impact, that physical impact of atrophy in the, in the memory processing center of our brain that happens when we're under stress.

We need to be cognizant of that. We need to be aware and just that that is foundational, right. The stress is not good for us. So then I want to know what do we do about it?

Right. We all experience stressors. How do we cope or coping even the goal. How do we make sure that this doesn't have that impact? Great question. Can I just say a couple more of the things it causes?

Because, yes, we've just touched the tip of the iceberg here in terms of the impact of stress on the brain and on our emotional functioning. So cortisol and the glucocorticoids that go along with that, they not only kill the cells of the hippocampus, but they kill some of the cells in the hippocampus that regulate glucocorticoid.

Right. That glucocorticoid levels. Excuse me. So when the glucocorticoid levels get out of control and start killing off the hippocampus, the very mechanism that supposed to regulate, that spins out of control even more, and they get higher and higher and higher, Depression and anxiety also come directly as a result of this.

One thing that we need as relational beings, we are constantly reading each other emotionally in a big way. That we read each other emotionally is through facial expression.

We are always telegraphing each other what we are feeling and picking up from other people. And so when we're masked, it adds a level of anxiety to what is happening because we can't really interpret what's going on.

When kids are told in school, if you don't do this right, you're going to take Covid home and you're going to kill your parents. Can you imagine what an impact that has on children?

This Covid thing has been so enormous in its emotional impact and on the stress levels of everybody. So just just a threat to more of those. It has been huge.

And we not only get it just through Covid, but, you know, the news, right? You turn on the news and the music. It's just it's designed to elicit an adrenaline response.

And I think that the business model of the internet and as the news media dictates that the more eyeballs you can get, the better. And the easiest way to get that is through fear, through generating fear.

It's almost like the business model of generating fear is enormously successful, and it is creating an environment on the internet, in the media, in the world around us that is keeping this fear epidemic going more and more and more.

Now there's there's a physical dimension to this too, but there's an important psychological dimension, which is how do we get out of this? How do we not become dependent on our phones or zoom calls for contact with people?

Right. One thing is we need to have real contact that is nourishing, that is emotionally satisfying, that is loving. Right. It's it's quite clear that certain types of relationships, we need relationships actual in the room, in personal relationships, but not just any relationships.

We need those that are emotionally nourishing because if the relationship is fear driven, if we're in a relationship with a bully, if there's anger involved, this simply creates more stress.

Spiritual Practice, Mindfulness, and Neuroplasticity

People who are on the bottom of the economic hierarchy experience a lot more stress than those at the top of the hierarchy. And so issues of equity come all it come into this as well.

How do we organize our society in a way that makes stress a little bit more equitably distributed? That's a big question, but there's a lot that we can do personally in lieu of that before this society changes occur.

So one of the biggest things is making sure you've got nourish plenty of good, nourishing, supportive relationships in your life. People who really see you for who you are, who value you, who love you, who affirm you, where you don't have to put on an act in some way, where you can just let it all hang out.

We need numerous relationships like that. Most people also thrive in some kind of a romantic, intimate relationship as well. Family relationships. Fantastic.

If they are not abusive, if they are genuinely, nourishing. Because we also know that toxic relationships create exactly the opposite. We also need, Mental stimulation.

That is not overstimulation, right? Part of the problem with the internet, with looking at our phones all the time, is that we are bombarded with so much information that we're not really absorbing it.

It's just sort of washing over us. And that also creates a kind of stress when we are overstimulated, like the brain and the self need optimal engagement.

Too little stimulation or too much stimulation raises these glucocorticoid levels, and that is a disaster for the brain and for cognitive functioning.

So we really need this multi-pronged approach. We need to physically support the brain through diet, through exercise or getting enough sleep. We need to emotionally support the brain through getting adequate emotional nourishment.

And and that means also not just relationships, but also having a relationship with our self, with our own deeper psyche, our own deeper self. Therapy can be really helpful for that.

Journaling can be really good for that. A certain amount of time alone for most people is also important to really just tune into yourself, to sort of connect to yourself in a deeper way.

We need optimal mental engagement, which means really lifelong learning, right? We need to not just get stimulated all the time by reading the news, but we need to be learning new things, learning new skills, engaging the brain in many different ways.

Reading, writing, learning new things, going to new places. Taking a different way home. And physically also being in nature, being in not just, a sealed room.

Nature has been shown to be just a walk in. Nature has been shown to reduce stress really significantly. Glucocorticoid levels go down like that. If you can be, if you're in a city, if you can take a walk in a park, if you can have some plants around, if you can look at the sky.

Helpful, very helpful and stimulating to the brain. So we need this kind of optimal stimuli. If we have too little stimulation, like if we're in a you know, one reason that, solitary confinement is so damaging is because the person doesn't get mental stimulation or emotional stimulation and people go insane with that.

People can go absolutely insane with too much, solitary confinement. If you are confined to a bed or confined to a hospital room, then having the internet, having a certain amount of stimulation like that, of course, is important.

But even there too much TV watching, meaning over three hours a day and there is a noticeable drop in cognitive function at that point. TV really does run your brain.

Hit us, hit us? Yeah, yeah. I really appreciated how you sort of pulled back into this meta crisis conversation, because dementia almost feels like a very clear symptom of that, right?

Society is set up basically to create more dementia and that's what we've seen. We're poisoning the water. And so we have toxins in our brain. We're polluting the conversation sphere.

And we're I isolating people where the, the food systems, like where we get the majority of the food in the US, it comes through these mono cracks and through, you know, highly polluting, big egg and all of the cow, the farms and, you know, highly concentrated single animal farms that don't support the animals and really don't support the

people eating them on the other side. Right.

So when we and then the government systems right, there's not a safety net for seniors who are struggling with with cognitive decline if they don't have plenty of financial resources and so when we when we look at all of these pieces that play into why those struggling with cognitive decline as they age are, we're just like, set up to fail, which it sounds, it's so depressing.

And I don't want to get too stuck on that because there's so much hope in what you offer in this really comprehensive way of approach, you know, by putting the mind, body and spirit back together and then you have a clear path forward and really simple things like getting out and outside in nature.

These are, yes, about healing ourselves, but also they start this ripple effect right when you can maintain your cognitive function, when you can retain that as you age at the height of your wisdom and experience, then now you have more to give back to finding solutions to this meta crisis.

And so and also just in engaging and in eating a healthy diet and getting outside and having plants in your house that has a ripple effect to your neighbors.

And and out into society. When we sort of reject that, we're going to spend our days on Facebook or or binging on Netflix. All of a sudden that starts to be part of the solution to a bigger problem.

So I just wanted to sort of come back to that, because I think it's so important to the conversation, is that all of this fits into the bigger whole. Yeah, that very good.

I think that's absolutely right. And when we talk about changing the whole societal structure that the whole world structure in some way is a big part of what it comes down to is how am I and my relationship with the people in my life, right?

How am I in my daily relationships, to my physical world, to my emotional world, to my mental world? And as you say, that then begins to ripple out to the larger world around us.

I can be working for societal change, but if I'm a jerk in my relationships with my family, what am I changing? Not much. Probably. So what are what are your first steps to showing up in a in a positive, healing way with others?

I'd love some insights I think of off the top of my head. I wasn't really prepared to go this way in the conversation, but off the top of my head, things like curious is like really looking to understand the other person's point of view, even when it's different from your own.

Looking to understand their experience. And I think avoiding like just advice giving and and always talking about yourself. Right. Because we think about you mentioned not being in toxic relationships, but that kind of is there's this one direction, right.

There's there's toxicity or abuse coming at you. But how can we take some responsibility and show up in relationships so that we're not the toxic one?

Great question. It's like, how do I become a nourishing person? Right? And you've hit on some of it. A big part of it is empathy. And empathy is being able to really get what another person is feeling and experiencing to really grasp their experience more deeply.

And that's what we all want, right? We all want. We all need to be seen. We all need to be heard, and we all need to be affirmed. Have our self affirmed.

And if we don't get enough of that and almost nobody does, then we begin to fragment. The self begins to get shaky. And so that's right. Having a kind of heart centered, open hearted relationship with people who we really can trust, we can trust being vulnerable around.

We can trust having an open heart around. And we can freely love. We can freely admire them, appreciate them, see what they're all about. Right. It's like what nourishes a plant?

Well, sunlight, water, nutrients, attention. For people, it's a tension. What nourishes a relationship is full presence. When I really show up emotionally, mentally, curiosity wise, when I show up sincerely, I'm really taking them in.

I'm really there. I'm really present. I'm not glancing down at my phone half the time. And spiritually, when we have a deep presence, when we're connected with our loving center inside, when we bring that into relationship, we have a lot to offer because we are then really present for the other person and we're responsive.

We can sense our own reactions, we can share those, and we can really kind of get where the other person is and meet them there. Yeah, I want more of that.

I think most humans do. And this is maybe the role for a therapist or a coach, right? Somebody who's trained in being there so that we can be reminded what that feels like.

If that's been absent in other relationships, many relationships become transactional, right? That someone who works for you or someone you know, it's the the teller at the checkout, right, that they're doing something for you, or, you know, you're doing something for someone else and getting paid for it, right?

So many of our relationships become transactional, whereas what you're describing is really just about being together. Yeah. That's right, that's right.

And I think that a therapy relationship can be an initial step into that, where you can begin to feel safe, you can begin to really feel some of this stuff.

But a therapy, a relationship isn't a whole thing because it's still a one way relationship, really. It's still focused on the person, and the therapist themselves isn't sharing in the same way that a friend would, or a lover would, right?

Because it needs to be a back and forth exchange.

Diet, Blood Sugar, and Brain Health

But to have someone at least really be there for me, I begin to see, oh yeah, this is what it's like, and I can begin to then bring that into my relationships.

Yeah, I can begin to have a model for that. Yeah. So I want to jump back into a few of the, unless you have other psychological factors that you want to dive into, because I want to, you know, we're kind of going back and forth between this tension of, like, the psyche and the physical body.

And so we want to hold both and we have a ton of great experts talking, you know, on the reverse Alzheimer's Summit about the diet, about exercise, about the physical space.

And so you really you really I think, exemplify the, the expertise and the and the, the integration of them. But your, your focus, I think certainly the psychology has been a big part of your practice long term.

And so I want to make sure that we have a complete conversation about that. Yeah. Yeah. Well, I would bring in the spiritual dimension because there are a number of spiritual practices which have been shown to have quite a profound impact on the brain and on cognitive functioning.

So, the two major types of spiritual practices that have had an impact are heart opening practices and mindful ness practices. So. These come out of the two great spiritual traditions of the world, which are traditions of the personal divine and traditions of the impersonal divine right.

Much of the West has been influenced by traditions of the personal divine Christianity, Judaism, Islam, also the

Bhakti traditions of India. Much of the East has been influenced by traditions of the impersonal divine right, Buddhism, Daoism, Invita.

So in traditions of the impersonal divine, the divine is seen as this vast impersonal consciousness, such non existence, consciousness, bliss, pure emptiness, the emptiness that contains everything.

And we are that fundamentally and in traditions of the personal divine, the divine is seen as this infinite person of being, not just being itself, but a being.

And we exist, as a portion of that divine being, a soul, a unique, individuated soul that exists in a relationship of love to this divine being. Divine being is imaged in the West primarily in masculine terms.

In the East. Its image is masculine, feminine, masculine and feminine. At the same time, neither both, but as a being. So the traditions of the personal divine tend to focus on heart opening practices.

Because the soul is often seen as existing deep in the heart, actually behind the heart chakra. On some of these traditions, on an inner plane, not not a physical plane can't open up the heart and see it.

But, the interplay and spiritual practices tend to focus on opening the heart and calling on the divine for union and using love, devotion, gratitude, appreciation.

These practices open the heart, and as the heart opens, the soul begins to come forward. This luminous center of love begins to open, and that those practices have a profound effect on the brain.

In some ways this makes perfect sense. When we are loving, our brain is functioning better, when we're not loving, when we're afraid, or when we're angry when we're stressed.

The brain doesn't operate as well. I mean, it's interesting that science has really shown that the insights of the spiritual traditions are are true, that we are, that optimal health involves loving states of peace.

So heart opening practices such as devotional prayer, compassion practices, practices that focus on the heart and seek to direct it directly, open it through aspiration, love, surrender, but also mindfulness practices.

Because the traditions of the impersonal divine tend to focus more on mindfulness practices. Both traditions really have both, but they tend to see the other is more preliminary. So the impersonal divine sees heart opening practices as preliminary to mindfulness, because you can only be as mindful as you are hurtful as your heart is open, right?

So mindfulness practices involve concentration practices or open awareness practices. So concentrate on practices are things like focusing on the breath, just tuning in to the subtle sensations of the breath in the belly, for example, closing your eyes and just tuning more and more into these subtle sensations.

Doing that for 20 to 30 minutes a day, twice a day over eight weeks, brings about measurable brain changes. It increases the neurogenic rate after only eight weeks.

They were shocked when they discovered this. They thought it would take years eight weeks will do it. So concentration practices such as that, or focusing on, say, listening to sounds or some other sense.

The other is open awareness practices where you are simply aware of whatever arises in consciousness. Watching thoughts arise and pass away, watching feelings arise and pass away, watching sensations arise and pass away.

And as that happens, the noise begins to settle down. We first of all see how noisy it is, see our monkey mind, and then it begins to settle down. We become more and more awake, more and more tuned into this present moment.

These practices also have been shown to have measurable impacts on the brain. After a very short period of time.

They're also life enhancing, right? Because we want to be more in the present.

We want to be more loving. These are wonderful practices for everybody, but they have been shown by neuroscientists now to positively impact brain health, to increase cognition, to increase empathy, to increase our feeling for other people.

So I think these are also just important practices apart from psychotherapy, right? We also most people, pretty much everybody in this world is wounded to some degree.

Right? You're not born in this world and you don't get it. The best we can hope for is minimal wounding. But most people have some degree of wounding, so healing that healing kind of those early wounds and the defenses that protect us from them and the fear that holds those defenses in place, that also is important for reducing the general level of stress, the general level of fear, and for opening the heart, opening the outer heart.

Right. Spiritual practice open this inner heart, this inner chakra, this inner dimension. But psychotherapy opens this outer heart of emotions, ordinary heart of emotion.

And so psychotherapy and spiritual practice work in complementary ways. I think spiritual practice opens the heart and directly through love, through compassion, through dis identifying with negative emotions.

In many of these traditions, psychotherapy on their hand, on the other hand, opens the heart by seeing how it's closed and by going into those contractions around the heart and by going into the negative feelings that so constrict the hearts possibility.

Right? When we, the old expression of you can't go higher than you can go low holds here, that if I can't go into my pain, I also am limited in how high I can go, the joy I can feel as we go into our pain.

And being the healer, we open up the whole range of our heart's capacity to feel. And as that happens, we open to relationship in a whole other way. So the two together a spiritual practice for opening the heart and the psychological practice for opening this, this closed, defensively contracted part of the heart.

I think they are both really helpful for becoming a nourishing person and for nourishing ourselves. I'm curious your thoughts on neuroplasticity here, right.

And and even going into the realm of psychedelics. Okay, so when I, I think of them as almost a catalyst to get into those places as heart opening places, but they're also associated with their plasticity and being in that space of, of awareness of presence is also associated with neuroplasticity.

And just to define that, that is when we are creating new connections between the neurons and the neurogenesis in the title of your book is then creating, kind of adding all of these things together and actually creating new cells.

So, you know, so many times when we're talking about dementia, we're talking about the degradation rate, the breakdown of connection, the breakdown that, you know, atrophy of the hippocampus and so the breakdown of parts of the brain and that there's less and less and less.

And what we're oriented towards when we're doing these types of heart opening practices, getting psychotherapy, meditating regularly, and maybe potentially the science will show you, using the catalyst of psychedelics, we can start orienting in the direction of neurogenesis and neuroplasticity, growing new connections and new brain cells.

Exactly right. Exactly right. That the synaptic genesis or creating new connections, neuroplasticity and neurogenesis, creating new brain cells is our neurogenic rate and our neurogenic rate.

When it's high, we feel good, we feel alive. We feel mostly positive feelings. And if we feeling something negative, we're able to bounce back pretty quickly.

We have high cognitive functioning when our neurogenic rate slows and goes down, then we get all of these symptoms. In Alzheimer's and dementia, the neurogenic rate goes way down.

Actually, the hippocampus is dying at that point. In anxiety and depression, the neurogenic rate goes way down. And so we want to increase this neurogenic rate.

And these meditation practices, we do this these therapeutic healing practices do this. Having positive nourishing relationships does this having optimal mental stimulation does this.

And there's this other side of the physical side exercise, particularly aerobic exercise. Also weight training. There is sleep. We need to get a good night's sleep because when we reduce sleep we slow the neurogenic rate down.

And diet. Diet is hugely important and in the recent book I talk about the four what I consider the four pillars of optimal brain health the optimal brain diet.

And these are it's neurogenic, ketogenic, anti-inflammatory, and gut friendly. And I think if you can hit all four of those, your brain is going to be firing on all cylinders.

So what's for dinner? Tell tell us that we need. So let me describe each of these. And they become pretty clear I think. So neurogenic. There are certain nutrients that increase our neurogenic rate quite dramatically.

There are other things that decrease our neurogenic rate quite dramatically. Deep fried foods, sugar decrease quite dramatically. Healthy fats, moderate protein, good.

Things like curcumin or turmeric, green tea, apple Jenin. Luteal. And has separate in there are a number of polyphenols which are very, very healthful blueberries.

Omega three is again probably the most important nutrient for anybody to take. A low omega three diet produces monkeys with very simple brains. A high omega three diet produces monkeys with very complex, richly differentiated brains, almost like humans.

Everybody needs a good amount of healthy, meaning non oxidized, and non polluted with mercury, Omega threes. Every day. So that's neurogenic. Ketogenic.

One of the biggest problems as we age is insulin resistance. Almost everybody develops it. And it's a kind of carbohydrate intolerance. And with gluten intolerance we don't need gluten.

The lactose intolerance we don't need lactose the carbohydrate intolerance. We need to reduce our carbohydrates in order to regain insulin sensitivity.

The hemoglobin A1, c a snapshot of our insulin levels over the last three months. The higher that is, the more rapid the rate of cognitive decline. Anything over 5.05.1 you are on a descending path, a rapidly descending path of cognitive decline.

And just for people who are listening, who have seen their hemoglobin A1, C lately and your doctor told you it's normal, your doctor is not going to flag that until it's about five points.

Seven. So what you're saying is that it below you really want to aim to have that below 5.15.0. Yes. Exactly. Right. Exactly right. Almost no physicians will spot this for you.

You need to do this. Take responsibility for this yourself. That's right. And maybe a fasting glucose from my understanding, is around you, but you want to aim for as 85 or below, so that you're not having any of the damage being done from too much excess blood sugar.

And again, that is not going to get flagged on a test until it's at 100. Yeah, yeah. Good point. Goodbye. Thanks for

saying that. Yes, yes. Okay. So the diet doesn't need to be ketogenic unless you have high blood sugar, which most people do.

80% of the population of America has some degree of insulin resistance. The standard American diet is a recipe for dementia, for anxiety, for depression.

The third one is anti-inflammatory. The American diet is a highly inflammatory diet. High amount of linoleic acid, seed oils, carbohydrates, simple carbohydrates like sugar.

It's a disaster for the brain. A high sugar diet will cut your neurogenic rate by 50%. So again, deep fried foods, highly inflammatory. The seed oils, highly inflammatory.

Most commercial meat, highly inflammatory grass fed meat. Now that is that is anti-inflammatory. Wild caught fish, anti-inflammatory. Pastured eggs, anti-inflammatory.

So we need healthy fats, not doing unhealthy fats, low amounts of carbohydrate unless we're young and our insulin levels are, you know, easily managed.

But again, for most people limiting carbohydrates is probably going to be important. And moderate protein, if you're older or if you're in sports probably a little more protein.

Again, getting older, you want to maintain muscle mass because frailty is one of the big problems that you will know. And then the last is gut friendly because our gut health is hugely important not only for our immune system, but for brain health as well.

So I know there'll be other people talking about this in greater detail. Glyphosate, for example, which is an antibiotic and wipes out the microbiome, also opens the tight junctions of the intestines, which lets in even small food particles all sorts of toxic stuff, which then creates inflammation, which also triggers opening up the blood brain barrier, also letting in toxins, creating inflammation, oxidation.

So eating organically is probably the single most important thing anybody can do to increase their brain health, increase their overall health. So. I want to connect the dots between one of the things, well, a lot of what we've been talking about here, but you mentioned blood sugar and insulin and how it can be very stressful to be on that blood sugar.

Right. And we've already talked about how stress can be so impactful, negatively impact on the brain. And so often by being on this blood sugar right, where you have low blood sugar, and then you have something like a Coke or a bag of chips or very, simple carbohydrates, ice cream or a candy bar or whatever it is.

And then your blood sugar spikes, and then it drops again, and then it spikes again, and then it drops and that alone is highly stressful. And so, and then what you just discussed around glyphosate and toxins in our food, that it's almost it's another stressor that we're putting into the body.

And at a very simple level, you know, this is complex, but at a very simple level, the idea is that in our body, in this organism, or even in every cell, what we want to do is keep the the crap out, keep the junk out and put good stuff in.

And that's what I hear you describing. Yeah. Yeah. That, that that's a good summary of it. Keep the junk out and put good stuff in. That's exactly what we want to do.

That's right, that's right. So it really needs to be nourished.

Testing, Inflammation, and Closing Thoughts

And it needs nutrients that actually nourish the brain rather than, interfere with the brain's functioning and the

standard American diet. Again, the incentive structure for big egg and for organized commercial food industry is to make food that is cheap, that is tasty.

But health doesn't appear on the on that metric. You can sell a lot more things if you're selling it with sugar and with cheap bad fats and that the tongue just goes for those things.

So we've American society has really stumbled into this, and all of Western societies really stumbled into this innocently. And we're only now really realizing the incredibly powerful impacts is having on our brains, on our environment, on the body.

Glyphosate, the most heavily used herbicide in the world, 300 million pounds of it in the United States. Every year it's in the air. It's in the dust of the Midwest, in the South, in the Central Valley, in California, it's in the rain.

So it's not just in the food. If you're an environment where there's a lot of heavy agriculture that's not organic, it's not good for your health. For those who are interested, Doctor Stephanie is, on this, on the reverse Alzheimer's summit.

So head on over to her talk, and you can take an even deeper dive into that. And we also talk a bit about how to avoid it. But certainly eating organic is step number one.

Whenever possible. Yeah. That's great. You're having her on. She's fabulous. She's contributed a ton. So these key elements of the diet. So like, what did you have for dinner last night?

I had some pulled pork from pastured pork. I had some asparagus, and I had some walk fried veggies that were non low carb veggies. Onions. Broccoli, spinach, mushrooms, bell peppers.

A couple other things like that. Yeah. So we had let's see if my, my meal passes the test. We did have quinoa which has some carbs and then I don't I'm curious how you feel about that.

Maybe it goes into one category of the diet but not the other. And then with grass fed beef, we basically put, a tomato sauce like almost you would do with spaghetti, but a, a grass fed beef with a bunch of veggies in it.

We sauteed spinach and threw that in there. Lots of spices. And then just put that sauce on top of the quinoa. And we also had asparagus on the side. So how are we doing that sounds really good.

The quinoa, I think just depends on your hemoglobin C and how you handle and how many other carbs you had during the day. You know, it all adds up. I think it's hard to say unless you really know the person's blood sugar levels.

And, that's really the key, to, you know, maybe you I know mine. Yeah. Yeah, I, I usually end up right around 87, so it could be my blood sugar. And then my C is 5.10. You're doing great.

You're good. So it's fine. You know what really helped me was a continuous glucose monitor. That was when I got control of it, because I realized, I, I would drink my, oat milk with my matcha in the morning.

Right. I'm getting my green tea in the morning, but my, the oat milk in it would spike my blood sugar. And so I noticed a few things that were spiking my blood sugar that were unexpected.

And I was able to get rid of those kombucha, which I kind of knew, but I really couldn't deny it anymore once I had that continuous glucose monitor on.

And so it happened afterwards. So that was really, really helpful. Do you have any other hacks or tricks, that people can use at home to establish what where their blood sugar is and, and how to get all of this done?

I think testing is the only way to really see, either you can do a blood test, get an insulin monitor yourself. Or you

can get a continuous one like you have.

That's ideal. And certainly the hemoglobin A1. C hugely important. Also, I think the, high sensitivity C-reactive protein is a really important marker of inflammation, general inflammatory marker.

And, if you are over 1.0 for a woman and 0.5 for a man, you want to get that down as soon as possible, because inflammation is this low killer. You just choose up the inside, your blood vessels, creating heart disease.

It's bad for every organ in your body. Chronic chronic inflammation, maybe looking at infections and potentially as well, because that sometimes we see that driving up inflammation over time.

If you're not aware of a dental infection or some other self infection. Yeah. This is so exciting. Doctor Carter, thank you so much for your time and just the thoughtfulness that you put into your books and your how you present.

It's just always a pleasure. I always learn so much. I'm always inspired by you and just really, really grateful for your time. I know you are still currently taking patients who we talked about.

You might be going in the direction of retirement, but we're lucky enough that you're not there yet. And so people can find you at Brandt, Puerto Rico.

And you are available for online coaching and consultations. Is that right? Yeah. That's right, that's right. And where can people buy your books? Amazon. Claire.

The easiest place to get them. That works. All right. Well, again, such a pleasure. Thank you so much for joining us. It's been my pleasure. Thank you. Heather.