

# Functional Neurology And Stroke Recovery - Dr. Lauren Brindisi

Lauren Brindisi is a doctor of chiropractic and with her sister Dr. Dana Brindisi they run the Carolina Functional Neurology Centre help people from all walks of life discover the root cause of their symptoms.

Socials:

<https://carolinafnc.com>

[https://www.instagram.com/carolina\\_functional\\_neurology](https://www.instagram.com/carolina_functional_neurology)

Highlights:

1:21 Dr. Lauren Brindisi

02:19 Functional Neurology

08:47 The Things To Ask Your Doctor

13:57 Early Stroke Intervention

17:49 Words Can Change One's Neurology

27:20 Neuron Theory 101

33:28 Salt Intake

39:41 Levels of Anxiety

48:10 Thyroid Functions

54:27 More About Thyroid

1:05:20 Be A Health Advocate

Transcription:

Bill Gasiamis 0:00

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Bill Gasiamis 0:16

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his heart rate dropped, his cortisol levels dropped, the stiffness in his body changed, it became more fluid and more flexible.

Bill Gasiamis 0:34

And he was able to pick up that toilet roll within a minute, and then place it in down and get a result right. It was me intervening and finding another pathway to getting a result. And most people missed that the OTs and the PTs they saw that outcome, but they didn't grasp the gravity of what Ivan had just accomplished in a matter of 60 seconds.

Intro 1:01

This is the recovery after stroke podcast with Bill Gasiamis, helping you navigate recovery after stroke.

Bill Gasiamis 1:14

Lauren Brindisi, welcome to the podcast.

Dr. Brindisi 1:18

Hi, thank you so much for having me. Happy to be here.

## **Dr. Lauren Brindisi**

Bill Gasiamis 1:21

Happy to have you here. Thank you for being here. Well, I won't be the one who tells everybody what you do, but I love what you do. So tell me a little bit about your background and your qualifications and what you do.

Dr. Brindisi 1:36

Yeah, so my doctorate is in chiropractic. But my postdoctoral training is in clinical neuroscience. So most of what I do in my office is work with patients with a variety of neurological conditions. And we actually do brain based rehab. I'm a functional neurologist. So you want me to explain more about that and what we do in our office?

Bill Gasiamis 2:05

Yeah, functional neurology is such a new word. I'm not sure I've ever heard of it before I came across your Instagram page. So I'm wondering what that is how it became to be a thing?

# Functional Neurology - Dr. Lauren Brindisi



Dr. Brindisi 2:19

Yeah, so functional neurology, a lot of people, you know, more and more are starting to be familiar with functional health care, like functional medicine. This falls in that category. But we're actually analyzing and assessing someone's neurology.

Dr. Brindisi 2:40

So right, you go get an MRI, we're really looking at a picture of somebody's brain, that doesn't really tell us all that's going on, we see a lot of patients whose MRIs come back, totally normal. And so we want to do things, and we use in our office, a variety of diagnostics that actually look and evaluate the function of somebody's brain.

Dr. Brindisi 3:04

So what we can do is utilize, you know, there's no one definitive tool that's going to allow us to do that, and obtain objective information. So we'll use you know, bedside or traditional neurological exam, we understand in traditional neurology, what areas of the brain we're assessing when we're actually doing those different tests.

Dr. Brindisi 3:28

For example, like this is a test for the frontal lobes, or asking someone to do this is a test for the cerebellum. And we can start breaking that down in a whole bunch of detail. So one tool that we have in our offices that is really helpful, is we

use something called Video Oculography, where we actually put patients in goggles that have infrared cameras in them.

Dr. Brindisi 3:56

And it allows us to measure and quantify somebody's eye movements. Now, diagnostically, we can use eye movements to assess pretty much all different areas of the brain. I mean, I have books and books that tie of just the neurology of eye movements.

Dr. Brindisi 4:15

So in clinical neuroscience, we're really starting to break this information down in a lot more detail in terms of understanding the connectivity of the brain, and what that means for someone's function. So in our offices, we have a couple other diagnostics that we use, we will run something called computerized assessment of postural systems.

Dr. Brindisi 4:42

So patients stand on a plate that has a computer in it, and it actually allows us to measure and quantify their balance. And both of these diagnostics are really helpful for you know, patients across the neurological spectrum. But with stroke patients we can start breaking down what's going on in their nervous system in a whole bunch of detail that you're not otherwise getting just by looking at an MRI.

Dr. Brindisi 5:10

But this tool will just test balance in different ways. So we'll look with eyes open will look with the eyes closed, we actually put patients on a squishy foam pad, we also look with their eyes open and their eyes closed. And then we start isolating different brain regions by actually having them turn their head and close their eyes, and see how their brain adjusts to that.

Dr. Brindisi 5:34

So for example, we might have patients who turn their head to the right, and they're pretty stable, but they might turn their head to the left and totally fall over. And this gives us a ton of different pieces of information about the regions of the brain that actually allow us to stand and right our balance.

Dr. Brindisi 5:54

And there's not just one area that does that. And so that's where our training and clinical neuroscience comes in, is how do we analyze this information and

understand the pathways in the brain. So we can start triangulating basically where the primary areas of dysfunction are.

Dr. Brindisi 6:14

Now with a stroke, there is some benefit to you know, the MRI, which the information comes back on an MRI, when someone has a stroke, that's more of an ablative lesion. So we can actually see it on imaging. So it's easier for us to triangulate where that area of dysfunction is.

Dr. Brindisi 6:35

But the reality is, there's usually some downstream other consequences to function of the brain, that you're otherwise not picking up on the MRI. So we can start analyzing all these brain regions to say, what is the overall vitality of that area, and then what else is functioning really good, or what else could be functioning better?

Dr. Brindisi 7:01

And then we want to devise a treatment plan that is in the form of mostly in a neurological rehab method to actually optimize those brain regions to help people's nervous system function better. So we know the idea of neuroplasticity, which is the brain's ability to change and adapt based on our environment.

Dr. Brindisi 7:26

And we now understand and it's well accepted in the scientific community that neuroplasticity exists, and that it happens throughout our lives. So when somebody has had an injury to their brain, stroke, concussion, there's a whole bunch of you know, we see chemical brain injuries, we see people get developed different conditions, after having infections, like we're seeing that a lot with COVID, now people are developing neurological issues.

Dr. Brindisi 7:57

We can start to, in a very targeted fashion, actually change their brain function for the better by doing different treatment methods to actually exercise and activate those areas. The way I say to patients all the time is, it is kind of like you go to the gym, and you're exercising your muscles, and they get bigger and stronger and more defined.

Dr. Brindisi 8:22

We can do that for the brain. And we can allow neuroplasticity and healing in a

positive direction to actually get better connections within the neurons in these brain regions. And what we start to see is one objectively, we're going to catch that their brain's functioning better. And if we see it objectively, that translates as people start feeling better.

## The Things To Ask Your Doctor



Bill Gasiamis 8:47

Well, there's so much to unpack there. I just love all the things that you said, I'm going to go back a little bit and see if I can take the conversation a little bit deeper. So one of the biggest challenges that I found was lack of information for me. And also, that's what we get from a lot of people who contact me, after they've listened to a podcast episode that they like, or one that they relate to, they'll say something like, you know, they go, what do I speak to my doctors about?

Bill Gasiamis 9:19

Or what do I ask them? Or what do I do and first point of contact, usually the neurologist is not doing too much of the other conversations, they're just doing that. This is what happened. This is what you're left with. This is what you have to recover from go and do a little bit of this and gamble, a little bit of that type of conversations, which are really important.

Bill Gasiamis 9:41

But one of the but one of the challenges with that is that it's up to the person who's experienced the stroke whose head is not functioning properly, to be the

creative one and find all these new pathways to potentially solve the riddle of their own brain. And the challenge with that is, is that often if you start down the wrong path.

Bill Gasiamis 10:06

You could spend a lot of time doing something and putting a lot of investment effort time energy into, for example, PT, but then not having that focused attention to the specific part of the brain that we need to be accessing, and then also not being aware that what you're doing, although it's helping one other part of the body may not be helping the part that we want to improve and get better.

Bill Gasiamis 10:36

So I love this idea of really honing in and targeting the part of the brain that's most going to require the resources that we've got the limited resources that we've got to allocate to rehabilitations I love that. And then a lot of people as a result of not knowing what to ask their neurologist that they often miss the opportunity to get information out of that particular meeting from them that's going to benefit them.

Bill Gasiamis 11:14

So you don't know what you don't know. So if you don't know what question to ask, you won't get an answer to something that you need to know about. So in your role, where do you come in into the diagnostic part of the process? So everybody goes through the hospital, then they end up at a neurologists office, then they do a follow up there probably a couple of times, they do PT, OT and all that kind of stuff. Where do you get involved in that type of conversation?

Dr. Brindisi 11:46

Yeah, so that is an ever changing and growing situation, functional neurologist, and just the profession of functional neurology is very new. And there are not a ton of us around the world that actually do this type of stuff. And some of the things we're doing are very progressive.

Dr. Brindisi 12:07

When you actually look at and break down some of the research in terms of understanding interventions for post-stroke rehab, the sooner the better. So those things like PT, and OT, and I did a presentation on this a while back for a conference. Everything, there's a little bit of politics involved, of course, and a lot

of big hospital systems, if they're cutting, you know, budgets and things like that, a lot of what I was reading about is what gets taken away are things like the PT and the OT, that are so vital, especially right away after a stroke.

Dr. Brindisi 12:52

Professor Carrick who is really the father of functional neurology did a really substantial study, several years back, where the patients, they had a middle cerebral artery infarction, one group was given standard medical treatment in the hospital. This is only 48 hours after these patients had strokes, the other group was given standard medical treatment, plus very targeted eye movement therapies for the area of their brain, which basically which side was the stroke on.

Dr. Brindisi 13:29

And he actually did show some substantial evidence of improved functionality of that area of the brain, just by adding these simple eye movements for patients just three times a day while they were in the hospital. So this stuff is happening, and we're growing in our understanding of it. It just takes time for that to then start trickling down right into the main stream.

## **Early Stroke Intervention**

Dr. Brindisi 13:57

And that's why, you know, I'm so grateful for people like you putting the extra effort to get the information out there now, instead of waiting, you know, years for these things become more mainstream. But the reality is, if you've had a stroke intervention, as soon as possible is going to be your best bet, not only to improve the functionality of just your brain overall, but actually those brain regions that have been damaged.

Dr. Brindisi 14:31

And we now understand that there is possibilities. I mean, there's a lot of factors that contribute to this. But although it's an ablative lesion, and we usually say with a blade of lesions, you know, you've killed the nucleus and the, the body of the neuron that we wouldn't really be getting that information back.

Dr. Brindisi 14:51

But now I understand that's not totally true that there are in some cases possibilities of neuro-regeneration. And so that Earlier the intervention, the



better. And everything that we do as functional neurologist is very complementary to some of these other methods. And the reality is, I hope one day, this becomes mainstream in terms of, we're also that addition that people are getting immediately after their stroke.

Dr. Brindisi 15:22

Because the analogy we always talk about is, someone has a stroke, and maybe they have like a spastic arm, right? Did the spastic arm cause the stroke? Or did the stroke cause the spastic arm? Right? So it's the area of the brain that had damage to it that is now affecting the mobility of their arm.

Dr. Brindisi 15:44

Right? So not only will we want to do things from maybe a physical therapy perspective, to move the arm and massage it, and improve strength, you know, there's a whole list of things that traditionally will be done, or with OT, how do we, you know, with your level of functionality, how do we help you understand what you can do?

Dr. Brindisi 16:08

Maybe with those limitations to, you know, change your habits and still be able to function and do your activities of daily living? But how do we use other methods such as eye movements, like I talked about, to actually activate those brain regions, right, this arm is not very vital.

Dr. Brindisi 16:30

So usually what happens is patients don't have good awareness of where their arm is. So moving it around, if you don't know where your arm is, we're just in gaining a pathway of not knowing where your arm is, right?

Bill Gasiamis 16:45

Negative Neuroplasticity.

Dr. Brindisi 16:45

Yeah, in some cases, it could be much more beneficial if we target those brain regions with eye movement therapies, this tubular rehabs, maybe other somatosensory activation, before we do like motor tasks. So there's a lot of things there's mirror therapy. Have you heard of mirror therapy?

Dr. Brindisi 16:47

That's pretty popular in the stroke recovery field.

Dr. Brindisi 16:50

Yeah and, I mean, that's where we see it the most. And we use it in a whole bunch of ways.

Bill Gasiamis 17:19

So what you're saying is, that's what mirror therapy does, it activates a different pathway of approaching the solution to getting the function back in that limb. So what you're doing is you're going through the eyes, and I've done my own research study on this, my whole research study involved one person who was in rehabilitation with me in therapy when I was just out of surgery, and I had to learn how to walk again.

## **Words Can Change One's Neurology**

Bill Gasiamis 17:48

And I've spoken about this, and there's a presentation about it, if anyone wants to get a hold of it, just reach out to me, and I'll send it to them. And I talk about a guy called Ivan who it's not his real name, who was hemiplegic. And he had to pick up a toilet roll. And it was empty, it didn't have any toilet paper on and hold it that way and then move it over to the other side of his body and place it down without dropping it.

Bill Gasiamis 18:19

And he was really frustrated because he couldn't do it. His arm, of course, wasn't moving correctly. The hand wasn't opening and closing correctly, either. And he was getting really frustrated he was calling it a bastard he was calling his hand a bastard. And you could see he was tense and frustrated and angry.

Bill Gasiamis 18:41

So because I'm a bit of a coach, I'm not a lot of a coach. But back then, because I was curious and seeing it from a coaching perspective. I just said to him, Ivan, what would happen? If your hand moved, what would your hand be? If it's not a bastard what would it be? He said it would be my friend.

Bill Gasiamis 18:59

So what I said to him was Okay, call it your friend. Now and pretend that it has already done what you want call your friend now and see what happens. So what I

didn't realize that was happening was as soon as he changed his his word, his neurology changed, his physiology changed, his blood pressure dropped, his heart rate dropped, his cortisol levels dropped, the stiffness in his body changed, it became more fluid and more flexible.

Intro 19:28

If you've had a stroke, and you're in recovery. You'll know what a scary and confusing time it can be, you're likely to have a lot of questions going through your mind. Like now long will it take to recover? Will I actually recover? What things should I avoid in case I make matters worse, and doctors will explain things that obviously, you've never had a stroke before. You probably don't know what questions to ask.

Intro 19:53

If this is you, you may be missing out on doing things that could help speed up your recovery. If you're finding yourself in that situation. Stop worrying and head to [recoveryafterstroke.com](http://recoveryafterstroke.com) where you can download a guide that will help you. It's called seven questions to ask your doctor about your stroke.

Intro 20:12

These seven questions are the ones Bill wished he'd asked when he was recovering from a stroke. They'll not only help you better understand your condition, they'll help you take a more active role in your recovery. Head to the website now, [recoveryafterstroke.com](http://recoveryafterstroke.com) and download the guide. It's free.

Bill Gasiamis 20:30

Hello and welcome to recovery after stroke a podcast full of answers advice and practical tools for stroke survivors to help you take back your life after a stroke and build a stronger future. I'm your host three times stroke survivor Bill Gasiamis.

Bill Gasiamis 20:46

After my life was turned upside down, and I went from being an active father to being stuck in hospital, I knew if I wanted to get back to the life I love before my recovery was up to me. After years of researching and discovering I'll learn how to heal my brain and rebuild a healthier, happier life than I ever dreamed possible.

Bill Gasiamis 21:04

And now I've made it my mission to empower other stroke survivors like you to recover faster, achieve your goals and take back the freedom you deserve. If you enjoy this episode and want more resources, accessible training, and hands on support, check out my recovery after stroke membership community created especially for stroke survivors and caregivers.

Bill Gasiamis 21:25

This is your clear pathway to transform your symptoms, reduce your anxiety and navigate your journey to recovery with confidence, head to [recoveryafterstroke.com](http://recoveryafterstroke.com) to find out more after this episode. But for now let's dive right into today's show.

Bill Gasiamis 21:42

This is episode 167. And my guest today is Lauren Brindisi, who is a Doctor of Chiropractic and is a practicing functional neurologist working with people from all walks of life who are facing the challenges of a brain injury.

Bill Gasiamis 22:04

And he was able to pick up that toilet roll within a minute, and then place it down and get a result right. And that was me not realizing completely how interesting that was at the time. It was me intervening and finding another pathway to getting a result. And most people missed it the OTAs and PTs they saw that outcome. But they didn't grasp the gravity of what Ivan had just accomplished in the matter of 60 seconds.

Dr. Brindisi 22:37

Yeah, that's functional neurology right there. That's functional neurology for sure. So I talk to patients about this all the time I go, look on life, or what you tell yourself every day in your head, that's a motor output that changes your brain just like moving your arm is.

Dr. Brindisi 22:59

So you can make substantial change. And you've showed it. And it sounds like there's probably some, like, what I would call like feed forward feedback, if for a copy situation going on there. In terms of like his motor coordination, or motor planning, where just changing his viewpoint on how his arm moves, actually changed his ability to move his arm.

Dr. Brindisi 23:31

So there's a lot of pathways, intricately circuits in the brain that don't lead to like a motor output, but their motor planning. So that involves aspects of the frontal lobes and the cerebellum. And for us to be able to do that. And that's something that we use to so the mirror therapy is great.

Dr. Brindisi 23:52

Because if you don't have mobility, and you don't know where this arm is, but your other one works great, then you just use the mirror, right? Mirror setup, someone's looking in the mirror, and then they're actively moving, you know, the right hand, but when they look in the mirror, it looks like their left hand.

Dr. Brindisi 24:12

So studies have shown right we put people in an fMRI, and look at what areas of the brain are being activated when they do that. And it's actually the other side. So it's the side of the brain that represents the arm that you can't move. And so that's huge, but even that sometimes if that is challenging for people, kind of the mechanisms that you applied that you're like you said, you weren't really sure what you were using.

Dr. Brindisi 24:40

And we use that too. Sometimes I might do more of like an imaginary method. So close your eyes and imagine that you're picking up that cup with your left hand and that is going to fire the same pathways as you actually doing it. And so on. As we can use that those feedback loops through the frontal lobe and cerebellum to start firing up those pathways, and what we'll usually see is like kind of like you said, the arm.

Dr. Brindisi 25:12

First and foremost, you can't have a spastic arm, if you want to move it, so we want things to loosen up, because when they loosen up, then we can start using different like somatosensory methods to remap where your brain views your arm.

Dr. Brindisi 25:30

And when you from a sensory perspective, know where your arm is, it's gonna be a lot easier to move it. So more direct stimulation to the arm, like massaging and actively telling someone to pick something up, is going to become a lot easier and more efficient when we've ingrained in appropriate pathway first.

Bill Gasiamis 25:57

So my time in rehab was interesting. I was there to rehabilitate myself, but I was doing much more than that, right. So when I was waiting for the first two or three days, so what they did is they assessed me. And before they gave me the go ahead to go into the PT room or the OT room, I was laying in my bed, imagining myself walking again, that's exactly what I was doing, because I knew that I was firing off the same pathway.

Bill Gasiamis 26:26

So when I got to be on the floor, learning how to walk again, for the first time, it wasn't foreign to my brain, it was less scary that I had done some preliminary work already. And I was just duplicating what I'd learned by physically doing it. What I taught my brain by physically doing it.

Bill Gasiamis 26:44

So that was a really amazing experience, and I'm glad that you said that. And then what I also realized as you were chatting was that breathing is going to be really important in this process as well, because if people are holding their breath, or they're not breathing thoroughly or properly, they are creating that tension and causing a lack of blood flow, and lack of oxygenation, they're doing all these things. And that's surely going to impact the brain where it's healing and where it's rewiring, but also then the ability for the hand to optimally move, for example.

## **Neuron Theory 101 - Dr. Lauren Brindisi**

Dr. Brindisi 27:20

Yeah, so you're saying all the things that we talked about in clinical neuroscience, step one, and when we look at like, just neuron theory 101. The brain needs three really important things to thrive, or just neurons in general need three important things to thrive.

Dr. Brindisi 27:40

They need oxygen, they need nutrients, I mean, usually glucose, like ketones and stimulation. So when people are doing these therapies, we need to understand what's going on with their autonomic nervous system, which controls things like your heart rate, and your blood pressure and your breathing and your digestion, your sleep wake cycles and blood flow.

Dr. Brindisi 28:06

Okay? It controls constriction and dilation of the blood vessels. So that you get those oxygen and nutrients to your brain. Because when you're going to stimulate the brain, the more you stimulate something, for example, if I go move my left arm around, I not only need to shunt a little more blood to this left arm, but I need to shunt blood up against gravity to the area of my brain that represents my arm.

Dr. Brindisi 28:33

So it is always vital from a clinical neuroscience rehab perspective, that we are understanding what's going on with his patients autonomic system, because a therapy that could be beneficial for them could not be if you're exceeding what's called their metabolic capacity.

Dr. Brindisi 28:55

So just basically their threshold or tolerance for an activity. And the window into that is assessing their autonomic system. So blood pressure, my go up heart rate is the best one that we look at. We're always monitoring with a pulse ox, what's going on with some buddies heart rate when we're doing therapy. The other difference is their position and they're playing with gravity.

Dr. Brindisi 29:19

So they might not be able to tolerate sitting or standing is making their heart rate jump all over, which is our sign that it's exceeding what they can handle. We might do this same therapy for a while with them lying down.

Dr. Brindisi 29:34

Or if you go on to our social media, and you see us doing a lot of stuff on a tilt table, and we work with a lot of patients who have disorders of their autonomic nervous system is it's all about basically reintegrating that position.

Dr. Brindisi 29:51

So we might put patients on a tilt table and start therapy line down, but slowly and incrementally bring them on up from zero to 90, and we'll do all of our therapy on an angle. So we make sure we're not exceeding the metabolic capacity. And that's a huge difference in terms of really the finesse.

Dr. Brindisi 30:13

And I think the art that comes into just rehab in general, is something might not work for someone, but it might not be because it isn't going to work, it just might be about a timing thing, or understanding what's going on with their autonomies.

And making sure it's in a window they can handle.

Dr. Brindisi 30:33

So for example, I might do some gaze stabilization exercises with someone, so they might just stare at a dot and turn their head side to side. Well, the first day, they might only be able to do one of those, but we'll slowly incrementally increase that until, you know, they're looking at five different dots doing, you know, five to 10 of those without any problem.

Dr. Brindisi 30:58

But if we would have thrown them in the deep end, and just had them generically do all the dots and 10 reps, it probably wouldn't be helpful for that. So you see past the same treatment, but the quantity really matters and the timing in which people handle that. And that's exactly what you're calling out right now. So I love that. Because that is a huge piece of this puzzle for people when it comes to neuro rehab.

Bill Gasiamis 31:27

I love it. I love it. So for anyone listening, and they want to know what the key takeaway is, from that bit of discussion we just had, the key takeaway is get on the Google machine and Google autonomic nervous system and get familiar with it, understand what it does a little bit and how you can access it and leverage it to support your brain health, definitely do that.

Bill Gasiamis 31:55

And also, the other takeaway is definitely going to be about how, if you're doing an exercise, because your PT or OT thought was a great idea, but it's putting you in a stressful state and you're not enjoying it, that's not going to support your recovery.

Bill Gasiamis 32:11

And what you need to do is if you can communicate that, and say this is not quite working for me find another way to do that exercise or swap it out for something else. And I did that, again. When I was in rehab, I was afraid at one point to fall over. So I asked, and just by chance, I didn't realize they had a pool at my facility, I asked if they had a pool.

Bill Gasiamis 32:36

So I did all my walking exercises for the first few weeks in the swimming pool,

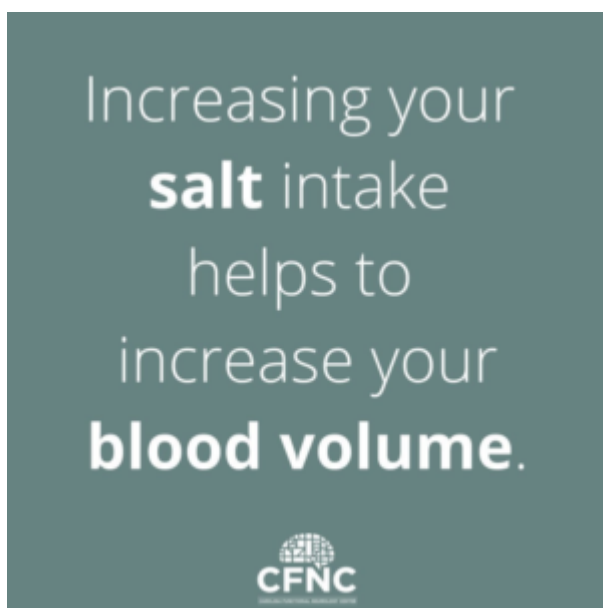


walking up and down. So I wasn't afraid of falling. And then I had the support of the water and the resistance of the water, and it was a really beneficial outcome so that again, I just didn't feel fearful about being in that space at all.

Bill Gasiamis 33:00

So there the key takeaways from that part of the conversation. Now, your Instagram is really cool, because it has some out of here, bits of information that are not usual. Okay, in this space. And salt is definitely the enemy to people who have had an ischemic stroke, and stroke patients are told to get off of salt.

## Salt Intake



Bill Gasiamis 33:28

But I know you're not specifically talking to stroke patients when you make a comment like the one that you did on your Instagram. But let's get to the bottom of this find out tell me a little bit about what it means increasing your salt intake helps to increase your blood volume. Why is that important?

Dr. Brindisi 33:49

Yeah. So specifically, October is Dysautonomia Awareness Month, and we treat a lot of patients with this autonomies, which are just conditions where patients are not regulating their autonomic nervous system. Now, that's a little bit different than when we're talking about autonomic dysfunction associated with another type of brain injury.

Dr. Brindisi 34:16

And strokes in general part of the salt, you know, we there's a whole bunch of reasons why that's not a great idea. And a lot of patients with strokes are maybe dealing more with aspects of like high blood pressure, whereas a lot of the patients we see with these autonomic conditions are dealing with very low blood pressure, and they're dealing with very low blood volume.

Dr. Brindisi 34:40

And what happens when they go from lying to standing is they're not controlling that autonomic system well, and they're not getting good constriction of the vessels in their neck. So what happens is the heart rate starts to beat really fast when they stand up to try to keep oxygen levels up in the brain.

Dr. Brindisi 34:59

And in some cases, these patients stand up and they pass out. So lights out when they stand up, or they feel like they're going to pass out. So they get lightheaded and dizzy, and nauseous, and there's all these other symptoms that come along with it. But that one is a pretty classical one for most these patients, is they're feeling like what's called pre-syncope.

Dr. Brindisi 35:22

So syncope is passing out. So increasing salt intake for these patients can be very helpful, because water follows salt. So we're asking these patients usually to drink about half their body weight in ounces of water a day. And temporarily, this isn't a solution, but temporarily, so increase their salt intake, then we're going to increase the possibility of actually absorbing that water into the cells and raising the blood volume.

Dr. Brindisi 35:58

So when they change position, there's less load on a dysfunctional autonomic system to actually have to keep blood in their head because just their blood volume is higher, it's just a quantity thing, and should hopefully make them feel in some capacity, a little less symptomatic when they change position.

Dr. Brindisi 36:20

Now that's a whole that's like the whole other side of the spectrum, than maybe patients who have had strokes, who when we look at strokes, there's a whole bunch of reasons people can have strokes, as you know.

Dr. Brindisi 36:31

But often were maybe more so dealing with levels of like I said, like higher blood pressure, maybe some cardiovascular issues, high cholesterol, some of these other things that we don't want to add fuel to the fire, because having a stroke once your susceptibility to another one goes up.

Dr. Brindisi 36:53

So we want to minimize the risk of actually having another stroke. So don't don't increase your salt intake without discussing it with your doctor. And I don't think that's usually the route. But when we're talking about these autonomic patients who have had brain injuries, is again, it's more about the demand on the areas of the brain that now are not working so well.

Dr. Brindisi 37:18

So from a rehab method, it's important to understand that, because you might just be able to do the exercise laying down. And hopefully, you know, you won't, like Bill said you won't feel maybe as stressed or you won't notice your heart beating faster, just feeling like you're getting put in that fight or flight mode. And we don't want that to happen. We want to keep things below that threshold. Does that make sense?

Bill Gasiamis 37:45

That does make sense. I love it. And yeah, this does this podcast is the recovery after stroke podcast. But not everyone has an ischemic stroke. And not everyone has a hemorrhagic stroke caused by high blood pressure.

Bill Gasiamis 37:57

And a lot of stroke survivors will have balance issues and feel lightheaded when they get up. So they may not be able to deal with getting up too fast or too soon or too, whenever. And, yeah, I suppose what we're doing is we're just throwing out there some potential other causes of things.

Bill Gasiamis 38:17

And therefore, maybe that creates a new question that you can ask your neurologist or somebody else about what you might be experiencing so that you can be curious, and so that you can maybe find a solution to something that you didn't think there was a solution to.

Bill Gasiamis 38:35

So that's what we're doing. But definitely not offering medical advice. There's

nothing like that happening here. And I've got a massive disclaimer at the end to confirm that we're not offering medical advice here.

Bill Gasiamis 38:47

So always consult your doctor. Now, one of the other things that you've got on your website and other posts is your symptoms are not just anxiety. And now, I love this. And I'll tell you why is because anxiety has become a buzzword, and it's used for everything, everywhere.

Bill Gasiamis 39:02

And when you talk to teenagers and my kids used to be teenagers just a few years ago, they would tell me that they have anxiety. And they didn't really even know what the word meant.

Bill Gasiamis 39:15

And they didn't realize that there was more than one way to feel the feelings that often get described as anxiety, even though it's not traditional anxiety, which is fearing something that's going to happen in the future. That hasn't happened yet that you're stressing out about now. So tell me about your thoughts around your symptoms or not just anxiety what's behind that thought?

## **Levels Of Anxiety**

Dr. Brindisi 39:41

Yeah, so my sister and I do something similar to this, a little just short clips podcast a couple times a month, where we talk about questions that we hear a lot from patients or that you know, people online ask us and the first The one that we did was about this topic, because that's what we hear. Pretty much every patient that comes into our office has been told one time or another that their symptoms are just anxiety.

Dr. Brindisi 40:14

And we kind of want to debunk that phrase, because having anxiety, there's a level of normalcy to anxiety for sure. And like you said, I think just generally, the word is overused, we all have some level of anxiety, it's a survival mechanism, right?

Dr. Brindisi 40:34

There's a difference when you cross this threshold of like clinical anxiety, which is

another thing, but if you are dealing with a neurological issue, there might be more information and more objective understandings of why you're even feeling that way in the first place.

Dr. Brindisi 40:55

And it can have a lot to do with your neurology, same thing with like you talked about, you know, people have strokes and, and they might feel dizzy when they stand up, or lightheaded when they stand up, it doesn't necessarily mean it's completely related to their autonomic system.

Dr. Brindisi 41:10

We've got your vestibular system playing a big role here, we've got other aspects of your balance centers, we've got your eye movement centers playing a really big role, just feedback from your frontal lobes that come down to initiate the movement of you standing up. So there's a whole bunch of reasons your autonomic system could be thrown off.

Dr. Brindisi 41:33

And that's what where functional neurologist really come in. And shine is, someone has that issue, right? Someone has an autonomic issue, and they feel anxious. Anytime you feel anxious, you're going to fire your sympathetic nervous system, they're hard wired together, no matter what the reason for feeling anxious.

Dr. Brindisi 41:52

Again, it's partly a survival mechanism. And it's gonna put you in that sympathetic or fight or flight mode feel like you're running from a bear. And that happens when people get stressed.

Dr. Brindisi 42:02

So you could be actually being chased by a bear. And a cascade of things will happen from your brain down to your body, like increased blood flow to your skeletal muscles, your pupils will dilate, you'll start sweating, your heart will be racing more.

Dr. Brindisi 42:19

But the same thing can happen if someone's sitting in traffic, and they're stressed about traffic, or they have trouble driving, because they have an issue with their frontal lobes, or they've had a stroke, and they have mobility issues, you could

still exceed what you're handling in that situation.

Dr. Brindisi 42:38

And it's going to spike your sympathetic system. And most of the time for people when it's happening in certain situations out of nowhere, that is going to make them feel anxious, because they're like, I don't know why I'm feeling this way. I don't know what's happening, is there something seriously wrong with me.

Dr. Brindisi 42:55

And then those feedback loops get tied together. Our limbic system are really like our emotional centers. But that's also tied with these other aspects. So everything's so interconnected.

Dr. Brindisi 43:09

And that's what I love about functional neurology and how complementary it is to all these other rehab methods is that we just want to dig a little bit deeper into each patient's nervous system, not just you had a stroke, you had a stroke, you had a stroke, but like, how do we understand your brain better in terms of what's going on overall?

Dr. Brindisi 43:30

And how do we optimize what is vital, and what's working well, so that hopefully, we minimize that type of situation. And that's what we see, as people's nervous systems are functioning better, say they do have anxiety, they feel anxious, a lot of times, that starts dissipating, when they're just functioning better, their brain is not using so much energy, just doing foundational tasks.

Dr. Brindisi 43:56

So just anxiety? It's way more complicated than that. And a lot of times there's something more objective we can analyze, to get more to the root cause of that. So just slapping that term on to everybody, and, and either putting them on medication. I think therapy is great talk therapy, I think everyone should go to a therapist, we all have things that go on in our lives that affect our brain.

Dr. Brindisi 44:27

And it's great to be able to go get those things out. But what's complementary to that is that we can probably do things actually affect your neurology, because your neurology and your mind are not two different things. We understand that the idea of duality is not real, that's been debunked for a long time.

Dr. Brindisi 44:49

And we understand that how you think and feel and act and react is all intertwined with how your nervous system is functioning. They're, they're one in the same thing we just saw is think about it like my nervous system, my brain and my mind as if they're two different things. But they're not.

Bill Gasiamis 45:09

Absolutely they're not. They're all in the one package beneath your skin. The emotional intelligence aspect to stroke recovery is huge. Because if you can upgrade your emotional intelligence and get to that point where you are able to understand what just happened, make no meaning of it, just accept it, deal with it, move on, let some time pass overcome it.

Bill Gasiamis 45:36

Then it's going to impact your body and your brain and all those systems beneficially, and it's going to allow you to go into a space where there's more autonomic balance rather than sympathetic dominance or, or parasympathetic dominance. So I think if we can move people to a good emotional space, their mindset will change.

Bill Gasiamis 46:00

And then if their mindset changes they might get more curious about, if I'm hacking this part of my neurology, and I'm just improving my function by breathing better. Well, what else can I do? Well, okay, well, then there's an amazing question that you can go forever to answer. And every time you find something new, it's going to positively impact your recovery.

Bill Gasiamis 46:26

And that's the path that I went down. But when I went down that path, I had no one to talk to about it. Because nobody had been down this path with me before I was just fumbling and bumbling my way through it. But I was discovering these nuggets of minor things that I could do that really made a massive impact to how quickly I was able to get back on my feet, get back to work, get back to my family do all those things.

Bill Gasiamis 46:54

Even though I still had neurological conditions that put me out of action for a few days, sometimes I had to go and sleep for four hours in the middle of the day.

Sometimes I didn't want to go out into public because it was too much noise. And my brain couldn't handle it. Sometimes I couldn't be in bright lights.

Bill Gasiamis 47:10

And still at night, whatever I'm doing the lights above me are dim because that helps me get ready for sleep and helps you know the sleep cycle start to kick in. So I love where you're coming from, because very few people that I speak to take so much into consideration and have such a depth of understanding of more than one way to resolve a problem and treat brain body mind emotions as one package, and understand the intricacy of how each one of them influences the other system.

Bill Gasiamis 47:49

Now, one of the other things that I found on your Insta, and this is one of my new favorite Insta pages. And by the way, anyone who is listening and watching, you have to visit the [Carolina\\_functional\\_neurology](#) Instagram page, I'll have all the links in the show notes.

## **Thyroid Functions**

Bill Gasiamis 48:10

And that's because there's a ton of information there that relate directly to me and probably the people listening and watching. And one of them is that thyroid function is intricately connected to brain function.

Bill Gasiamis 48:23

Now, I learned this the hard way because I had three brain hemorrhages over three years, then I had brain surgery. And when I came out of brain surgery, I was recovering from the deficits and all the challenges that the brain surgery caused. Now by chance, my doctors when I was in recovery from surgery, they did a chest X ray because I wasn't recovering quick enough for their liking or well enough, they thought there might be an underlying issue.

Bill Gasiamis 48:53

And of course, they found a nodule on my thyroid, which was about the size of a baseball and it wasn't visible external because it had grown into my neck and down, and it had deviated by a esophagus by about two inches to one direction. So my thyroid wasn't functioning quite optimally.



Bill Gasiamis 49:19

And some of the neurological experience that I was having was not related just to the brain being me impacted by surgery. It was also related to the thyroid not working well. Can we talk about how important thyroid health is and thyroid function is to neurological recovery from anything but also in conjunction with a stroke.

Dr. Brindisi 49:45

Yeah, for sure. So this is another area where functional providers really shine. And we run lab work on our patients too. So from a functional medicine perspective We're gonna evaluate labs standard lab ranges. But in functional medicine, we actually tighten our parameters.

Dr. Brindisi 50:08

And we look at optimal ranges. And we also look at this stuff a little bit differently in terms of as a whole and, and different sub clinical trends and how things relate to each other. And even though they may not be out of lab range, people can be very symptomatic.

Dr. Brindisi 50:27

And they've been told everything's fine. Right? More traditionally, I'm actually seeing this even less than less, too. So this is, again, where, you know, having these avenues to learn and be your own advocate, are so helpful. And I think having a functional provider on your team of providers is crucial is that most functional providers will run a full thyroid panel.

Dr. Brindisi 50:54

So we run a full thyroid panel, traditionally, we really see TSH, like maybe T for being run. And as long as T's, yep, thyroid stimulating hormone. And as long as that is in standard lab range, traditionally, we're just like, check, you're good. But the reality is, there's a lot and more and more, we're seeing autoimmunity popping up all over the place.

Dr. Brindisi 51:21

And autoimmunity to the thyroid it's an immune issue in which you're creating antibodies against your thyroid. But before we actually have enough stress or influence on the thyroid itself, to change a TSH number that will show you that there's abnormal function of your thyroid, you need to have that issue going on

for a period of time doesn't happen overnight.

Dr. Brindisi 51:53

So catching auto immune to the thyroid, before it's a full blown thyroid condition can hopefully be really helpful for people, because there are things that can be done. And we do this on a more natural route. And that would be the route to go before you know, I mean, a nodule, of course, very different, you know, got to be addressed. In a surgical method, do you still have your thyroid?

Bill Gasiamis 52:23

I have half of it, the other half was removed. Now after the fact. And after doing some further investigation, I feel like perhaps it was a better idea to leave it in. It wasn't cancerous it was just enlarged. And my main issue was a lack of iodine. So that particular thyroid grew a nodule because it was trying to absorb more iodine.

Bill Gasiamis 52:47

And I didn't know that at surgery time. Now, that being said, it's taken about two or three years for it to stabilize. And now it's better than it's ever been. And every so often I take an iodine supplement. And when I'm low in iodine, I feel a lot of neurological symptoms like I did when I was dealing with my stroke recovery in the early days.

Bill Gasiamis 53:14

Now, this thyroid issue was an issue for me my entire life. And it explains so much about my digestion, it explains so much about how when the weather changed, I would get instant diarrhea, and I had no idea why. And what I think was happening was my body was unable to regulate temperature changes.

Bill Gasiamis 53:34

And in where I live in Melbourne, we have some days in summer that goes say from 110 degrees in Fahrenheit to half that in literally 20 minutes. Yeah and on those days, I know the weather's changing, I better be near a toilet like it was that serious for me.

Bill Gasiamis 53:57

So I didn't know what the issue was my entire 40 odd years until this scan was done of my throat and then I was starting to research for this information. So things have settled down a fair bit now. It's not there at the moment. I've only have half of it. The other half is doing really quite well. And it's not an

autoimmune thyroid condition.

## More About Thyroid

Dr. Brindisi 54:26

Yeah, yeah. Okay. The thyroid work kind of back to what we were talking about. I mean, there's a gear just saying there's a variety of issues people can have with their thyroid, the thyroid itself.

Dr. Brindisi 54:42

What's really important about it in terms of your overall function, is it's going to be setting the pace for basically energy within all the cells in the body, including your brain. But where again, where functional healthcare really comes in and shines is All this stuff is interconnected.

Dr. Brindisi 55:02

So the information for your endocrine system starts in your brain. Predominantly, we talked about the hypothalamus, which is going to fire to other brain regions and fire down to different endocrine organs such as your thyroid, such as your adrenal glands, your reproductive system to stimulate these endocrine glands to secrete sed hormones, right?

Dr. Brindisi 55:32

So thyroid stimulating hormone, that's going to set the pace and the tone. Again, the thyroid, then globally affects things. So we can have these what I call like vicious feedback loops for people. Where is it coming primarily from the thyroid? Is it coming from, we look at like liver in terms of actually metabolizing hormones, that your gut plays a really big role there.

Dr. Brindisi 55:59

But also, when patients have had brain injuries, whether that's a stroke, whether that's head trauma, an anoxic brain injury, they can have effects on their neurological systems that come down to stimulate those issues. So sometimes when we look functionally and another reason we run a full thyroid panel, are there are patterns that we can actually see, within thyroid numbers?

Dr. Brindisi 56:30

When we look at adrenal gland function like we look at cortisol at different times of the day, there are patterns, we can actually analyze and evaluate to say, I think

this is actually coming from your brain, this isn't really a thyroid issue. This is your brain's ability to stimulate your thyroid properly. Or this is not a thyroid issue. This is actually your livers.

Dr. Brindisi 56:57

Your livers having trouble metabolizing hormones. So there are a whole bunch of patterns, when we take a more functional approach to start understanding why these things might be happening, and also catching it, right. Like, a lot of times people come in and they go, Oh, my thyroid is fine, I've had it analyzed, my TSH is normal.

Dr. Brindisi 57:20

But they're screaming issues that are related to their thyroid. The other thing with thyroid is there's a lot of crossover and what it sounds like with the autonomic system, so a lot of times we do see patients with thyroid issues, who might have some level of autonomic issues.

Dr. Brindisi 57:37

And the question is, is it a brain issue causing an endocrine issue? Or is an endocrine issue causing a brain issue? Right? So we want to analyze these pieces. And that's where on our website, we do blogs and things too. And we wrote one that kind of talks about how all of these systems are interconnected?

Dr. Brindisi 57:56

How your nervous system, your endocrine system, your immune system, they're all three different systems, but they're actually all interconnected as one, system two. And this is how we can start taking a more progressive approach to analyzing people's health by really trying to analyze that person's physiology, and what's going on with them specifically to understand and pinpoint maybe where these issues in their physiology are coming in.

Dr. Brindisi 58:29

Where is that breakdown actually happening? We know, X is happening, right? You're having what sound like thyroid issues. But why is that happening? Right? That's the grand question. And we don't want to just sit and wait until maybe there is a full blown issue with the thyroid, in which then maybe we have to intervene with something like surgery or medication, right? There might be another route, if we can catch it sooner.

Bill Gasiamis 59:01

I love it. I went to the neurologist, I kept going back to the neurologist with fatigue, fatigue, fatigue, fatigue, you know, after the surgery, and I'm not sure how, but I kept going back to my general practitioner and complaining about my neurological symptoms I think, for a year after the brain surgery.

Bill Gasiamis 59:33

And he just said let's do some blood work and let's check your thyroid and all that kind of stuff. And the thyroid results were a bit off though a bit strange, but they were kind of in the normal range. And the challenge with my results was that that's the extent that my general practitioner could go looking at those bloods and then giving me some kind of path forward.

Bill Gasiamis 1:00:01

And he just suggested I think he suggested, you know, maybe you should make an appointment to see an endocrinologist. So I did, and I took that bloodwork to him. And my endocrinologist kind of looked at me and said, has anyone ever asked you to do some blood work and check for iodine levels?

Bill Gasiamis 1:00:29

And I said, No. And he said, Okay, well go and do that. Do that, and then come back to me. We did iodine, and it showed that there was almost zero iodine in my body at any given time, and specifically the time when I did this blood test. And he said to me, well, there's your problem. And that's why you're experiencing neurological symptoms, and fatigue of the brain, because you haven't got any iodine in your system.

Bill Gasiamis 1:00:57

Go and buy this iodine supplement, give that a go, make another appointment for two weeks, and come and see me. So I did that for two weeks. And then my brain came back online. And I went and saw him. And I told him, and he said to me, Well, you know, it was a simple solution.

Bill Gasiamis 1:01:15

Like, it makes sense to me and all that kind of stuff. But it's easy to miss, because iodine is this thing that we hear about, but we don't really know what its purpose is and what it does and how it supports.

Bill Gasiamis 1:01:26

So that's how I got to the bottom of that. And I mentioned that story, because it's goes to exactly what you say was, is it the thyroid causing neurological issues? Or is it the brain causing thyroid issues? In this case, it was maybe at the beginning of my brain injury, it was the other way around, and then a flipped.

Bill Gasiamis 1:01:52

So both times I need to be looking at, like you said, the system, but two different ends of the spectrum, to address it at both sides, not just the one side. And yeah, I've got a really great outcome. And it took ages and I had to be patient, and I had to go back and ask questions and follow up, and it got annoying, and it got too much and it got so challenging.

Bill Gasiamis 1:02:18

But nobody else was gonna solve this problem for me, unless I was involved in this solution. And I had to be the guy who was advocating for myself and putting up with the long drives to this GP and God knows where and to this other doctor in God knows where and make time out of my day, from work, and from my life, and all that kind of stuff to really focus on it and make it about me.

Bill Gasiamis 1:02:44

So we got to the end of it. And I'm really grateful for that. And I'm really grateful for the fact that, you know, functional neurology is starting to be a thing because you guys are having conversations that not many people are having, and I feel like you're more, you're more what's the word like? And forgive me for saying this, I'm not having a go. But it sounds like you guys, you know that the saying that goes, You're a jack of all trades.

Bill Gasiamis 1:03:21

Which means that you know, a little bit or a lot about a lot. And then you bring it in and you put it all together. And you can see patterns that other people who specialize in just neurology will miss. And that's what I love about neurologists is they can work with a surgeon and open your head up and go there and take something out or fix something.

Bill Gasiamis 1:03:45

But that's what they're good at. And that's all we want them to be able to be good at and not necessarily know all the other stuff, you know, I only want a brain surgeon to I have in my brain and I don't really mind if they don't know about the

other stuff that's up to me to figure out that stuff and get somebody else involved and make them part of my team like you to turn their work, their miracle work and get this other miracle on the other end of it.

Bill Gasiamis 1:04:13

Which is I'm living my life in a fashion that is considering and under the circumstances is as I'm living the best life as I possibly can with you know what I've got going against me. I never wanted to be the guy who was working against the miracle of a brain surgeon, you know, I never wanted to be have that resource in my toolkit, a brain surgeon type in my head and fix stuff.

Bill Gasiamis 1:04:44

And then I was doing these silly things, or my lack of information on the other end was causing to undo the work that they've done. Because they've been studying for about 40 years to open people's heads. And now I'm just coming in and being my own old self and behaving the way I used to behave, drinking smoking, not eating appropriately. And then wondering, you know, well, that brain surgeon, all they did was over my head and take that thing out, you know, why am I still not feeling better? Because the other part is up to me. It's not up to them.

## **Be A Health Advocate - Dr. Lauren Brindisi**

Dr. Brindisi 1:05:20

And I feel like no, I can attest for all functional providers out there. But I can definitely attest our clinics, we're really trying to bridge that gap, right? We all should be our own health advocates, I definitely am a big proponent of that. And I personally deal with some chronic illness.

Dr. Brindisi 1:05:41

And that was a big part that led me down this path, because I didn't feel like I was be being given all the answers or being educated properly. And the reality is, your health is an investment, right? And it's important that we all take that seriously. And take the time to learn about our bodies.

Dr. Brindisi 1:06:10

Traditional providers, surgeons, you know, all these specialists, I mean, they have very specific niche jobs that they are very, very good at. And a lot of times, these are situations where there's full pathologies, you know, there's life or death

situations, and we want them to be the best that they can at that.

Dr. Brindisi 1:06:31

But just like you said, there's this other aspect of people's lives that can be a contributing factor of leading them to those situations in the first place. So understanding and taking the initiative to do the things are going to be better for your health, no one can make you do that, right?

Dr. Brindisi 1:06:53

That is something that we all need to take into our own hands, as a functional provider, and why my sister and I are so passionate about getting these type of information out there is because we don't feel like this should be foreign information, right? Everyone should have this information at their disposal, and start to empower themselves to take control of their health.

Dr. Brindisi 1:07:20

There is nobody else that is going to fix your health better than you are. So as functional providers, I feel like and I have a big chalkboard wall in my office and really big at the top, it says Knowledge is power. Because taking and learning more, and that's a huge part of our practice for patients is helping to educate them on what's going on, and what they're dealing with is just a huge part of the care plan in the first place.

Dr. Brindisi 1:07:50

And I see that a lot with functional providers, we're blessed in a way that the way we get to work with people is one, we usually see them on a more frequent basis. And two we get to take this other spin on their health in terms of optimizing physiology, so maybe after an incident, like a stroke, right? Successful, wonderful surgeon, save somebody's life.

Dr. Brindisi 1:08:20

Now what? Right? So now, what are all of the pieces to this puzzle that we can try to do to not only make you survive, but thrive. And that's where I am. I mean, I'm a big advocate for people having a functional provider on their list of providers, and it's all about a team.

Dr. Brindisi 1:08:42

There's not one provider out there of any sort that is going to fix everybody's elements. We love co managing with a team of providers. I mean, we do see



people with pretty significant or logical issues, so it requires a team.

Dr. Brindisi 1:09:00

And when you have a team of people that you trust and can help guide you, and you're taking the time to see your health as an investment, and taking the time to learn and do more and be better. It doesn't mean it's easy. It's certainly not the easy route. But it can be the more beneficial route to allow you to live your best life.

Bill Gasiamis 1:09:24

Yeah, that's awesome. We've spoken a little bit about your sister or you've mentioned there a couple of times. Tell me her name and how she's involved in the clinic as well?

Dr. Brindisi 1:09:36

Yeah, so her name is Dana. She just got married. Her name is Dana Brindisi as a doctor but she did just get married Dana Singler. And we do the same work. So we are both functional neurologists. We have two locations. So we have Carolina Functional Neurology center which is in Raleigh, North Carolina.

Dr. Brindisi 1:09:58

And we have the one that is which is in Charlotte, North Carolina. So we see patients near and far, we see patients locally, we see patients who come for neurointensive programs from all over the country, to now we just opened up, especially with COVID.

Dr. Brindisi 1:10:17

Because it's harder for international patients to travel. And we are actually seeing patients internationally on a case by case basis via telehealth. So there are things that we can do. You know, technology's really helpful, where, you know, we can just see you right there on the camera, and analyze you. So we there's just two different options of clinics and they're run pretty much the same.

Bill Gasiamis 1:10:44

Fabulous. I love the sound of it. So I mean, this has probably been one of the deeper dives into neurological health and well being, and I still feel like we've even just touched the surface.

Dr. Brindisi 1:11:03

I agree.

Bill Gasiamis 1:11:05

It's a big conversation. But a good place for people to start is with this podcast episode and then get curious and interested about what else they need to know. Definitely check out [instagram.com/carolina\\_functional\\_neurology](https://www.instagram.com/carolina_functional_neurology). I'll have the link to that. Also. Lauren, what's the website link?

Dr. Brindisi 1:11:30

It is [www.carolinafnc.com](http://www.carolinafnc.com). I do have a couple of just one more quick thing if people are hearing this, and they're interested in learning more. I have a couple of books that I might recommend. That would be really helpful. And one is called *The Brain That Changes Itself*.

Bill Gasiamis 1:11:58

Norman Doidge.

Dr. Brindisi 1:11:59

Yep. And then his other book called *The Brain's Way Of Healing*.

Bill Gasiamis 1:12:03

Amazing book.

Dr. Brindisi 1:12:04

And then we have a colleague, Dr. Datis Kharrazian. He's a functional neurologist. And he is a pioneer in some of the most progressive aspects of functional medicine. He has two really great books, one is called, *Why isn't my brain working*. And this will get you really acclimated in a way that's understandable about all the ideas and types of principles as functional neurologist that we're using.

Dr. Brindisi 1:12:35

And then the other one is about thyroid. And I might butcher the title, but it's something like, *why am I still having symptoms when all my thyroid numbers are normal*, basically. And he goes down into some of this more detail about the what, so I barely scratched the surface about, you know, when we actually break that down. And those are two really phenomenal books to actually learn more about that.

Bill Gasiamis 1:13:03

Yeah, I had, though, all those books that you mentioned, were in my reading list when, early on when I was trying to understand what was going on with my thyroid, and that his book about the thryoid was the one that prompted me to ask some questions that I didn't realize I needed to ask of my GP.

Bill Gasiamis 1:13:28

And then it's great, that helped me understand the conversation that I was having with my endocrinologist. So they are very, very important books. Datis is kind of like somebody I have a man crush on. Because I had never, until I came across his work, I never came. I never understood what it was all about.

Bill Gasiamis 1:13:53

But he kind of has this really amazing way of explaining things to non-scientific people. And that was really cool for me to understand that way. So yeah, amazing suggestions. I'll have the links to the books in the show notes as well. The images will be on the website as well.

Bill Gasiamis 1:14:12

So I think, like I said, we've just touched the surface, but I think we've created enough content so that people can get curious if they're that way inclined. And then perhaps reach out to you for further questions or a consult or anything like that, and then maybe even buy the books.

Bill Gasiamis 1:14:35

Dr. Norman Doidge is also one of those really cool dudes because he shares information about his own work, but also the work of his colleagues. And there's an interview that I'll have a link to as well on the show notes, which is with its I have an interview with Dr. Michael Merzenich, who wrote the Book Soft Wired.

Bill Gasiamis 1:15:03

And he's an amazing man. And we talk about neuroplasticity. And it was early days in the podcast, and I was nervous. And I didn't really know what I was talking about. And I mostly stuffed it up. But it's still a very interesting conversation that we had about that. So thank you so much for being on the podcast. I really, truly appreciate it. You're doing great work. And it's really important that we start thinking about recovery in this different way.

Dr. Brindisi 1:15:31

Yeah, thank you so much for having me. Happy to do it.

Bill Gasiamis 1:15:34

Thanks so much for joining me on today's recovery after stroke podcast. Do you ever wish there was just one place to go to for resources, advice and support in your stroke recovery? Whether you've been navigating your journey for weeks, months or years, I know firsthand how difficult it can be to get the answers you need.

Bill Gasiamis 1:15:53

This road is both physically and mentally challenging from reclaiming your independence to getting back to work to rebuilding your confidence and more. Your symptoms don't follow a rulebook and as soon as you leave hospital, you no longer have medical professionals on tap.

Bill Gasiamis 1:16:08

I know for me, it felt as if I was teaching myself a new language from scratch with no native speaker inside. If this sounds like you, I'm here to tell you that you're not alone. And there's a better way to never go your recovery and build a fulfilling life that you love.

Bill Gasiamis 1:16:23

I've created an inclusive, supportive and accessible membership community called recovery after stroke. This all in one support and resource program is designed to help you take back your health in your own hands. This is your guidebook through every step in your journey, from reducing fatigue to strengthening your brain health to overcoming anxiety and more to find out more and to join the community just head to [recoveryafterstroke.com](http://recoveryafterstroke.com) See you next time.

Intro 1:16:50

Importantly, we present many podcasts designed to give you an insight and understanding into the experiences of other individuals opinions and treatment protocols disgusting any podcast or the individual's own experience and we did not necessarily share the same opinion nor do we recommend any treatment protocol discussed.

Intro 1:17:07

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Intro 1:17:24

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Intro 1:17:45

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Intro 1:18:09

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