## Podcast Introduction and Guest Background

And so our brain's ultimate goal is to take in data through our senses and to make moment to moment determinations and predictions as to whether things are safe or dangerous.

And if they're dangerous, to activate what's called the biological stress response system. While that definitely serves a protective role, the problem is like anything else, if it's overused or if its sort of over-activated and on all the time, The effect on multiple systems that govern how our bodies work really starts to be very profound and things break down.

Welcome to the IQ Podcast. I'm Dr. Rani Banek, here to help you boost your IQ with powerful insights that connect your eyes, your brain, and your whole body wellness.

Hello, everyone, and welcome to the IQ Podcast. My name is Dr. Rani Banik and I'll be your host. And in this podcast, you'll able to gain insights into your vision health and brain health so that you can raise your IQ.

Today, I am so honored to have as my special guest on the podcast Dr Ken Charlin. Thank you so much for joining us, Dr Charlan. It's a pleasure. Absolutely.

So just as an introduction to our audience, Dr. Charlin is a board certified neurologist, consultant, functional medicine practitioner and assistant clinical professor.

He's also a researcher and an author and a. speaker. He's the author of the number one bestseller, The Healthy Brain Toolbox, neurologist proven strategies to improve memory loss and protect your aging brain.

And he's also the co-author of Nourishment. By the way, Dr. Sharlin is also host of several summits on Parkinson's disease. So if you're interested in that, please check that out.

But again, we're so honored to have you with us, and we hope that we'll learn so much from you as you share your expertise. So you have an interesting take on neurology because you combine traditional neurologie with a functional medicine integrative aspect.

So how did you come upon this? Like what led you to this integrated approach? I think in a sense my own journey mirrors that of many other physicians over the last maybe 20 years in that there's a general sentiment of doctors being unfortunately disillusioned and unhappy with where medicine has evolved.

## From Traditional Neurology to Functional Medicine

And neurology sort of has deserved that for a long time. There was an expression, I'm sure you're aware of, the diagnose and odious that we had. We thought that had very few tools in our toolbox.

Of course, those tools traditionally are drugs or surgery. But in my own life, private life going back to about 2005 or 2006, i got interested in endurance athletics.

and eventually completed a few Ironman triathlons. But the point of that is that in order to, whether it's run a marathon or half marathon, or, you know, completed triathlon, and you don't just go out on race day and do it, You have to have a lot of training.

And that training isn't on the road or in the swimming pool. The training involves how you sleep, what you eat, even your nutrition, of course, on Race Day.

understanding your body's stress, biological stress levels, have you over-trained or have even delivered the right amount of stress? Stress can be a positive thing in order to grow or evolve as an athlete to get stronger, faster, whatever, than through your endurance.

So I was learning about all of those things and then going into the clinic and wearing my very traditional, you know, sort of academically based neurology had and seeing this sort dichotomy of what's going on here.

I'm doing all these things. And seeing really great soldiers in my brain and my body. It seems to me like that all those strategies. You know not trying to turn of course my patients into athletes, but saying, wait a minute, nutrition really matters.

sleep really matters and stress really matter, I didn't really know that there were things like, you know, the American Academy of Lifestyle Medicine or the Institute for Functional Medicine, what have you.

I just knew that these things seemed to make a difference. But I was also a podcast enthusiast and one day happened to be listening to an interview with one of our contemporaries, certainly an individual who's inspired many of us, Dr.

David Krollmutter, about 10 years. our senior and at any rate he was being interviewed about his new book at the time called Grain Brain and when I listened to that was just the big aha moment for me and I learned about functional medicine and thought well this is the path I need to take.

And I did. No, thank you for sharing that story. You know, it's so interesting. Many people in the healthcare field who stumble upon functional medicine or integrative medicine typically find it through their own journey.

Maybe they've had a health issue or maybe a fit close family member friend has a heath issues. They're looking for solutions may come across it. But for you, It's interesting that you were training for this competition, the Ironman, and so you are striving for better health, right?

So you came across it in your quest for a better performance, physical performance mental performance overall wellness. So that's really, really amazing.

And now you share that with your patients, your audience, et cetera. Congratulations on that. So I know one of your areas of expertise is the large category is neurodegenerative disease, but within that, you really do focus on Parkinson's disease.

And as an ophthalmologist, definitely I've seen a lot of cases of Parkinson with various types of vision issues. But just kind of as a overview, if you can give us like a 30,000 foot overview.

What are some of the drivers of Parkinson's disease? I know that there are probably some genetics involved, but then there were lifestyle factors as well.

So if you put on your functional medicine hat, you know, from a root cause perspective approach, what are the main drivers such as this common neurodegenerative condition?

And if I may, Dr. Rani, I would like to say that my perspective on all of that has really evolved since discovering that what I was really doing in my life and what i could bring the clinic was called functional and then eventually regenerative and anti-aging medicine.

But, you know, we have this broad term we call healthcare. The reality is healthcare isn't healthcare, it's really sick care. It's a lot of management of chronic disease.

Even in neurology, things have evolved quite a bit, particularly, I would say, in the arena of multiple sclerosis where there you know, over 25 different so-called disease modifying therapies that are, some of which are remarkably effective, especially if started early, so called high efficacy therapies, and basically shut the disease down.

## Understanding Parkinson's Disease Drivers

And I even have a theory or two about how we could use strategies along those lines to essentially attempt to put people with MS into remission so they don't really have to struggle with the diseases lifelong.

So there is hope, but for the most part, when we start on these drugs, and now we have, you know, two FDA approved disease modified therapies for Alzheimer's disease, not yet for Parkinson's.

Arguably, we had a couple for ALS not especially effective. But the reality is, for most parts, it's still a marriage to the drug. The analogy that I always use with my patients, which I may share with the folks on the podcast, is that it If you go to the doctor and they diagnose you with high blood pressure and then they said, well, you know, I want you to take this medicine for your blood.

Okay. Well, if I have to, and you might say, Well how long do I to be on that? And they kind of look at you a little daze and I go, forever. Right. And of course it might lower your pressure into whatever is defined as a normal range, but it only does so as long as you're taking the drug.

You stop the drugs, the blood goes right back up. And then the reality is that when it comes to things like what we would call metabolic disease, which is the umbrella that high blood pressure falls under, that these treatments don't very effectively prevent the things that we're taking the medicine for in the first place, right?

I mean, how many people have heart attacks and they're on blood-pressure medicine or strokes and on a blood, pressure medicine. So I think, you know, in that context for me, I chained to a place where I have come to, a aplace where i don't really think about functional medicine versus conventional medicine.

I just think this is how medicine should be practiced. We should eat in the healthcare arena. we do have to meet people where they are because the principles of what we call functional or lifestyle medicine really involved change, involved engaging people in a way that we're asking them, are you willing to make changes in your diet?

Are you will to work on your sleep? Or are willing implement a therapeutic movement program, et cetera, or are even willing look into how your body's biological stress response works?

And if they're just not there, what we might call pre-concentration, technically, You know, then maybe we're leaning more on the medications while we are hopefully using some messaging, whether very subtly, you know.

The obvious messaging rarely works very well, like teaser diet, right? No, that's not going to work. They read a book. That's interesting. they listen to your podcast, they start to evolve their own thinking, their feeling about where their health could be.

Then they eventually get to that point. You what? This is silly. Why am I just taking this pill? There are other things like… Yeah. Your point is so well taken, you know, in terms of the future of healthcare, right?

It's not one modality or another. It really is combining the two. So taking what we know from traditional medical and surgical approaches, especially in my field, and including in, all the other elements that are within people's control, within their choices that they can modify to optimize their health.

But the other point that you raised, Dr. Sharlin, is we have to be open to this, both from a health care provider perspective, but also the patient perspective.

So we to have be on the same page. Because if we're not, if your provider is telling you one thing but you're like, I don't think I can do that, that's not going to work.

I think as providers, we also have gauge where our patients are and meet them where they are, and maybe slowly nudge them towards more of this integrative holistic approach and not choose one or the others.

That's really, really important to get that across. So, you know, I do see a variety of folks in my clinic. We put an emphasis on Parkinson's disease in the last couple of years, we put on the Parkinson Solutions Summit, and that's over.

But now we're on to the Healthy Brain Toolbox podcast, my own podcast joke. Getting back to your original question then, and really dilating it in for everyone who listens, meaning what does this really mean to me?

The framework of a functional medicine approach begins with understanding the narrative of the person who is affected by that condition. The person is sitting in front of us saying, First of all, they may not know for sure they have Parkinson's.

As you know, it's a very, to a clinician like myself or yourself, and no pun intended. It's very visual disorder, meaning I can walk in the room and practically know that someone has Parkinson before I even speak with them.

There's certain general appearance. That's really very typical. So in addition to saying, you know, what have you noticed in terms of what brings you in?

Well, I developed this, this tremor or this change in my walking ability and I've been falling and that's had a change of my quality and my voice or my posture.

You know the very typical findings of Parkinson's in the functional medicine framework. It actually begins with things like where were you born and How many brothers or sisters do you have?

And tell me about your parents. And are they still alive? What is their health? Were either of them affected by Parkinson's? Did you grow up in a rural location?

From some data that was recently published, did you grew up within a mile of a golf course? Because that very residential positioning, if you will, raises the risk of Parkinson disease.

very dramatically and that was published in, you know, Journal of the American Medical Association. So we began to construct this narrative and in technical terms we refer to the progression as antecedents, triggers, and mediators, meaning what things you kind of bring into the world with you that are completely out of your control, like were you born by caesarian section or through the Perth Canal, because those differences have the implications where you breastfed or bottle-fed, do you have a family history of, and yet there are other things that, well, I grew up in rural Indiana where they routinely sprayed pesticides that planes would fly over the farm fields and drop this stuff, or like I said, i grew on a golf course.

Have you had head injuries? Maybe you were in an industry where A chemical that was only recently banned by the federal government called trichloroethylene has been widely used.

## Stress Response, Movement, and Brain Protection

So we try to sort of construct that how did this happen to me in a narrative and then from that tipping point of the person has started to display symptoms, and we know probably the disease itself, what we would call the neuropathological changes, really probably started years before they even knew that they had symptoms.

Then we start to talk about or think about what is going to keep the patient on their current trajectory if I did nothing. What would that look like for them, right?

Because they're defining in a way that they never thought would happen. It's not the story of their life that really anticipated. So we identify what are called mediators and that can be in things like obstructive sleep apnea, and are using your CPAP.

you know there's a big difference of course I have sleep apnea okay you're using your device no not really right so you are still depriving your brain of oxygen and fragmenting sleep which has all kinds of implications you now what

is your diet look like because we know that diets rich in compounds that come from Plants primarily, polyphenols, flavonoids have very strong protective effects, both in terms of preventing Parkinson's as well as potentially treating Parkinson.

Are you exercising? There's some fantastic data on movement. And what does that movement look like? Because very often in my clinic, well, I walk. You know, and walking, of course, is great.

But if you have Parkinson's, even if your just walking, there are ways to improve your walking to, we would refer to it as conscious movement or sort of the big step principles that really can make a difference with the disease.

And then what is your, as I call it, the biological stress response system also, what it is doing and how has it been doing? over the years because ultimately the role of our brains in the final analysis is to protect us, right?

Is to say, in other words, one of the great movies of all time called Marathon Man with Dustin Hoffman and Laurence Olivier, the famous dentist scene, and Lawrence Olivier who is a Nazi undercover is saying to Dustin Hossman in a dental chair when he's being tortured, is it safe yet?

Right? Because if you're not alive, you know, nothing else really matters. Food doesn't matter. Reproduction doesn' matter, breathing doesn'. So our brain's ultimate goal is to take in data through our senses and to make moment to moment determinations and predictions as to whether things are safe or dangerous.

And if they're dangerous, to activate what's called the biological stress response system. And while that definitely serves a protective role, the problem is like anything else, if it's overused or if its sort of over-activated and on all the time, The effect on multiple systems that govern how our bodies work really starts to be very profound and things break down.

Now we're a finite resource, right, as human beings. and there are things that ultimately biologically our brain, which is a control center, will sacrifice or turn off in the interest of our own survival.

That could be systems that govern learned movements. that's really what Parkinson's is about. It's not about just moving. it's about muscle power. Its about the software that governments control movements so that they make sense.

So I have a cup of coffee in front of me and I can reach out and grab that coffee without thinking about it, because I activated the program that says, what muscles do I need to use?

How do i need use them? What is the exact timing? how much force do need be used? And then I can do that. As that software glitches, if you will, and those movements become the tremor of Parkinson's or the changes in posture and the shuffling gait and all that This is so interesting.

I mean, you're providing a perspective that most doctors, especially neurologists, will not address or bring up. What's the context of what's happened?

You mentioned the ATMs, antecedents, triggers, mediators. And what is your brain trying to do to maintain the status quo, to remain safe? And how can we modulate that, you know, in terms of retraining or enhancing some of those pathways, keeping them intact?

I know you mentioned diet and I want to circle back to that in just a moment. We're going to take a very short break to hear from one of our sponsors and then we'll be right back on the IQ podcast.

So stay tuned. Did you know that most adults spend over 10 hours a day on devices?

## Sponsor Break

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Fortifi, empowering your vision. Welcome back to the IQ podcast. Today we're chatting with Dr. Ken Charlin, who's a functional neurologist who specializes in neurodegenerative conditions.

Dr Charlan, just a little earlier, you were talking about diet. And I know that this is a huge topic when it comes to brain health and neurologic health.

## Diet for Brain and Mitochondrial Health

You mentioned earlier the book Grain Brain by Dr. David Perlmutter, which has changed the lives of so many people. In the context of neurodegenerative conditions, both Parkinson's and Alzheimer's, are there particular dietary patterns that you have your patients strive towards?

And are other patterns you would have them kind of veer away from? So what are some general guidelines you give to your Yeah, just to emphasize, not just sharing an opinion or an observation of mine, but there's a tremendous amount of science.

There have been formal, large studies that have looked at the relationship between nutrition and brain health or neurodegenerative diseases, both in terms of more from a macro perspective, meaning what should my diet look like, as well as individual compounds that are part of the foods that we eat.

As I mentioned earlier, these polyphenols and flavonoids are found in everything from cup of coffee and green tea to dark chocolate and blueberries. It's very often things that give certain foods their colors, and primarily they're antioxidants.

And the reason they are critical is because one major factor that drives Parkinson's disease is a failure of the energy generating batteries, if you will, of this cell called the mitochondria.

The mitochondrion have several roles, but among them is to create energy from the food that we eat, primarily carbohydrates and fats. But it does so because we breathe air.

We take in oxygen from the air that we breath. It's carried on our red blood cells to all the tissues in the body where that oxygen is combined with things like glucose or fat, ultimately to produce these packets of energy called ATP.

But in that process, just like you combust gasoline in your car, your engine, there's air, gas, or a spark. And then you have the explosion, the controlled explosion that drives the pistons and so forth.

But what do we also have in a car? We have an exhaust system, right? Because there are byproducts of combusting gasoline, our exhaust systems, Mainly with the carbon dioxide, which we exhale out in that process, that's produced at the level of a mitochondria.

We also produce all these compounds called three radicals that for our purposes are compounds that contain oxygen where there's an unpaired electron that is circling around that oxygen.

molecule, and it wants to be paired. And so we'll essentially try to steal electrons away from other things. If that

happens to me, parts of your mitochondria or your DNA, you could be in trouble.

Certain amount of oxidative stress is absolutely normal, but it's excessive where there's other reasons to damage your Mitochondria, or the pesticides and herbicides and things like that.

It can in the right circumstance, lead the person down the road to Parkinson's. so we need to sort of eat for our mitochondria if you will and what we know from again from the science is that this is a largely plant-based diet doesn't necessarily have to be exclusively vegetarian and in fact there could be some disadvantages of that because there are certain nutrients that are only found in animal- based food things like vitamin b12 and coenzyme q as just a couple of examples.

What we do want to avoid though is essentially lots of ultra-processed foods. Lots of foods that very just quickly become sugar in the bloodstream. There is a difference between say consuming complex carbohydrates that are high in insoluble fiber that are sort of fertilizer for your gut and produce something called butyrate or a short chain fatty acid that fuels the brain and also sort fertilizes that gut, fertilizers what we call your got microbiome, keep it healthy if you will, versus consuming things that quickly spike blood sugar like an insulin response and lead a person unfortunately down the road to what's called metabolic syndrome.

You recognize this. Things like type 2 diabetes, high cholesterol, blood pressure, having a big belly that's bigger than your waist. We call it a waist to hip ratio.

These things are really gateway disorders to Parkinson's and other neurodegenerative diseases and diseases, of course, to the eyes.

## Lifestyle Foundations: Sleep, Fats, and Conscious Movement

So you've got to include- I just want to go back to what you said earlier about those specific types of foods. The foods that are rich in polyphenols, bioflavonoids, these are our protectors.

They protect our cells against this oxidative damage. I like to call it biological rusting. If you leave some metal out exposed to the elements, eventually it will rust.

Well, the same thing happens in the body. And these nutrients that are found in plants are there to protect the plant, but when we ingest them, they can protect us as well.

And the other thing I wanted to add is, and I think you were about to say this, is that these are all beneficial for brain health, but because the eye is a direct extension of the brain and it has nervous tissue as well, all of these will also protect your eyes.

So I typically do say the same types of foods like colorful vegetables, a little bit of caffeine or EGCG, which is the active ingredient in green tea.

They can really do wonders for eye health and prevent issues down the road. Can you touch a little bit about some of the lifestyle factors that people can modify for their brain health, whether it be sleep or stress is a big one I know, but what are some suggestions you give to your patients?

Foundational health really is what keeps us at our best. or unfortunately takes us down the road to a version of ourselves that's not who we want to be, right?

There's no magic here. I wish I could say that there was, but in the end, you know, sleep is fundamental. Sleep serves so many purposes for the brain and the body beyond the sense of rest that we get, a good night of sleep.

Oh, it's a time of repair and growth. It's the time that the brain clears toxins, if you will. And so time to rest the gut so you don't necessarily eat right before you go to sleep.

At the times for the immune system to recharge. There are many dimensions that quality sleep brings. And now with the availability of various tracking devices, whether you're wearing an Apple watch or a ring, a garment, what have you, you can really get tremendous insight into the quality of your sleep as well as what is your oxygen level while you sleep, right?

So that is very, very critical. Ultimately, this asks us to be engaged. We can take more control of our own health, which is something Resin system really, you know, accomplishes the opposite.

It's very disempowering. Like you can't really do anything about it. Just take this pill. So sleep is fundamental. We've kind of touched on food and I would add that it's important to get good fats in there that comes from things like salmon and mackerel and anchovies and sardines and herrings, polyunsaturated fatty acids, which most of us don't get enough of.

Two or three portions a week would be sort of a minimum acceptable. And then movement, and in the case of Parkinson's, movement should be conscious. There's a global organization called LSVT, LSBT Global, it stands for Lee Silverman Voice Technique, And it does involve speaking, but it also involves conscious movement like walking.

And they teach us folks to exaggerate their gait or in their mind, they may feel like they're exaggerating, but in fact they are normalizing their gate.

Because one of the most interesting things I think about Parkinson's, I mentioned that it's really a problem of software, if you will, about movement.

Is that the frontal lobe, what we call the primary motor strip or primary, motor areas is preserved in Parkinson. And if we can route the thoughts, or the intentions of movement, Word the frontal lobe, but we would call conscious movement as opposed to if I ask you to walk across the room, you know, normally think about what muscles you're going to engage.

If you had to consciously think. What muscles do you need to use? How big your step needs to be. It's very striking on how much more normal that can be.

And if we combine that with the principles of what we call neuroplasticity, just kind of like use it or lose it, right? It is practice. What we called practice man and practice, then it can become more second nature.

and circumvent some of the problems associated with Parkinson-related movement. Those are a few fundamentals. Of course, I've also mentioned that stress response system.

Yeah, absolutely. And, you know, again, the crossover between brain health and eye health, a lot of what Dr. Charlene just mentioned can also be so beneficial for your vision.

There is so much of the brain that is dedicated to our visual system. So when you do incorporate some of these strategies, better sleep habits, more restful sleep, and also some the conscious movement that you were talking about, Dr.

Sharlin, it improves safety as well, I think.

## How to Connect with Dr. Charlin

And we know that so as people get older, not just with neurodegenerative disease, but so many loss of health span can come from falls. And having that conscious movement, using your vision with conscious movements can be a huge protective mechanism or strategy to prevent those types of issues as we all get a little bit older.

So, Dr. Charlin, I know that we have been having this amazing discussion. I could probably talk to you for another hour, but unfortunately, you're speaking soon at a conference.

So I want to let you get to your meeting soon. In the case anybody listening to the podcast would like to reach out to, to learn more about your work, perhaps participate in one of your programs, how could they find you?

We have a lovely website, it is called functionalmedicine.doctor, so it's not dot com, its dot doctor and that's spelled out, but it functional, f-u-n-c-t-i-o-m-a-l, medicine, all one word, dot, doctor, and there's lots of information there.

allow you to sort of get an idea of what we're all about, even make an appointment for a three, 15 minute consultation with one of my coordinators. We can learn about you, make sure it's a good fit for you and a fit fit us, and then be able to move forward in working with us.

And of course we do have a lot of other resources for folks. YouTube channel and our own new podcast the healthy grains toolbox, but you can find us on most social media channels as well So lots of ways to learn lots ways get information that hopefully will help improve the quality of people's lives Absolutely.

And one question, do you offer virtual consultations? We offer a virtual consultation within the framework of medical licensing, which is state by state.

My license is in the state of Missouri, and that requires a physically present office visit at least once per year and any kind of actual medical engagement, meaning if I'm going to order a test and interpret that test for you, if need to put you or recommend that you take a medication by law, you have to have been seen in the state of Missouri before any of that can happen.

But yes, we definitely do offer telemedicine and we see people from all over the world. Wonderful, so we will share all of those links under the show notes.

So in closing, Dr. Schrolin, is there one last message you would like to leave our audience with when it comes to preserving brain health and overall wellness?

## Final Advice on Brain Health and Data Tracking

You know, we do tend to make things overly complex and there are some very exciting things, maybe a topic for future podcast interviews, things like people want to know about stem cells and there's all this rage about peptides and I have my own sort of opinion about all of that.

But in the end, none of really matters unless we're working on those foundations. And I think no better time for us because of the availability of these tracking devices and this explosion that we call AI to help us gain more insight into all of that data and how we can best use it.

So I really encourage people to invest in something that works for them. We're arraying Apple Watch. And there are many other things out there because the more data you have about yourself, the lower you are empowered to take action.

And these conditions that too often we feel are inevitable and can't do anything about it. Medicine has so little to offer. In fact, there many things we can do about.

But once you your data, then you can really take meaningful action, Absolutely. And I'm going to add two more things to that. You mentioned the Apple Watch or Oura Ring, a CGM continuous glucose monitor.

I find extremely helpful to know how our body's responses to what we're eating and our glycemic load. Then the other thing is a home blood pressure machine.

Yeah, absolutely. Well, again, Dr. Charlene, you have been a wealth of information, such interesting perspectives. I really hope people listening, I know some of you are providers out there listening.

So I hope you take away some really important pearls from this conversation. And I Really appreciate your time, dr.

Charlie. Thank you so much for joining us on the IQ podcast.

Thank you for having me. Yeah. And for the rest of you, I will see you all next time, so stay tuned. Thank for tuning in to the IQ Podcast. I hope you enjoyed today's episode and learned something new to help you boost your IQ.

Leave us a review and share the podcast with your family and friends. Stay connected with me for more eye-opening insights on eye health, nutrition, and lifestyle.

Until next, time keep your vision clear and your iQ sharp.