Why Exercise May Be More Powerful Than Any Alzheimer's Drug Transcript

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Opening: Brain Plasticity and Book Announcement

We need to have the mindset that we can improve our brain function as we get older. That we have a better memory at age 65 versus age 63. See, our brains have huge amount of neuroplasticity.

And that neuro plasticity doesn't stop at 40, 50, 60, 70, or even 80. Hey everybody, we'll get right back to the podcast, but I do have some very, very exciting news I want to share with you.

And that is that my new book, Brain Defenders, that we've been talking about on the Podcast is now available for purchase. It is going to be published in August of 2026, But it is available now.

If you want And that is oddly enough, braindefenders.com. This is really empowering information as it relates to charting your own brain's destiny. Now let's get right back to the podcast.

Well, hello everyone. Dr. David Perlmutter here and welcome again to the Empower Neurologist. You know, today we are going to explore a topic that's very much central to everything that we cover on this podcast.

Certainly what I've been messaging for the past several decades and absolutely what i'll be talking about in my new book Brain Defenders. And it's the idea that our brain is not fixed.

It's profoundly adaptable, it is deeply resilient. And it's absolutely capable of far more than people have ever imagined. What a message. For decades, we were really given pretty much disempowering information, suggesting that our intelligence is predetermined, that memory will inevitably fail, and that Alzheimer's is largely an unstoppable force.

Introducing the Invincible Brain

The science tells us, today the research reveals, are better than that we know that the choices that would make each and every day the types of information that you put forth in this podcast can actually shift the brain trajectory and enhance cognitive reserve and in many cases actually override what you may have considered to be genetic predetermined risk factors.

My guest today has been at the forefront of that revolution. Dr. Majid Fatoui has spent more than 30 years studying and treating the brain as a neuroscientist, also as the clinician and a teacher, and now through his new book which is called The Invincible Brain providing a guide for anyone who wants to take control of their cognitive future.

I think his message is quite clear, it aligns beautifully with what we champion here, and that is that hope is real, that meaningful change is possible at any age, And that building a stronger, sharper, more resilient brain is not only within our reach, but it's our responsibility.

It's a responsibility that we really owe to ourselves. So today on the program, we're going to take a deep dive into what it really means to cultivate an invincible brain.

One that's energized, one that adaptable, a brain that is defendable and primed for lifelong health and purpose. So I'm very, very excited. Let's get started.

Dr. Fatui, welcome to the podcast. My pleasure. Thanks for inviting me, David. My Pleasure to have you. And I want to just start off. You know, this is a it's a very important time for a book like this to come out, because as you well know we're in a situation where we are seeing time and time again a lot of information coming to us as practitioners, clinicians that we should be using one form or another drug.

targeting beta amyloid, for example, and as if that's the answer to keep the brain intact as it relates to Alzheimer's, For example. So, I mean, your book clearly challenges this whole notion by indicating that we are kind of the arbiters or the architects, as you call it, of our brain's destiny.

And early on in the book, what we worry about is the fact that our intelligence may fade. And you even, I think it's the first chapter, challenge our whole understanding about what is intelligence and challenge this notion that IQ, so-called intelligence quotient, is really such a fundamental metric.

So how did that challenge of the IQ come into your bailiwick and why did you basically indicate that it wasn't so appropriate? I think it's important for people to appreciate that our cortex and hippocampus, cortex is the outer layer of the brain that's the important part of our cognitive functions and the hippo is a size of thumb, you have one on the right and one The cortex and hippocampus are parts of the brain that are very important for our cognitive abilities.

And this could be typing, reading, writing, driving, artwork, doing our taxes. These are all manifestations of our Cognitive Functions. Now, I find it surprising that we have come to a sign that certain cognitive functions are intelligence and others aren't.

Why do we prioritize math, physics, logical thinking, and processing speed as intelligence? But for example, we don't value artwork or cooking or being a good clinician or a being good person who can present on stage.

Creativity. Or a comedian or so many other brain functions we have. Who's to say that these cognitive functions are good and they're IQ? These other ones are just talent.

Rethinking Intelligence and Cognitive Strengths

So I think It's important to know that we can expand our cognitive functions in any areas. Unfortunately, a lot of people think that I'm not as smart as my cousin, my coworker, or my boss because they're just smarter.

And I think we need to educate people that know you're smart in your own ways and you can become smart and anything you choose to. So if you want to be good in piano practice, you become good at it.

You may not become a world class pianist, but you. Can get good. At anything. Well, he said in the book that people are actually smarter than they think they are.

Exactly. What are they getting wrong? I think that what they're getting wrong is to compare themselves to this other person who has a better memory or this person can play piano or these other persons can write better or just other people who can be better at crossword puzzles or can good at Jeopardy.

They don't appreciate the talents they have themselves and they don' appreciate how other peoples envy them. For example, you may be a good cook. You know it's not easy to be good.

You know, there's so many things you have to keep in mind, timing of how things work, the amount of ingredients you add, amount spices you added. It's a lot of talents involved to be a good cook.

Or someone can fix things around the house, or someone who can taxes. Everybody has their own talents and I think it's very limiting. for us, for people to think that IQ is physics and math and logical thinking and processing speed, and I don't have it.

And I think it's very empowering when people say, hey, I can be good at anything. I think that's the big difference. If you educate people that their brain has capacity to grow and the brain capacity has to change and improve, they take on new challenges.

They take new opportunities. they don't hold back stepping up to do something. It's like some people say, I'm not good with skiing. There's nothing magical about skiing, anybody can learn to ski.

But if you tell yourself, i'm good skiing you'll never try. If you try you will get good at it. There are two concepts that you put forth early in the book, memory and habit change, and you indicate that these things, seemingly disparate, are actually very, very synergistic.

And that, I think, is a concept I'm hoping that Let's keep it simple. Let say you have some coffee, it tastes good, you get a little buzz, if you feel good about it, and you remember it.

Just say, go to a specific coffee shop and they have that coffee and remember that it was good. Next time you're driving by there, your gonna stop in that coffeeshop because you remembered and go there.

The third and fourth time that you go, It has become a habit. Now, you go and you stop in that coffee shop every time because it has a habitat form. The other way of forming habits based on memory is how you interact with people.

You interact someone and they say something nice to you, and you remember that. And based what you remembered, then you seek to be with that person again, again and again.

Then you form a habit of seeing them regularly. This can happen in the opposite way too. Let's say you hang out with some friends and have some weed. and you smoke it and like it, and remember that you liked it.

If there was no memory and that happened only in that day, the next day was a new chapter in your life, you wouldn't seek that behavior again. So your memory of what has happened can encourage you to do something over and over again, And here's the fascinating thing about neuroplasticity, which I know you appreciate, David.

When we form habits, we change the anatomy of our brain. When you learn, for example, the piano, you get to the habit of playing the pian every day, to increase the connections between different parts of the cortex that are important for music, or following the certain sequence of keys.

And in a negative way as well, when you become addicted to something, your form pathways, neural pathways that reinforce that habit. So this is what's beautiful.

Your memory can make you be prone to do something on a regular basis. Once you do it, once you something, on regular bases, you form new pathways in your brain for better or for worse.

And I think these are probably… Beautiful relationship between habit and memory. But, you know, I hate to use the term biohack, but is there, what is, let's say, if there is one piece of advice or recommendation for a habit that our viewers could incorporate into their lives right now that would help them with respect to improving memory, What's the one thing they could do?

I think the most important thing is the mindset. I agree. The most thing important is to believe you can do it.

Memory, Habits, and the Power of Mindset

A lot of people say I'm not good with names, they don't even try to remember someone's name. They just say, I am not great with name and they just stop.

Yeah. Well, the think most the important things is change your mindset and tell yourself you are as smart as anybody else. And after all, memorizing name is not rocket science.

If you repeat a name four or five times, and you know, in my book I say, like, what if I give you $10,000 for every name you remember every day? How many names would you even remember everyday?

Just imagine that. So it's not like we can't do it. We can. And we need to have a growth mindset. We need the mindset that we can be good at anything.

I'll tell you what works for me in the name department. First, I recognized long ago that an important part of success when you meet people is to remember their name.

Especially if you're at a cocktail party and you met somebody who you'd like to continue to interact with. To remember the names. And what I do and it almost always works, is I just associate that person with another person who I do know who has the same name.

Whenever I see the person, I remember the other person whom I know, and then that kindles my recognition of the name, but every once in a while, somebody has a name that you've never heard before, or a nickname in another language.

You know like, how many Majeeds do I now? I don't know any others, so you would be tough. But that works for me, let's say 80% of time, Yeah, that's a bit of a hack.

So there you go. You know, one of the things that I'm so often confronted by, asked in lectures and I write about, and you address it head on in the book, is this notion that i'm genetically determined to get XYZ, whether it's Alzheimer's or whatever, the neurodegenerative situation may be, and my cognitive function, memory, et cetera, are going to go down the tubes.

You really challenge that first by looking not just at the genetics but the epigenetics, I hope you can unpack that for us, but also the tools then with respect to lifestyle modification that have a huge impact on the brain's time course.

Absolutely. We're just talking about mindset. One of the most important mindsets is to believe that you can become a super-ager. You have to have the mindset that I'm going to be sharp in my 90s at the same level as when I am in 50s.

I know for a fact that genetic plays a very small role for late life Alzheimer's disease. As you know, early onset Alzheimer's disease has a strong genetic component.

But when people develop cognitive decline in their 80s, it's often because of the super problems affecting their brain and shrinking their brains. The super problem could be things like diabetes, obesity, lack of sleep, sleep apnea, too much stress, poor diet.

All of these factors can shrink the brain, and lead to cognitive declines, which we call Alzheimer disease. What you just said, everything you listed were metabolic challenges.

Exactly. Challenges to metabolism. And exactly. You know, in what I'm exploring now, metabolism influences immunity, hence the term immunometabolism, and as it relates to the brain, affects the brains, immune cells, the microglia that lead to then destruction of the brand.

So and the other thing about what you're right on there, David, because, you know The immune cells in the brain called microglia and the other cells are astrocytes and these cells contribute to the problem that starts with amyloid.

So amyloid accumulates in a brain and then when there is increased inflammation, the micro glia become hyperactive and is activated micro-glial, activated immune cell in their brain which then fuel the fire.

and metabolism and metabolic problems which affect the blood flow of the brain. And in fact, the dignity of their blood vein barrier are the culprits.

The dignity, I love that word. That was beautiful. Okay, I'm there. Good going. Yeah, so I totally agree with you on that. Absolutely. And the other thing about that list that you mentioned, they're all modifiable factors over which you have control.

So I like where you went in the book and where are you going today and that is that job one is really embracing your ability the ability that you have to make these modifications such that all the rest of the complex biochemistry

and physiology downstream will take place.

But all you got to do is number one, recognize that, you can improve your brain function and protect your rain. And number two, that to wait and make that happen is to, make the changes that so eloquently and with dignity described.

Yes, absolutely. We need to have the mindset that we can improve our brain function as we get older. That we have a better memory at age 65 versus age 63. See, our brains have huge amount of neuroplasticity.

And that neuro plasticity doesn't stop at 40, 50, 60, 70, or even 80. Um, and so with that mindset, we challenge ourselves. Let me tell you a little story.

Okay. So my friends were telling me that they were playing pickleball and it was short one person. And there was this lady who was 79 years old and they said, well, you don't have anyone.

Why can't play? And she came and played and she wasn't playing as well. And then they were thinking, like, what did we get us all into? Like, we have now a player who's really not, you know, stepping up.

But then, and she was going to give up, but then she decided, You know what, I'm going try harder. And she became so good at things that she got better than the rest of them.

Genetics, Epigenetics, and Super-Aging

So if you have a mindset that I am 79, i'm not going say no thank you, not gonna play, your giving up on the possibility that not only can play you can be better then other people who are in their 60s.

And that's the thing that you need to challenge yourself and appreciate that your brain is alive, beautiful organ that just like your muscle can grow at any age.

I really think we need promote the concept of super-agers, people who can get to their 80s and 90s, and have mindset of cognitive ability of someone in their 50s or 60s.

Hey everyone, we're going to get right back to the podcast, but I have an important message for you. If you're caring for somebody with Alzheimer's, any other form of dementia or even what we call mild cognitive impairment, or maybe you've received one of these diagnoses yourself, Or if you are focused on preventing cognitive decline, I want to speak directly to you for just a moment about some serious research that's going on looking what we call 40 Hertz light and sound simulation.

We've been actually talking about that on the program. Here's the challenge. Not all 40 hertz light devices are the same. Most use what's called stroboscopic light, and that's type of light that flashes, then you can see the flashing.

That can cause nausea, headaches, and if you can't tolerate that, you won't use it. There is a company called Optosudix. They've solved this problem with a patented technology that still gives you the 40 Hz light flashing, but through light that looks and feels quite normal.

It's the device I actually have on my desk when I'm working. And that's why this company sees a 94% adherence rate and significant improvements across various metrics, including mood, energy, focus, sleep, and memory.

And the light is called the EV light, EVY. You can use it as I do when you're working on your computer, when your reading, watching TV, eating breakfast, whatever.

It becomes really part of your day, not just another burden, it's kind of passive in the background. So I recommend giving it a try for 90 days. And if you and your family don't see value in it, then you can return the device for a full refund.

They cover the shipping both ways. You can learn more about Optosudix at optosüdix.com forward slash Perlmutter. you Can use the code to get a $200 savings.

The code is Perllmuter, my last name 26. This is a device that really is risk-free in terms of getting involved with 40 Hertz stimulation. Uh, important information.

Let's get right back to our podcast. Well, I mean, obviously what people are so afraid of is, is dementia and most of dementia is senile dementia, the Alzheimer's type.

And you, you know, there there's a sense that, Oh, Alzheimer is caused by the accumulation as mentioned of beta amyloid end of story. We can get rid of the beta and my problem solved.

You and I know that is just hogwash to be kind. And you call Alzheimer's a soup of abnormalities. I think those are the words, right? Exactly. And as such, what do you mean by that?

What converges to threaten the brain in the Alzheimer state? Many of the factors that contribute to soup problems that shrink the brains are metabolic problems.

diabetes, obesity. For diet, with or without obesity or diabetes. These are sedentary lifestyle. A big part of soup are metabolic problems. And the other ingredients of this soup that causes problems are stress and high cortisol levels.

And another component is what I call cognitive laziness, where people don't challenge themselves because they think they can't. So there are things that reduce blood flow in the brain, all the vascular things.

There are thing that increase inflammation in their brain. Stress and anxiety can do it. And there're things shrink the brains because of poor sleep. The gluomphatic system is very active during sleep, and deep sleep and when you don't get enough deep asleep, the rinsing of the brain doesn't happen and the chemical byproducts accumulate and they trigger inflammation and as we just mentioned, that activates the microglia and astrocytes which then fuel the inflammation further and cause neurons to die.

So all these factors, obesity, diabetes, sedentary lifestyle, Stress, anxiety, insomnia, sleep apnea, concussions, all these factors can contribute to chip away the brain little by little.

I really believe that our daily habits, for better or for worse, can affect the size of the cortex and hippocampus. So whether you choose food A or food B, whether choose to stress over a car accident or stay calm after a accident, whether you choose to get a good night's sleep or watch a movie until three o'clock in the morning.

Every one of those habits can make a microscopic change in your brain, especially your cortex and the big campus. And when you do all the good things, those microscopic changes translate into substantial change on the cortex, the size of cortex on a big cap is so much so we can see on brain MRIs.

When you're doing all those negative things then the cortisone of the cap will shrink. It's hard to imagine, because we live in a world that wants us to believe that live your life how you choose and we'll make a drug to fix the problem.

And I think what you're describing goes up against the notion of of let's remove the beta amyloid from the brain problem solved. And you're suggesting that we should be paying attention to a multitude of factors.

Our blood sugar, our insulin sensitivity, or degree of stress, the quality and quantity of our sleep, are sedentary, obesity, blood lipids, inflammation factors, many things that you talk about really goes against the notion of monotherapy.

We live in a world of Monotherapy for your problem here is the drug you need. And you're suggesting that that's not the answer that we've got to pay attention to a multitude of things.

You and I are on the same page, David. I really feel that you and a small portion of the medical community understand things. One way I try to educate my physicians who are not up to par on these things is to think of it the way we look at cardiovascular disease.

I think we all agree that the best way to have a healthy heart is to exercise, eat well, sleep well and avoid junk food. And yes, you can take medication for cholesterol, but you cannot just take a medication from cholesterol and assume that you will not have heart attack.

You will. If you have high cholesterol and you take cholesterol medication, but continue to be obese, continue not to exercise, to have sleep apnea and treat it and all those things, you will have a heart attack.

It's not whether or not you get it, it's when you do. And now we're appreciating that your brain functions and your vitality are the same way.

Alzheimer's as a Metabolic and Inflammatory Soup

I look at amyloid, much similar way I'd look cholesterol, is one component of a bag of problems, of the soup of problem. And yes, I think I don't wanna have too much amlyloids in my brain.

So if there was a supplement or something I could take through this amyloid, then I would. But I know that's a small part of holistic approach to have a healthy brain, And Lloyd is just one player.

It's kind of been a lonely place over the years, having these discussions with with colleagues, but you know, it's so welcome that we hear somebody with You know, with your level of academic stature, making this so clear, writing this wonderful book and indicating that, you know we, vis-a-vis our lifestyle choices, are the arbiters of our brain's destiny.

I mean, it takes it out of the realm of you need a pharmaceutical fix, end of story. And, the reality is that This formation and subsequent accumulation and lack of phagocytosis of beta amyloid is a downstream manifestation of these metabolic issues that you so well describe.

And so you're really targeting things upstream with respect to the function of the brain's immune cells and the reduction of free radical immediate stress and inflammation.

So, and then nurturing of synapses and neuroplasticity and blood-brain barrier, that is the task of brain immune system. These are factors over which our day to day lifestyle choices have incredible sway.

So the next level. What's really exciting these days to me is that it turns out things like exercise, reduce amyloid. Now, we have always thought that you have amyloid out of nowhere.

We have come to appreciate that all the metabolic factors we were just talking about increase amyloid levels. I was just teaching about these things to my student at Johns Hopkins, and I asked them, so look up all of the things that can increase aminoid levels?

So they all did a Google search or a chat or something. And they said, okay, I said what are they? They said hypertension. I say, wait a minute, you're telling me that hypertension includes amyloid?

What's the evidence? There are references. You know, obesity includes the amlyloids. Concussions definitely increase amilyloides. Insomnia definitely.

And so we know that many of these metabolic things we're just talking about, in addition to like sleep problems, stress, anxiety, all of this things can impact the brain by increasing inflammation, reducing blood flow, but they can also increase amyloid levels.

So if that's the case, if you do the opposite, then amyloid levels should go down. And that what's happening. When

you multi-mortal lifestyle interventions, like the one that Dr.

Ornish did in California, brain amnyloids levels go up. And so it's so exciting to know that our brain destiny is in our hands. We just don't get amyloid outer blue.

You know, only small percentage of people, maybe 5% of the people have what I call pure Alzheimer's disease that is genetic and for some reason they've done all the things right and they still develop dementia.

In my clinic, I've seen several thousand patients with myocardial impairment and different forms of dementia and I can remember the individuals in that category one by one because there were so few.

There were a hundred all these years that I've seen patients. So I'm a firm believer that what happens to our brain is a result of how we live our life on a daily basis.

What habits we have, what routines we And if we have good habits, we increase the number of synapses in our brain, increase blood flow to our brains, and we increased levels of BDNFR in the brain.

If you have bad habits we'll increase inflammation in your brain we reduce the blood in flow in brain We increase as you like the integrity of the Blood Brain Barrier.

So every day we will have choices. And we've known these things for heart disease. We have known this for a long time that heart diseases to a large extent depends on lifestyle choices.

But what's new, what is exciting, and what I've included in my book is the fact that same things apply to brain health. And it turns out most of them are the same thing anyway.

Hey everyone, we're going to get right back to this podcast. But first, I wanted to share some information about olive oil. You know that I love olive.

So here's a good tip. The most delicious olive that you can get is olive, oil that comes fresh from the farm. This is when the olive is at its peak flavor and all the nutritional good things that we talked about, the polyphenols, et cetera, are really at their peak.

When you buy your olive oil at the supermarket, you are getting an inferior product because they have been sitting on the shelf for months and they basically grow stale.

And that's why I've been getting my olive direct from small award-winning family farms, really around the world, thanks to a fellow named TJ Robinson.

I have done Instagram live with him in the past. He's known as the olive-oil hunter. He is able to source farm fresh oils that are vibrant, they're healthful, there are grassy, their incredibly delicious and you can use them on whatever you want on salads, fish, vegetables, meat and even like I do on scrambled eggs.

So if you wanna taste the difference that freshness makes, TJ is gonna send you a full size bottle which normally will cost you $39. He's gonna sent it to you for free if them just a dollar that will cover shipping.

And that's how he then is able to introduce all of you to this fresh pressed olive oil club, a club that we are members of. So there's no commitment, just send him a $1. He'll send you a full bottle of olive.

You just want to go to getfresh389.com. That's get fresh 389 dot com and he'll make it happen for you. Let's get right back to our podcast. Yeah. Isn't it interesting that Dr.

Dean Ornish, a cardiologist who wrote the Ornis plan to reverse heart disease, uh, is now, you know, kind of leveraging the pretty much the same in anti-inflammatory type of approach and getting really quite dramatic results as it relates to the brain.

You know? Uh, interestingly, um, Several years ago, he and I were called to visit with the King of England because the question was on the table, why is the health of the English population declining from degenerative conditions?

like heart disease, like neurological conditions. And we said to the king that, you know, it's because of your food. It's just not good. You've got to really stand up and make that known.

Lifestyle, Amyloid, and Brain Health Upstream

That didn't pan out, but here he is, a cardiologist. I'm a neurologist, and we're saying the same thing. and pleading for changes to happen. It's not as if there's a heart smart diet that's bad for the brain or a brain smart that threatens bone health.

We understand now that the fundamentals of what makes for a good diet transcend the delineation of body parts and systems. Basically, these are diets that nurture energy production, nurture the mitochondria, reduce inflammation and provide, you know, this cadre of important nutrients and other things like polyphenols.

So, Dr. Ornish has had it right for an awful long time. Let me shift our conversation back to the genetics of it because you were saying something a moment ago that was really interesting.

about you can remember these patients who, with their genetic issues, you could enumerate them. When you're confronted with an APOE homozygous, APoE4 homosygous individual, what do you feel as you are dealing with that patient nowadays as opposed to, let's say, five years ago?

What is your sense of empowerment in terms of being able to alter that person's brain trajectory moving forward? Yes. So, I explained to them that they're at an increased risk of developing Alzheimer's disease, but increased risks does not mean they will definitely develop a disease.

And I highlight several studies that have shown people who have 8.4 allele, people with carrier 8,4 genes have low levels of amyloid if they exercise.

Several studies have shown that. Even A4E4 does not mean you definitely get it. Let me tell you a story. A writer, Jean Carper, was told that she has APOE4 positive, and she lives in Florida.

And she came all the way to see me in Baltimore, And I talked to her and I said, listen, exercise is one of the most important things to do. Your cognitive function seems to be good, I want you to follow my program, The Five Pillars of Brain Health, Diet, Exercise, Sleep, Stress Reduction, Brain Training.

and I want you to think positive and really focus on these things." And she actually documented all these. She actually brought a cameraman to our office as I was talking to her.

And her cognitive function was superior for her age. which was 80, 10 years ago. And then she went back to Florida and she has remained sharp. She's 93 years old now and as sharp as ever.

I mean, she had some cognitive issues. When I talk to her, I can tell she's not exactly 100%. However, Living life she has art exhibition for her own art, she lives independently, drives, cooks, does everything, 93 years old and she was, you know, was a heterosexual.

However, I tell people that just because you have 8.4 positive it doesn't mean you will definitely get it. you can postpone the age at which you get it and hopefully it will be after you die.

And the contrapositive I think is really important and that is that you could be you, could not carry the APOE4 allele you. Could be 2,3, 3,2, and still get Alzheimer's.

Exactly. So you know I, think genetic testing is wonderful. Because we ratchet up recommendations based, you know, if somebody is APOE 4, they have to be even, I'm sure you would agree, much more diligent about

everything.

But hey, no one gets a free ride here. If 25, 28% of the American population carries an APoE4 allele or more, or two, But yet, you know, look at the risk of Alzheimer's when you become 85 years old is around 40%. So it transcends the fact that it's a genetic issue.

I think it is really important for people to get away from this genetic predisposition or genetic determination sort of… Absolutely. It gives people a false sense of security when they are for you for two or three, because they feel like, oh, they're off the hook.

Where in reality, if they have sleep apnea, insomnia, anxiety, obesity, diabetes, central lifestyle, they will have brain shrinkage and they'll become demented.

And so I think they need to understand that this is one piece of the soup, one of piece the puzzle, and in order to have a sharp brain in their 80s and 90s, you need look at all the things that can affect the brain.

In my book, I have list of 40 questions that could affect a brain, Because you know, if you have liver disease, you can have brain problems. If you've got kidney disease you're going to have problems, If have a lot of medical conditions, You can't have any problems because of those medical condition.

Because every organ in your body communicates with your brain. A two way communication, especially your gut. And so if have things below your neck that are not optimal, they can be affecting your brain by 5%, 7%, 10%. But if you have, you know, kidney problem, liver problem gut problem pain, no, osteopenia and all those things, things you'll be frail both in your body and your.

In order to have a tip top brain, we need to. Have a tipped up body as well. Well, well you mentioned, um, exercise is a neurobiological intervention.

And I think it's fair to say that regular exercise is far more potent than any pharmaceutical that's even in the pipeline as it relates to the brain. Fair to Say?

Absolutely, absolutely. And we live in a very sedentary world. You know, one other metric I thinks really kind of valuable is all of the the metabolic things that we've discussed, the overweight, that dyslipidemia, elevated blood sugar and insulin resistance, hypertension, et cetera.

The components of metabolic syndrome in a country where 94% of adults suffers from at least one or more components, of a metabolic dysfunction. So about 6% adults in America is actually metabolically intact, metabolical sound.

And then we, and you talked about the relationship of these metabolic issues to risk for Alzheimer's. It's no wonder there are seven million Alzheimer patients in America right now.

I mean, this number is growing very quickly and it's in lock sip with our metabolic mayhem as it were. Absolutely. And you know, it is frustrating to me and I'm sure it to you that these are well-known facts And yet life is going on.

I think that this should be prime time news, what we're talking about, yet the prime-time news is not you should take care of your body, you take of metabolism in order to have your healthy brain.

It's about can we come up with a drug that will cure it and fix everything. So what's the optimal nutrition then that we should striving for? I thing the most important thing, David, is to avoid junk food.

I think we're so surrounded by cookies and candies and boxes of chips and donuts and all these junk food around us. It's hard to live a life and not be exposed to them.

Studies have shown that the American diet, also known as the inflammatory diet is associated with the smaller

brain. The single most important thing to do is to avoid junk food.

I think most people know what junk is. People know that if it comes in a box or a package and it's ultra processed food, it is junk. And most fast foods are junk food.

I think to me, that's the most important thing. And I a heart healthy diet is important for increasing blood flow in the brain and reducing inflammation in brain.

Nutrition, Junk Food, and Clinical Pushback

So I that my approach. The individual component, whether it's a vegetarian diet, a vegan diet or all the other choices of diet that people have, they all have positive and negatives on their own.

I know this is your expertise and I read your brain grain and appreciate how the grains can increase inflammation in people. And in my experience, there were many patients with migraine who when stopped the grain, their micron got better.

But my general approach has been don't eat junk food, number one, and then follow a heart healthy diet that works for you. So how are you appreciated by your colleagues?

I mean, you're at a step, call it like it is, right? As it relates to other neurologists, just really not taking your approach, to be fair, not valuing a lifestyle intervention.

So, how does it play with respect to your college and their appreciation or lack thereof of what you do? Yeah, I wrote my first book about brain health issues in 2002, 2003, The Memory Cure.

Back then, it was an assistant professor of neurology. And the title of the book was pretty provocative. It was Memory Cure. And in it, I talk about how metabolic problems can shrink the brain and what we call Alzheimer's disease and overdiagnosis.

I tell you, David, back then, many of my colleagues rolled up their eyes. In fact, General Hartman told me, Majid, you can't be talking around preventing Alzheimer disease because you're an assistant professor of neurology and people take your work seriously.

and what you say is not supported by science. This was 2003. Recently, a couple of weeks ago, I had one of my colleagues from Hopkins, my mentor, when I was a fellow, and he came here, we've known each other all these years, he said something very meaningful to me.

He said, Majeed, you've been vindicated. What you were saying back then, we were not taking seriously. But many people who did not take you seriously back, then I rolled up their eyes are now talking about the things you used to talk about.

So I feel like people are coming around and in five years, this will no longer would be sort of the minority of neurologists who will talk. There will be a majority of people.

Hey, we're going to get right back to the podcast, but I do have an important message. You know, for decades we've been told that our genes are basically our destiny as it relates to health and that everything's locked in place, predicting even our future brain health.

But let's be clear, your DNA isn't a verdict, it's a roadmap. And I'm talking to you today about 3×4 genetics. I actually described them in the new book, Brain Defenders.

And this is a company that helps you understand your genetics, what you've inherited, and I think more importantly, how your daily choices can influence how those genes are actually expressed.

In other words, you can control your own genetic expression. And, you know, that matters for your health and it really matters your brain health, including things like memory and mood and cognitive resilience.

You may carry genetic markers associated with cognitive decline, like as we've talked about APOE4, but possession doesn't equal expression. your lifestyle, your nutrition and metabolic health.

All the things that we talked about here on the podcast can powerfully influence which genes are turned on and which stay quiet. The 3×4 genetic test looks at how your genes impact brain function at a cellular level and Then through the 3×4 health journey, which they provide you, guides you through a clear and a science-backed program focused on inflammation, methylation, oxidation, oxidative stress, things that we routinely discuss here on the podcast that are the key drivers of basically what makes a good brain go bad.

and we have spoken with the team at 3×4 Genetics and they were able to get a special offer for our podcast community. So head on over to 3X4Genetics.com forward slash drpearlmutter and get that special and start really your personalized brain health journey today.

Let's get your genes working for you and let's go back to the podcast. You know, when you read the throwaway journals, you know what I'm talking about, not the peer-reviewed journals that we get, but those larger like Neurology Today, those throw away journals.

There's a lot of information in them recently about lifestyle impact on the brain. And how metabolic issues are affecting the microglia and the role that that plays in neurodegenerative conditions and how we can modify our metabolism to modify the metabolism of the microglial cells and revert them back to being helpful.

So we're seeing that actually quite a bit. And it's interesting because this understanding of their relationship to metabolism tells us now why it is that when you have type 2 diabetes, your risk for Alzheimer's is increased up to threefold.

Why, if you've type two diabetes your risks for Parkinson's has increased 80%. I mean, who knew that? But it's insult to injury. It's adding this layer of metabolic dysfunction on the brain's immune cells that would otherwise be wanting to help your brain and heal the brains.

So David, I like what you just said. And I think it's beautiful what you just said, which is what do you do affects the functions of the microglia. Your day-to-day life choices.

What you put in your mouth affects to the vitality of micro glia, and when you improve it, the macro glial improve. And that's the key that I wish more people would appreciate.

That your brain cells are not like in a box. It's not a computer. You're just working or not working. There are four main cell types in the brain. You have the neurons, the astroglia, astrocytes, microglia, oligodendrozytes.

And you have pericytes and you the blood vessels and those are the main cells, cell type. They're not working in vacuum. There not like, they're just there.

Their living tissues and what you put in your mouth, how much sleep you get affects the vitality of those cells. The size of those cells, whether they ooze out free radicals or they don't, weather they sprout and do more good things or the shrink, all of them depend on what you eat, what do you do.

And it's reversible. I think that's the thing that is so fascinating to me, that your lifestyle choices affect the functioning of individual cells. Those cells are responsive one way or another.

You put a lot of junk food in your mouth. that increases inflammation and you have fewer mitochondria. And when the mitochondrion are aging, they become senescent mitochondrial, They actually ooze out more free radicals.

They become a source of problem.

and they're good for you, but when you have too much inflammation going on, the mitochondria becomes senescent mitochondrion, and then they actually generate free radicals.

They become part of a problem instead of helping the problem. And all of those things depend on what you do. I think that's fascinating. And I thing that is the key to appreciate that your lifestyle affects the very cells that make you who you are.

As I said, microglial metabolism mirrors systemic metabolism. Exactly. You mean that if you're metabolically intact, your micro-glia are going to be there and be supportive of M2 configuration.

If you are diabetic or insulin resistant or pre-diabetic, we're talking about a third of Americans, which is a terrible statistic, but the even worse statistic is the fact that 90% of pre diabetics in America don't know it.

Don't that they have, you know, fasting blood sugar between 100 and 125 micrograms per deciliter. It's worrisome, and that's getting back to your comments about junk food and, of course, sedentary, lack of sleep contributes to insulin resistance, as does stress, these things all conspire.

You know, what you say is just, it's so refreshing to hear it. Let me, if I can, I know our viewers have expressed an interest in, to me very frequently about brain training and brain-training apps.

And I knew you touch upon that in the book. What can you tell us, where are we in understanding the utility of these apps? Yes. I think your brain is like a muscle and the more you use it, the stronger it gets.

That's, 100% the case that the more you challenge your brain, the stronger it gets. I think the problem comes in where people do studies and ask the question, when people brain training, do they have a reduced risk of Alzheimer's, yes or no, and that's a mixed result.

It's not surprising to me that there's mixed results because You need to have five pillars of brain health, diet, exercise, sleep, stress reduction, and brain training.

If you work only one of those five pillar, you may change your risk of Alzheimer's disease by five to 10%, which may not be dramatic. if you look at a population of 100 or 500 people with different backgrounds.

That's why we don't see a signal in all studies. Some studies show, but other studies fail to see. So I think you absolutely need to train your brain and stimulate your mind, and that will absolutely grow your hippocampus.

I give a whole lecture, an hour of lecture about how different activities, whether it's mirror imaging, drawing things in the mirror, or whether it's playing the piano or learning a new language or learn a vocabulary, learning grammar, anything you learn grows the corresponding parts of your quartet's in the campus.

And that's a no-brainer. It's brainer. So no brainers that you need to do that. that you stimulate your brain, it gets stronger. A couple of years ago, there was a Lancet Commission report that talked about the 14 modifiable lifestyle factors that are associated with up to a 30 to 40% risk reduction of developing dementia.

Things like controlling your blood pressure, minimizing alcohol, getting exercise, wearing a helmet, avoiding head trauma, et cetera. 14 very powerful levers you can pull They did not mention diet, just saying.

So when it came out, I along with two of my colleagues wrote a letter to the Lancet saying, hey, great study, wonderful recommendations, but somehow we were sure it's an oversight, diet was omitted.

And we provided references on the Mediterranean diet, Mediterranean green diet the Midas diet various diets, interventional trials showing, you know, stabilization of cognitive decline, improvement of the cognitive function, reduction rate of atrophy of hippocampus, all of them metrics that we think are very important.

and they refuse to publish our letters. So I don't know what forces are influential in keeping this information from the general public, but it's not as available as one would think.

Fortunately, people like you write these terrific books. and you're making it clear, driving home the point, hey, what you eat really matters. You know, I asked you for one metric or for lever, and, you said, food, avoid the junk food.

It's the first thing you've said. Didn't say sleep. He didn't exercise. Those are important. We know that you set food but there seems to be just this reluctance to embrace food even here we are in 2025 that it's such an important influence on the destiny of the brain.

Absolutely. And by the way, they did not mention sleep either. Um, so I think they're most likely working on it. And, you know, initially with the 12 factors get back to you on that, right?

14 factors. I, I. There has been a major contribution because more and more people are talking about how there are so many factors that can impact the brain.

Andy just mentioned 14, but this is not to say that these are the only factors for sure. Uh, You know? I just gave a talk. the two days ago and I listed 50 and, uh, you know, as you, we could just keep digging, but everything funnels ultimately through metabolism.

Uh, and this then ultimately funnels through in my understanding, immunometabolism, the microglia. And that's, that really front and center right now in terms of what we're seeing.

And the downstream effect, again, is this accumulation of beta amyloid, ultimately, you know, tau phosphorylation, et cetera, all the other things that people wanna think are the targets.

But the reality is that your book is giving people the keys, the Keys to the Kingdom right here, right? You just gotta read the book and you gotta do what you say.

And I hope people will do that. Um, let me say thank you for, for being on the program today. You're doing very, very great work. I can't wait to come to one of your lectures and learn a lot more.

So I look forward. Yes. It means a to me, David, that you read the book so carefully. Thank you so much. And you're not, you and I are on a same page and they think we need to keep educating in public that, people have the opportunity to become a super agent.

I'm sure you are on your way to become a super-ager and I feel I am on my way. I think we need to change the conversation about what can you do to be a Super-Ager?

Let's stop talking about Alzheimer's disease instead of doom and gloom. Let us talk positive. What we could do in order to get to our 80s and 90s, and have a brain function as someone in their 50s or 60s.

And I think that the take home message from our time together today that I have not really heard expressed before, you know, truly other people are talking about exercise and diet and all the lifestyle factors.

But what you really brought to the table that, and I'm so impressed by is the mindset part. is to say, yes, I can. I didn't realize it before. That's probably the most important part of it all is that's self motivating then.

And then the other things fall into place. So I really appreciate that. Sure. Thanks again for having me on your podcast. We will see each other soon.

Thank you so much. Wow, what a conversation. And as we wrap up today's time together with Dr. Vittui, I want to leave you with a simple but powerful reminder, and that is one that Dr Vitti's work illustrates so beautifully, in that your brain is not a passive passenger in your life.

It responds to how you move, certainly how your nourish yourself and how manage the world around you. The choices that we're making every single day, today, tomorrow, the day after, They shape the architecture, the performance and ultimately the destiny of your brain.

And that's not a burden, it's an extraordinary gift and by all means an opportunity. Dr. Fatui has shown us that intelligence is expandable, that memory is trainable and that aging is not synonymous with decline.

I'm grateful for that. Even in the face of genetic risk or early cognitive changes, there's always room for growth, repair and resilience. And this is the core message of certainly my upcoming book, Brain Defenders, and certainly the message what we've learned today in looking at the invincible brain.

That your brain can be strengthened, it can protected and fortified at any age and importantly from any starting point. My invitation to you is this, choose one action from today's list, from Today's Discussion, just one.

Maybe it's, you know, looking at your sleep, maybe it is adding movement to your morning, lowering stress exposure, or simply believing, truly believing that your brain is capable of improvement.

It is. Because the moment you can act on that belief, you shift from being like this passive bystander to being a defender of your own brain health. Thank you for joining me.

And I do want to thank Dr. Majid Fatoui for sharing his incredibly valuable and hopeful insights. So until next time, please stay curious, stay empowered and continue taking bold steps to build your strongest, your most invincible brain.

I'm Dr David Perlmutter for the Empowering Neurologist. Bye for now.