

Dr. Daniel Amen:

I'm in a new doctor series called Seasons with Justin Bieber. I've been his doctor for five years. He came into my office one day. This was the lever moment. He said, "I get it. My brain can have problems just like my heart can have problems. If you told me I had heart disease, I would do everything you said." It wasn't a mental illness that shamed him that he had to hide from. It was a brain health issue. Now, he's doing everything he can to make his brain better.

Announcer:

Bulletproof Radio, a state of high performance.

Dave Asprey:

You're listening to Bulletproof Radio with Dave Asprey. Today's cool fact of the day is about drummers. It turns out drummers' brains can do impossible things. People who play drums regularly differ mentally from people who don't. We've known for a long time that if you play a musical instrument, it could change your brain, but no one ever looked at drummers and how they're different. Leave it to German researchers who always look at the weird stuff. They found that drummers who play regularly have fewer but thicker fibers between two parts of the brain.

Dave:

This was published in Brain and Behavior, a medical journal. They found that the motor brain areas of regular drummers are organized way more efficiently than they are for you and me. They looked at MRI imaging of 20 professional drummers with 17 years of experience and more than 10 hours a week of practice. Now, if you listen to the podcast with Eric Kandel, the Nobel Prize winner who discovered and documented neuroplasticity, the one he probably said more than anything else in the whole interview was practice, practice, practice.

Dave:

Here, we've got 20 people who took that advice and for 20 years practiced 10 hours a week. The front part of the brain responsible for motor planning was very different. This allowed the drummers to exchange information between these parts of the brain as compared to control group. Most people like me can only perform fine motor tasks with one hand and have a really hard time playing different rhythms with both hands at the same time. Drummers can do impossible things.

Dave:

Now, I experienced this firsthand because before Third Eye Blind opened a few years ago, they invited me to come and make some coffee for them. Thank you, Steven Jenkins. I actually got to go up on stage and sitting behind the drums, and I picked up the drumsticks to take a picture. I have no drumming skills whatsoever. Then, all of a sudden, one of the guys was like, "All right. Let's play down a beat." I can't even move both drumsticks simultaneously. I have no idea what I'm doing. Then, I led my automatic negative thoughts. By the way, that's a total clue to who I'm going to interview in a minute.

Dave:

I just allowed those, but I have no idea what I'm doing here. I don't think I can actually hit left and right hand with a beat. I'm like, "How about we just do the photo?" I still regret I never even got one drum

beat with the cool guys in Third Eye Blind. That was not meant to be cool fact of the day, but now, you're wondering who's it going to be.

Dave:

If you guessed based on that amazing cool fact the day that I was going to be talking with some famous rock and roll guys, you were wrong although that is a reminder for me that I really owe [inaudible 00:03:39] a call. Instead, automatic negative thoughts. Who would that be? Someone who's been on the show before, someone who's a dear friend and someone who actually woke me up to the field of biohacking back before it had a name and before it became a movement by pointing out, "Dave, you have a serious hardware problem in your brain." I'm talking about none other than Dr. Daniel Amen. Dr. Amen, welcome to the show.

Daniel:

Dave, what a joy to be with you again.

Dave:

Now, for people who have not come across your work and haven't heard any of the several times you've been on the show, you are one of the most popular brain guys in the world right now, I would say. You've written a bunch of books about the brain. Your first book and one of your first books, Change Your Brain, Change Your Life, led me to get a SPECT scan which is an imaging technique you pioneered back when I was in business school. I thought, "Man, maybe I'm just weak. Maybe, I'm not trying hard enough."

Dave:

When I saw it, I was like, "Oh, I have a hardware problem." I went out. I fixed my brain. That was what led me down much of this path. I publicly thanked you for that before, but people don't understand that. You've written 70 professional articles 30 bucks. You've got a new book coming out right now which why I'm interviewing you again. I just got to say there is no one I've ever interacted with on the brain side of things.

Dave:

I've talked to some very powerful brain guys who has the level and depth and just quantity of clinical experience fixing the hard stuff as you. Thank you for being back on the show.

Daniel:

Well, I'm a huge fan of yours. I'm just grateful that we have this time together to talk. The new book, The End of Mental Illness, is just everything I've written, it's the most important book because what's happening in this country is going the wrong way is we actually have the wrong paradigm that mental illness. I hate that term because they're brain health issues. Just like you said, when you get your brain right, well then, your mind follows. It doesn't go in the opposite direction. You can't talk yourself. If we think about your first scan, you could go to therapy forever, but if you don't fix the hardware, the software programming will never work.

Dave:

It's really true. People have Lyme disease. They have toxic mold, chronic fatigue syndrome, fibromyalgia. By the way, I've been diagnosed with all this. [inaudible 00:06:19]. You just don't have the willpower to do the hard emotional work of fixing your stuff. Then, you say, "Oh, I'm stuck or I have a mental illness. I have been diagnosed with an anxiety disorder."

Dave:

You are the first person and the loudest person with the most data who just said, "Look. It's not that. It's not a behavior problem. It is what is going on in the cells. It's what's going on the connectivity of the cells." Like you said, it's a brain health problem and not a mood disorder. That's sad. You start out your book by saying, "Why I hate the term mental illness and you should too." Now, isn't hate and should, aren't those automatic negative thought trigger words? Didn't you use two of those in one sentence?

Daniel:

Well, hate, it's not. I mean hate's a powerful emotion. When I was growing up, my dad's favorite word was bullshit. I must have heard it tens of thousands of times. The second favorite word was no. It was bullshit no. As I've been a psychiatrist now for 40 years which is just crazy, but it's time somebody called bullshit on what is happening to mental healthcare treatment. You remember when Sandy Hook happened. Then, Adam Lanza, the autistic boy went to the elementary school and murdered all those children.

Daniel:

President Obama came on national television. He said, "We need more money for mental healthcare." In my head, I went, "All of these school shooters have had mental healthcare." Most of them were in fact on medication. If we do more of what we're doing, we're going to get more of what we have which is an escalating incidence of anxiety, depression, suicide, ADHD. The model is broken.

Daniel:

I think it's just so important to say we need a new model. Get your brain right, and your mind will follow. But making diagnoses based on symptom clusters with no biological data, so what happened to you, so you have chronic fatigue. You have fibromyalgia. You have depression. You have anxiety. You have ADHD, and nobody's looking at your brain and realizing you're being poisoned. It's just not rational to make diagnoses with no biological data. What other medical specialists do that? None.

Daniel:

I just thought, "I'd just take it on and go we need to end mental illness." Call them what they really are brain health issues that steal your mind. Get your brain right. Your mind follows.

Dave:

It is fundamental to biohacking. If you wanted to exceed in how you perform, make sure you can make energy in your brain. Make sure that your brain itself works. Then, figure out what to think with your now functioning brain. It's interesting because part of the issue here, it goes back to the same pattern we've had with obesity. When, I weighed 300 pounds, you look in the mirror, and you feel shame.

Dave:

Then, people judge you, "Oh, look at that. That guy probably eats your notches covered in Snickers bars" and whatever story they tell themselves. For the record, no. I never did try that, but now that I thought of it. Anyway, you have this really negative thing. You look in the mirror. You look on the scale. You actually don't like yourself. You get down on yourself. Then, you can say, "Well, I'm trying [inaudible 00:10:21]. I'm working out."

Dave:

Then, eventually, it's like, "Oh, you got diabetes," In my case, I had pre-diabetes. They said, "Oh, you're at high risk of stroke and heart attack." I'm 30. At that point, no one's going to judge you for those things like, "Oh, that happens as we get old and all that stuff," but you get shamed for being fat, but now that 70% of people are obese, we've lost all that like, "Oh, it is a health problem. It's happening to all of us. There's something wrong. Let's all work on it."

Dave:

The idea that you want to lose weight and you're doing something about it is now seen as moral and seen as something that's aspirational like, "I'm going to get fit." Well, it feels like that same kind of shame that I experienced as a 20-year-old around being obese, I felt the same shame when it came to my brain like, "Oh, man, maybe I'm not good enough," asking for help about my brain going and saying, "Hey, can I get tested for ADD like I think I need more time on a test like I can't pay attention. I don't know what's going on," but I feel like I'm smart except now I feel like I'm dumb.

Dave:

For me to do that when I was 30 and I'm like at this Ivy League Business School, it was really like a shameful thing like I don't want to tell people. I don't want people to know about it. Why does this, we're going to call it brain health or what was formerly known as mental illness, why does it still have a shame component to it like obesity then?

Daniel:

Because we think it's your fault. We think if you're not trying hard enough. When I first started looking at the brain especially for my patients who have ADD, what I found because people come to the clinic, they generally get two scans, one at rest, one with concentration. What we see in our ADD group is that when they try to concentrate three areas of the brain, their prefrontal cortex, basal ganglia, and cerebellum all drop in activity. What does that mean? It means the harder they try, the worse it gets and that's as if your brain betrays you like you put your foot on the gas pedal to go faster and your car actually goes slower.

Daniel:

Just knowing that takes away the shame and guilt. It's like, "Well, help me." We have lots of help for that they get better. Then, they feel good. I always tell people who have ADD aren't dumb, crazy or stupid. It's like people who need glasses. People who need glasses aren't dumb, crazy or stupid. Their eyeballs are shaped funny, and glasses help them focus. People who have ADD aren't dumb, crazy or stupid. When they try to concentrate, their brain betrays them and getting it treated just helps them focus.

Daniel:

It begins to take away the shame of try harder. When I was in school and if I wasn't doing well, my dad would tell me to try harder. I'd try harder at work, but what about all the people where they try harder? Dave, what happens is they get demoralized.

Dave:

That happened to me.

Daniel:

They become hopeless. Martin Seligman actually called it learned helplessness. I try, and it doesn't work. I try and it doesn't work. I try, and it doesn't work. Then, I say, "To hell with it." I stopped trying because I have no belief it'll make a difference. That's what happens to way too many people. I can't tell you how many times I heard, "I'm not going to go see a psychiatrist because I'm not crazy." Back to my dad, it's when I told him I was going to be a psychiatrist in 1979, he asked me why I didn't want to be a real doctor, why I wanted to be a nut doctor and hang out with nuts all day long.

Daniel:

My dad didn't get Father of the Year Award, but 40 years later, I sort of understand where he was coming from. We, as psychiatrists, we've done it to ourselves that what other profession makes diagnoses based on symptom clusters with no biological information. That's where the stigma comes from. Nobody believes it's really biological unless you look.

Daniel:

I'm in a new doctor series with Justin Bieber. Justin has a new YouTube series called Seasons. He came out publicly for the first time. I've been his doctor for five years. Thank God he got married to Hailey because Hailey makes him follow through on his appointments. A good woman could make a big difference, but he came in to my office one day. This was the lever moment.

Daniel:

He said, "I get it. My brain can have problems just like my heart can have problems. If you told me I had heart disease, I would do everything you said." He said, "I'm now in." It wasn't a mental illness that shamed him that he had to hide from. It was a brain health issue. Now, he's doing everything he can to make his brain batter. That's why he's better.

Dave:

I remember very much when I was doing this business school thing. I said, "You know what? I'm going to try really hard." Frankly, I was always a top student, but I didn't try hard because the classes were really stupidly easy. I went into college got my ass handed to me. I'm now getting my MBA. I'm older and wiser. I'm like, "All right. [inaudible 00:16:13]. I got this." I would get 100% on the first question on the test, 70% on the second question. Then, third question 20%. Then, the fourth question I can read my writing. It was like a linear decline.

Dave:

I'm like, "I've got this test. I know everything. I studied. I stayed up. I did everything." It was just programmatic. Just like you said, that learned helplessness, it doesn't matter what I do. I just failed his

test, and I just don't know. It was that point where like something has to be wrong with me like maybe I'm dumb, maybe I'm weak, but I don't know how to try any harder.

Dave:

That was when I read *Change Your Brain, Change Your Life*. I said, "I think I'll get an appointment." I went in. Just like you described, as soon as I tried to pay attention, those three parts of my brain would just shut down like, "Thank God." I remember when I had that first report, I actually relaxed. I was like, "Oh, I'm not crazy just like you're describing." I mean it's is such a textbook description, but it's exactly what I experienced.

Dave:

I've never thought of myself as having had a mental illness. In fact, I've always thought of myself as pretty much kicking ass, but also not having a brain that works like muggles. Muggles could be a pejorative term or it could be a like normal brains. Some of the things that are labeled as mental illnesses that are brain problems or some of them actually tied with higher performance and some things and lower performance and others like other advantages to ADD or autism or you're being more prone to anxiety like is there a flipside that's a gift?

Daniel:

Well, in the book, I talk about 16 brain types. I talked about, "Well, what's a benefit?" Type two is our spontaneous group. It's our ADD group. They tend to be more spontaneous which can really be positive, more creative. They don't like to play in the sandbox. They're outside of the sandbox which we need those people because they disrupt society, but my experience is when you treat them effectively, they don't want to play in the sandbox, but they get stuff done.

Daniel:

I had this great trucker I saw who had terrible ADD. I walked into the waiting room. I was watching him draw. It was beautiful. He's like, "Well, I don't want to lose my talent." I said, "Well, you'll actually start to be able to finish your paintings. You'll probably make a lot more money." He actually ended up signing with Disney for over \$100,000 a year to design for them because he could finish. It didn't decrease who he was. It helped him be who he was when his brain works right.

Daniel:

I love your story because if we just look at what's happened to you and your ability to make a difference in the world after you started optimizing or biohacking your brain and we have your brain 13 years apart. We have a disaster initially. Then later, when it was so much healthier, well, what's the benefit of that? There's a huge benefit to your love life, to your family life, to your business and then your ability to make an impact in the world.

Daniel:

I'm certain if we hadn't figured out what the problem was and optimize it, you would not love your life nearly as much as you do today.

Dave:

You know what? It actually takes a huge amount of effort to go through and do anything to improve yourself whether it's to improve your health or to improve your behavior patterns after your health there. I was pretty much tapped out like I don't have any energy left after working and after going to school full-time at the same time. How am I going to improve?

Dave:

It turns out if you do the stuff that you talk about and end of mental illness and in your other books, you do that first the dividend that it pays right away is more energy. Then, that more energy is what you use say, "Oh, I just got 10% of my energy today. I'm going to apply that towards getting even more energy or towards fixing this other part of my brain or not eating the French fries," or whatever the thing is that was next on your list.

Dave:

What I found over the course of really just about a year of this was the amount of pushing that I had to do it again. Anything done went down dramatically. The more brain hacking I've done, the better my mitochondria fire, the more neurofeedback, the more the other meditation breathing going to try all that stuff, the more of that that I do, the less struggle I experience on a daily basis.

Dave:

I feel like when you're all the way on the end of the spectrum towards what we now call mental illness, the amount of struggle to put one foot in front of the other to tie your shoelaces to get to work in the morning, it's like a 10 out of 10 struggle. People who are not there and have never been there have no empathy. They don't believe you. They think you look healthy. You're like, "I got nothing left." I'm showing up. That's all I've got because, like you said, accelerators to the floor and I'm slowing down. What would your advice be for someone who maybe is about to order your book and just is in that place where I feel like I'm just putting one foot in front of the other, I want to do better, but I'm drained. What is the first thing that they should do?

Daniel:

They should learn about their brain. I think of brain health really simply. It's three things. Care about it. Nobody cares about their brain. I live in Newport Beach, California. We have more plastic surgeons and almost anywhere in the world. We care more about our faces, our boobs, our bellies, and our bottom.

Dave:

By the way, you're looking great.

Daniel:

Thank you. We do our brain. It starts with loving your brain. In 1991, when I first started looking at the brain, I didn't care about my brain. I mean I'm almost embarrassed to say that I'm a double board certified psychiatrist who is the top neuroscience student in medical school, and I don't know about my brain and I don't care. I'm sleeping for hours and thinking I'm special when I realize now that was just sort of dumb. I'm overweight. I'm chronically stressed. I'm eating bad food. I mean I just have no care.

Daniel:

Then, I scanned my mom who is 60, and she had a beautiful brain. I scanned myself at 37. I was terrible. I'm like, "Why is it terrible?" Well, I played football in high school. I had meningitis twice as a young soldier. I had been exposed to environmental toxins when I was in the army. I just didn't care. The first thing is brain envy. Freud was wrong. Penis envy is not the cause of anybody's problems. I've not seen it once in 40 years being a psychiatrist. Got to care about your brain.

Daniel:

Then, you want to learn to avoid things that hurt it. You just have to know the list. It's not hard. If we put up 20 things and I'm going, "Help your brain, hurt your brain," most people would get them right except when I put up orange juice. They would put that in the good category when, in fact, that should be in the bad category because it's [crosstalk 00:24:07].

Dave:

... diet soda too.

Daniel:

Diet soda would be in the bad category. Care about it. Avoid things that hurt. Then, do things to help it. You just have to know what's the list. In the book, actually, a bulk of this book is if you want to keep your brain healthy or rescue it if it's headed to the dark place, you have to prevent or treat the 11 major risk factors that steal your mind. We know what they are. There's a mnemonic called BRIGHT MINDS. B is for blood flow. Low blood flow's the number one brain imaging predictor of Alzheimer's disease. Know which of those risk factors you have like head trauma is the H. Diabetes is the D. S is the sleep.

Daniel:

It's really a functional medicine approach to brain health. When you get your brain right, you feel better. I'd love this book so much because I dedicated it to my two nieces that actually live with me. They are genetically loaded for mental illness, family history of suicide, schizophrenia, bipolar disorder, depression, borderline personality disorder, incarceration, addiction. I mean they're loaded, but genes only load the gun. It's what happens to us that pulls the trigger.

Daniel:

Unfortunately, they were raised in chaos with parents who struggled with addictions, depression, domestic violence. About four years ago, Child Protective Service took them out of their house. The kids are still traumatized when the police came and took them and put them in foster care where yet more traumas occur.

Daniel:

We would agree that these children are very high risk for mental illness. The whole goal behind the end of mental illness is how do I end it in them and in their babies and grand babies. I have to tell you they're 10 and 15. They're both straight-A students. They both get awards at school. They're social. They're awesome. They're no longer addicted to Hot Cheetos.

Daniel:

Our first grocery store trip was not a lot of fun for them. They loved their brains. But how do you end it? You end it by getting serious about brain health not by me going, "Oh, you have PTSD. You have

depression. Yes, I understand it. Here's a handful of pills every morning to take." It's like, "No, no, no. Let's get your brain right." When I scanned the older one, she had severe low activity. It sort of rivaled your brain with really [crosstalk 00:27:05] low blood flow.

Daniel:

I was really unhappy was that did her mom drink when she was pregnant. Did she live in a mold-filled house? What was it? But one of the first strategies was to put her in a hyperbaric chamber to increase blood flow to her brain. It made just a big positive difference for her.

Dave:

It's funny you mentioned that. I've had several people on talking about hyperbarics. There's a hyperbaric chamber behind me. It's probably blurred out on YouTube, but it's a little off camera, but I bought that because you said, "Hey, Dave. You should do this." Yeah. It absolutely works. Yeah, I had low blood flow. Many standard deviation's lower than normal and lots of holes in my brain.

Dave:

In fact, you said, "If I didn't know this was you, I would think this was the brain of someone on drugs living under a bridge," kind of a thing just from the toxins, from mold that I was living in. I can feel for your niece because it's a dark weird place when your brain doesn't do that and your emotional volatility is higher. Your decision-making is off. You know it as some level, but in the other level, it's invisible. You just feel like everyone around is a jerk. Yeah. I definitely do have hyperbaric especially after I fly. I've actually bought a hyperbaric chamber for another family member who had a lot of brain injuries.

Dave:

It's one of those things where I just, "Look, use it till you're well and then find a friend who really needs it and we'll just pass that one around." Don't think we'll be okay because we will never be okay. saw them look use it. Here well. Then. Then find a friend who really needs it and like it will just pass that one around because it's such a profound thing.

Dave:

A lot of people listening who's saying I can't do this, look, if you have brain injuries, you have low blood flow, you go see Dr. Amen in one of his clinics. You actually can buy a hyperbaric chamber for a few thousand dollars. Use it until you're done. Then, sell it for most of what you paid for it or you can go to one of the clinics that has them around the country. You can do hyperbaric on a pay-per-use basis. But I find that it is more accessible than you think. It's a real thing. Yes, I go in there. I would like to listen to a podcast. I usually listen to an audiobook. Lay there for an hour and soaking my brain in oxygen. It's actually a good return on time. Thank you for encouraging me to buy one of those because it does make a difference.

Daniel:

I published a study on soldiers who had blast injuries from Iraq and Afghanistan, 40 sessions we did before and after scans. They were better. But what was more important was their mood was better. Their sleep was better. Their cognitive function was better. Is that a mental illness or is it a brain health issue?

Daniel:

I would argue it's a brain health issue. Get your brain right and your mind tends to be better. Imagine if I hadn't looked at [Alizae 00:30:15], the older one, and she just spent all of her time struggling given her family history, she'd have been in therapy forever. People would have great empathy for her, but she just talked about the trauma over and over and over again as opposed to fixing her brain, so she has to talk about the trauma once makes sense out of it and then begin to move forward in her life.

Dave:

It's that same thing. You're fat, therefore, you're lazy. Let's treat that versus, oh, you're traumatized. Let's just wallow in the trauma or let's deal with the blood flow and other things like that. I think it's important, but also, a lot of people listening, they're not in a position. They don't live near one of your clinics or they just have the money to go do a SPECT. One of the things that I find really valuable in your work is you actually have in your new book, End of Mental Illness, you talked about knowing your brain type even if you never get scanned which is the ultimate gift.

Dave:

People saying, "Look, given all the scans, I've done everything I know. I can probably tell you what the results are going to be. Here's how to do it." Tell me about the brain types that you've categorized in. What's your thought process behind telling someone here's what's probably going on even if you don't have the data?

Daniel:

Well, a long time ago, I realized not everybody can get a scan. Either they're not near one of the clinics or they can't afford it. But we've done with QEEG and SPECT 170,000 scans. We've learned a lot. Based on thousands of scans, I developed questionnaires to help people predict what their brain might look like if they came and got scanned. Again, are you the spontaneous person where you tend to have sleepy frontal lobes. Are you the persistent person where your frontal lobes tend to work too hard and you have trouble letting go of negative thoughts? Are you the sensitive person, a lot of therapists are, or the cautious person where your basal ganglia and amygdala might be working too hard.

Daniel:

Know your type. Then, here are some of the supplements or exercises that might help you. This book is actually very practical. You will know your brain type. You'll also know which of the 11 risk factors you have. You can start attacking them as soon as possible. You just have to know what they are like there's a whole chapter in the book on know your important health numbers.

Daniel:

Peter Drucker said, "You can't change what you don't measure." Knowing your blood pressure, your BMI, your C-reactive protein, your omega-3 index, your vitamin D level, your hormone levels, it's just critical upfront to know, well, what are my important health numbers? Then, well what can I do to make them better? As soon as someone knows they have low vitamin D, they'll either get more sun or take a supplement for the rest of their life because they'll know, "Oh, this is a bad thing. I need to take care of that."

Daniel:

Then, I talked about the neuroscience about why vitamin D or testosterone or inflammatory markers are important to brain health. The benefit of The End of Mental Illness is your body gets better. One of my

favorite patients, I've been seeing him for about three months now, he's already lost 35 pounds. I'm just so proud of him because he's doing the right thing for his brain, and weight loss wasn't the point although diabetes where your blood sugar and your weight are higher than they should be, they shrink your brain.

Daniel:

This past weekend, I looked at 20,000 patients. I actually looked at are you healthy weight, overweight, obese, morbidly obese for every area of the brain. I looked at 127 areas of the brain. There's a linear correlation to weight. As your weight goes up, the function in every area of your brain goes down. It's not just willpower. What we're learning is that environmental toxins are damaging your pancreas making it hard to regulate insulin and your appetite. Your toxic load is often driving the obesity epidemic in this country. That's not a willpower issue. It's a toxin issue that no one is talking about.

Dave:

It's really interesting because toxin levels vary on a daily basis. People who don't believe what you're saying if you've ever been hungover, you know how your brain feels, and it doesn't work the same. We have some pretty clear evidence when you got a little extra toxin, but a couple of weeks ago, I got pneumonia. I have a history. I've had pneumonia several times. I lived in houses growing up with toxic mold. That's an area where I'm not as strong as I'd like to be. I stayed out at a party, got super cold and was in an over air-conditioned hotel for a couple days and woke up with pneumonia, can't get out of bed kind of stuff.

Dave:

I recovered stupidly fast as in I was fine within five days. I still have a little bit of a cough, but all of the exhaustion that normally would take you down for about three weeks just didn't happen because I'm resilient, but all the stuff I did during that week and even most of the week after, I have almost no memory of it. I know I had meetings. I know I actually got a lot of stuff done. I now recorded a podcast, but I look in there for the parts of my brain responsible for memory. I got nothing. I have to look it up in a notepad. It's a complete blank slate.

Dave:

That's a function of toxins. Bacteria make toxins, lipopolysaccharides. They get into circulation. Then, you get inflammation. Your brain doesn't work. I'm kind of just blown away at even if you're, okay, I can put one foot in front of the other, but did you store what you did? I didn't in that case. What do you think about the daily variability of toxins or these brief illness types of things and what they're actually doing to people's performance.

Daniel:

Well, you wonder what's happening in your microbiome and your gut the causes your immune system not to be serving you, but maybe to be hurting you. The one part about toxins people don't talk about that I actually didn't know about until I wrote my book, Memory Rescue, was all the toxins we purposefully put on our bodies. I read this great book, the Toxin Solution. I don't know if you've ever interviewed Joe Pizzorno. He's great, but I love that.

Dave:

I like his stuff. I haven't interviewed him though, but, no. Of course, I've interviewed Pizzorno, twice. Sorry. I was thinking of a different... Anyway, yes, I have.

Daniel:

I got this app, Think Dirty. I started scanning my shampoo, my body wash, my shaving cream. I literally threw out 70% of my bathroom because putting aluminum on your body on a regular basis, aluminum is a known neurotoxin using parabens and phthalates that are hormone disruptors, I'm 16. Aging disrupts your hormones all by itself. I don't need to help that. I think that really can account for some of the variability. 60% of the lipstick sold in the United States has lead in it.

Daniel:

I think of it as the kiss of death. We have to be very thoughtful about the food we eat, the products we put on our body. Did you see the new study out and drinking water that it actually has something in it, toxins that once they get in your body, they actually never leave. We just have to be so cautious, so careful. It's actually why I don't really want to go to China when I get invited because of the air pollution that's there.

Daniel:

You don't want to breathe stuff that you can't get rid of, so always supporting the four organs of detoxification, your kidneys, drink more water. Your gut, eat more fiber. Your liver, stop drinking alcohol, eat brassicas which are detoxifying vegetables like cauliflower, kale, and Brussel sprouts. Then saunas, I've become a huge fan of taking infrared saunas because people who take the most saunas have the lowest risk of Alzheimer's disease. It's not just sweating. It's what the heat shock proteins tend to do to enhance the immune system.

Dave:

It's really interesting recent podcast that I had, we went through both what sometimes do for heat shock protein, but also for something called hypoxia or hypoxia-inducible factor 1-alpha, HIF-1-alpha. It turns out sauna leads heat shock protein, leads to HIF. This causes a response where you basically grow healthier and better blood flow.

Dave:

There's a secondary effect. Some of the training that I do, I do brief exposures of hypoxia where I don't get enough oxygen which causes a very positive response in these hormones. That's part of how I've been able to repair my brain. There's times when I'm in excess oxygen in hyperbaric. There's brief periods. I'm talking one minute periods where I'm saying, "Oh, my brain didn't have enough oxygen which causes it to open up to accept more when I added back in."

Dave:

Playing around with those is important. I put saunas in my last anti-aging book in Super Human because the data is in. If you're going to live to a hundred years, you're going to accumulate a bunch of crap. If you don't let it go, of course, you're going to get Alzheimer's or Parkinson's or MS or early senile cognitive dementia and all the things because how else would you let him go if you just expect that you're going to naturally eliminate all the toxins that you put in you that are not toxins from other nature? How are the onboard Mother Nature systems going to compensate. They're not unless you actively do it.

Dave:

I like it that T is in Bright Minds your analogy, T is for toxins that you just say, "Look, you got to do this, but you don't have to be afraid of them either." I think that's the flipside. You and I don't want to be exposed to air pollution in China. Neither one of us is going to smear aluminum on our armpits as a way to enhance our brain stay healthy or smell good, but I also feel you're pragmatic enough to say, "If I'm really, really dehydrated and I'm at a restaurant, there's no way to get bottled water, am I going to drink a half a glass of tap water that might be filtered poorly?" I bet you probably would.

Dave:

You wouldn't spend three days thinking about it and taking charcoal pills. How paranoid-

Daniel:

Well, I'd go with the sparkling water.

Dave:

I do too. That's what I always do, but what level of paranoia is mandatory?

Daniel:

It's being conscious and then knowing the risk. For example, last year, [Tana 00:42:05] who you've met who loves you, had a hysterectomy. For six months, she's like, "I'm not right." We do so many of the things right. She got another scan. I have three of her scans. She clearly had a toxic response to the anesthesia. Children who have anesthesia have a higher incidence of learning problems, and ADD adults who have anesthesia have a higher incidence of dementia especially people who have artery surgery or any kind of heart surgery, but she didn't have heart surgery, but it clearly damaged her brain which is when I bought a hyperbaric chamber for home. She goes in it. My niece goes in it.

Dave:

It turns out if you have not the tiniest model, you can fit two people who like each other in there at the same time. There's been times that [Lana 00:42:58] and I will cram ourselves in there at the same time and watch a movie on an iPad with one earbud in each ear. Just goes, "Hey, we got some oxytocin here. We're sort of cuddling. We're getting oxygen. We're watching a movie." How do you get higher ROI in an hour at a time? Yeah. I love it, and hyperbaric was what you chose to do as a response to the damage from, I'm guessing, it was propofol that caused the problem or is this just general anesthesia?

Daniel:

It was general anesthesia. The short ones, the propofol, you get from-

Dave:

Oh, propofol, yeah.

Daniel:

... dental procedures and things like that. I've not seen that caused damage, but I have seen general anesthesia. My assistant, Karen who I love, she found out she had an aortic aneurysm. It was an eight-hour surgery. When she came back, she wasn't the same. I mean this was my disciplined, on time, everything got done assistant. All of a sudden, those things aren't happening.

Daniel:

My initial response was to be irritated, but then, the loving doctor part of me when something happened, and when we scanned her, I had her big fat brain before she had general anesthesia. Then, I had it afterwards. It was clearly hurt. It's like, "Okay. You need to be in the chamber. You need to take these supplements. We need to be serious about repairing the damage from your brain." Nobody knows that because anesthesiologist never tell you even though if you go on pubmed.gov and look at the research, there's a food fight going on in the anesthesia literature about damaged cognitive impairment from general anesthesia. Get your brain right, your mind will follow.

Dave:

Are there a lot of anesthesiologists who have you on the dart boards?

Daniel:

There's a lot of people who have me on their dart boards. I just try not to pay attention to them.

Daniel:

Do you think there's a way to do safe anesthesia that supports our brains because sometimes you need to go under. I've often wondered. I know about the fibers in people get micro strokes from general anesthesia. A lot of people are now using anesthesia drugs, but they aren't intubating you and saying, "Oh, it's not anesthesia, but it really is." I'm going to have a couple really good friends. One's a medical doctor with decades of experience went under for a procedure and came up same thing. I'm not myself again. Something's wrong. I mean is there there's a safe way that you know of to do this? Have you seen data? Do you know?

Daniel:

No. The safest thing to do is go into the surgery with a lot of reserve. If we think of back to your scan, you had no reserve. Even the pneumonia, you had means... We still have to work on building your reserve because if you can't remember what happened to that, so if you need anesthesia or I need general anesthesia, I mean sometimes you got to have it right or it'll cost you your life.

Daniel:

It's like, "Don't not do it," but know you might have to do some repair things when you get out. You always want to go in to a procedure as healthy as you can because those are the people that come out and survive and even thrive afterwards. I have a friend, one of my close friends who I love. He went to Hawaii. He was in really great shape, but he's a little crazy. He drove into a pool that had this leptospirosis which is an infectious agent. When he got to work, he had a high fever. He barely made it to the hospital. Then, he was unconscious, and was actually in a coma for a couple of days.

Daniel:

I thought he was going to die, but he ended up surviving and thriving because he went into that health crisis with muscle on his body. Think of muscle as protein reserve. He was really healthy which is the only way he survived. You go into those. That's why you can't wait to get healthy until you're sick. A lot of people go, "Well, when I start to lose my memory I'll get serious about brain health." You don't want to have that thought. You want to go today is the day. Today is the day I love myself. I'm going to do the right things. If you go into general anesthesia and you come out and you're not the same, hyperbaric

oxygen, going after all the BRIGHT MINDS risk factors making sure your omega-3 fatty acid levels are good.

Daniel:

We talked about know your important numbers. I did the big NFL Study. When the NFL was lying, they had a problem, and 80% of my brain-damaged players get better in as little as two months when we put them on a rehabilitation program. I know the brain can heal.

Dave:

It's not that hard in 80% in two months. I look at how just backwards I was. By the time I'm 23, I've had three knee surgeries. I'm fat. I said, "I'm never going to do this again. I'm going to fix it." I went to the gym six days a week an hour and a half a day. I went on this low-fat low-calorie diet and like, "I'm all-in and I don't care." 18 months later, I'm still fat, but at least, I muscled under my fat, but I'm probably worse off health-wise on many things because I'm tired. I still wasn't getting the right nutrients, and my brain blood flow was jacked. I still had toxins and all these things.

Dave:

If I'd have known what I know now instead of doing all that garbage, I would have said, "Oh, I am going to fix my brain. I am going to do at least most of the things on this list." It doesn't matter. have to do all of them. It's the same perspective in Super Human. Pick a few. It doesn't matter. You missed you're hyperbaric. You only did 20 sessions, not 40, but you took your omega-3s and you got better like hallelujah. But you're just going to pick some things. Then, two months later, three months later, everything is easier because your brain works. That isn't what happens when you put your new year's resolution, I'm in it, you get absolutely, or whatever. Those are dumb resolutions. The real win is the brain. If you can do it in two months or three months, it's a really powerful situation.

Dave:

I have to encourage people listening to this to do exactly what you said. One thing that comes up over and over when I talk with the Bulletproof community, people with the conference, just people on Instagram, it doesn't really matter where I'm like, "Dave what about these things like antidepressants and these drugs, anti-seizure medications, the things like this?" The third part of your book at the End of Mental Illness, is really about Mind Meds Versus Nutraceuticals. You shifted. I've been watching your career for 25 years. The very first edition of Change Your Brain, Change Your Life, so can this brain take these drugs.

Dave:

When I look at your work now after you have your 170,000 brain scans, your books are a little different like, "Oh, you have this brain. Breathe this way. Exercise this way. Sleep this way. Take these nutraceuticals. Oh, you might need some drugs." You flipped it on its head, but tell me where you are now on the Mind Meds Versus Nutraceuticals angle.

Daniel:

I'm a classically trained psychiatrist. I was trained in medication and psychotherapy. I've always been a bit out of the box. I'm a huge fan of biofeedback and neurofeedback. I've been a fan of since the 80s. But when I started looking at the brain, I'm like, "Some of the meds are toxic for brain function." Once you

start them, you can't stop them. I have a lot of experience. I have decades of experience with psychiatric medications.

Daniel:

Now, I have decades of experience with nutraceuticals. One of my patient said this recently, "No. We're actually interviewing a doctor to come work with us." She goes, "Oh, there's no science behind supplements," in the interview because in that chapter Mind Meds Versus Nutraceuticals, there's 286 scientific references. There's a lot of science. What has A level scientific evidence for depression, for anxiety, for ADHD, for addictions, for insomnia? I go, "Before you try medication, one of the 10 things for depression you should do first including how to not believe every stupid thing you think, two, omega-3 fatty acids, saffron, SAM-e, curcumins of all things because it decreases inflammation. Inflammation is one of the drivers of depression. Is that a mental illness or a brain health issue? It's brain health issue."

Daniel:

I'm not opposed to medicine. I am vehemently opposed to how medication is prescribed now in the United States. 85% of psychiatric drugs are prescribed by non-psychiatric physicians in seven-minute office visits based on symptom clusters with no biological information. It's wrong. Psychiatrist, when I trained, I actually got to take care of my patients. I'd do the therapy. I'd do their medication. I'd have an hour, two hours, a week with them. It's switched in the early 90s when managed-care took over medicine to the 15-minute med check which is just a disaster because the psychiatrist, they don't really have time to have a relationship and understand the biological, psychological, social, and spiritual aspects of their patients.

Daniel:

I think the seeds for sort of an integrative approach where in me when I was young psychiatrist, they have blossomed. In *The End of Mental Illness*, I think really shows where I'm at now which is first do no harm, use the least toxic most effective treatments. I'm not worried just about getting you less depressed and want to get your brain and your body healthy.

Dave:

I really appreciate the humility it takes to do that, to sit down and say, "Okay. I have trained in this stuff. I started out this way," and to evolve your take on things like that and just watching your evolution, you've always been willing to go out there and say, "I want to look at stuff that no one looks at." You've taken some hits for that and won in the end, but I do think it takes a certain kind of a very dedicated medical mind to navigate it the way you have and to just say what you said right there which is, "Let's fix the body, fix the brain." Then, look at what's going on. I think you write it well in the book.

Dave:

I think there's a lot of those people now than were 10 years ago and people saying, "Oh, you should take these antidepressants like candy and take these other things." But you 287 references in there. The skeptics can kind of choke on those before they choke on their handful of pharmaceuticals, but they're probably not getting the results they want. In fact, the reason they're probably such anger skeptics might be the handful of pharmaceuticals that they're taking.

Dave:

There's that rigidity that can come from either being overmedicated or having a broken brain. Talking about rigidity that the people who are stuck and just don't consider new options, they're kind of pinned into a box, what's going on there? Is that biological or is that more mental?

Daniel:

It's both that there's a biology to it, but at the same time, change is hard. Once your brain learns how to do something, it just wants to do that over and over again. Even if doesn't want to do it, it will do it. That's how bad habits happen. When you tell 40,000 psychiatrists are doing it wrong, they generally don't say thank you. There's a great book. I think it was 1962, the Structure of Scientific Revolution. It's how do things change in science.

Daniel:

I talked about this in the book and they go through this five-part process where, first, somebody notices the discrepancy that this isn't working. You have all the symptoms of ADHD or depression. I put you on Ritalin or I put you on Prozac. All of a sudden, you're suicidal. That's a discrepancy. You have the symptoms. I give you the standard treatment. Now, I make you worse.

Daniel:

I notice that. Then, you come up with a new way of thinking. It's immediately rejected. The status quo, they'll change. We've had DSM-III and IV and V now. They'll change it a little bit, but they really don't change the paradigm because they're protecting the old guard as much as they can. Ultimately, and we're between stages four and five right now where ultimately they're going to accept imaging and natural ways to heal the brain is self-evident.

Daniel:

I'm excited. That's why I take care of myself. That's why I sleep seven or eight hours a night. I'm not overweight. I eat well because I want to outlive these people to see a new paradigm and the fact that you got well and now you're creating products and programs to optimize people's brains, you're the future. Whatever I can do to be supportive of that, it just makes me so happy to try to support the revolutionaries making a difference in changing our society.

Dave:

Well, Daniel one of the... In fact, the New Year's resolution that I asked Bulletproof followers to make was not to drink your Bulletproof Coffee every morning. I figure most of them are already doing that, but what I said was make a friend who is 25 years older or younger than you. The reason for that is that if you can learn from your elders, the people who have a couple decades more experience than you, it's going to be the most important thing you can do to avoid mistakes.

Dave:

If you have a couple more decades than people around you and you spend time with someone younger, they're going to lend their energy to you and you're actually going to do something that makes you live longer which is when you help another person, it is really good for your brain. It's one of the things where both people win. Here we are, you've got about 20 or so years more experience than I do. Hey, I get to learn from you. I'm in college reading your book going, "Oh, my god I could fix my brain. This is incredible," and applying those things and all the other stuff I've learned from 700 people I've interviewed right now.

Dave:

Thanks for sharing it. Thanks for being able to spend an hour on a conversation that I wanted to have anyway and the fact that a few hundred thousand people get to listen in is an added bonus. Many of them are going to learn from you, and some of them are younger and some of them are older, but you're sharing your knowledge in a way that's very meaningful. You've done it for 20 plus years which also requires a brain that works and has resilience and stamina.

Dave:

Yeah. I'm happier doing it. The more you write, the clearer and more actionable, just more useful and easier your work is, the more accessible it becomes because, well, you've had practice explaining the problems and putting in frameworks and telling people you don't have to get a scan, but if you can, it's a good idea. I wish that I'd had the End of Mental Illness when I was 20 instead of Change The Brain, Change Your Life when I was 25, but man, I'm really happy that I had it.

Dave:

I look forward to what book you'll be writing when you're 85. It'll probably be six words and people read it. They'll be completely cured. [crosstalk 01:00:12]

Daniel:

Well, thank you, my friend. It's always a joy to be with you and to watch how your impact on the world just continues to grow that just it makes me happy.

Dave:

Well, it's there for the same reason that you're there which is tell people make a difference and make sure people have to deal with all this stuff that [inaudible 01:00:37] dealt with. Your book website is endofmentalillness.com for the new book. Of course, people who google you and all they're going to find in here at Amen clinics and all, but you're giving away just huge amounts of free stuff like information and knowledge on endofmentalillness.com for this book launch. I would support you on that. You're listening to this like, "Dave, you interview a lot of authors like here's the deal."

Dave:

An author like Daniel Amen spends at least 2000 hours writing a book of this caliber and sometimes a lot more. If you take all the research that went into it, it might actually be closer to 10,000 hours, but not all those hours were just on the book. You do all this stuff. Then, you read the book. It takes you four or eight hours to read it. It's the highest ROI activity you can do. Get the audio book. You read the book. You're saying, "Oh, this podcast is worth an hour of my time." I promise you that the audio book on this is going to be worth at least four or five however long it is a podcasts worth of content.

Dave:

It is concentrated distilled important stuff. That's why I encourage you read, listen to things like that. I work to bring you the best I can. I think this is a great interview, but if you really want to get the essence of what Dr. Amen's talking about, you get the book. It's worth it. As always, when you enjoy a book, when you get something out of it, when you get more out of it than you put into it, leave a review.

Dave:

Just let him know it really makes a difference. Pick up the End of Mental Illness. Get all the free stuff he's giving you. He's a dear friend and a human whose work has profoundly influenced how I show up in the world, what I do, and how I'm able to do what I do. Unless your life is perfect, read the End of Mental Illness even if you don't have mental illness. There's room for improvement. That's what it's all about.