



## **Strategies for Healing Fibromyalgia and Chronic Pain**

**Guest: Dr David Brady**

**Alex Howard:** Welcome, everyone, to this session where I'm talking with Dr. David Brady, Hi Dr. Brady. Thank you for joining me.

**Dr. David Brady:** Hey, Alex, how are you? Thanks for having me on one of your events again.

**Alex Howard:** In this session, we're going to be talking about the relationship between mind, emotion, stress and how that affects the physical body, particularly in the context of fibromyalgia. But we'll also be referencing chronic pain and possibly some other conditions as well. I think this is a great case study to help people understand this relationship before we come into it.

Let me just give everyone your professional bio Dr. Brady. So Dr. David Brady is a foremost authority on properly diagnosing and treating fibromyalgia, chronic gastrointestinal and autoimmune conditions and has published in leading peer reviewed medical journals, including the Open Journal of Rheumatology and Autoimmune Disease and Integrative Medicine a Clinician's Journal. In private practice at Whole Body Medicine in Fairfield Connecticut. Dr. Brady, additionally, is the former long time vice president of the Division of Health Sciences and director of the Human Nutrition Institute at the University of Bridgeport, where he continues to serve as an associate professor of clinical sciences. He's also the Chief Medical Officer of Designs for Health Incorporated and Diagnostics Solutions Proprietary LLC. So there we go! Quite a long list...

**Dr. David Brady:** Yeah, stop there please!

**Alex Howard:** So I'd like to start Dr. Brady just with a little bit about what got you so interested in fibromyalgia and chronic pain and this group of patients?

So as a medical doctor who's broadened in many ways over the years, what was your kind of seed of original kind of curiosity and interest?

**Dr. David Brady:** Yeah, Alex, it's a great question. I've often thought back through the history myself, and I really like to think that I kind of had to make myself somewhat of a self-taught expert in fibromyalgia and chronic regional pain syndrome, and just chronic pain in general out of sheer necessity and desperation because I had a lot of patients that were suffering from it. And I realized in both initially before I went to medical school, I went to chiropractic school and then nutrition and then medicine. So, in naturopathic medicine, in functional medicine and right on down the line. But really, regardless of any of those training paradigms, I realized that they didn't prepare me for these kinds of patients.

They were a different animal and they were really in need of some serious attention and help and assistance in trying to recover from where they were. And they did not give us the knowledge or the tools to deal with these patients.

So I really had to, together with a colleague of mine, Michael Schneider, who's now at the University of Pittsburgh. We both kind of were in the same place together and started talking about it, and we had similar backgrounds.

We started in Chiro, then went to research, medicine and so forth. And we were talking about this stuff and we were like, you know what? We're all missing the boat here. So we started really just digging into the medical literature worldwide, reading everything we can get our hands on, doing systematic literature reviews. And then actually reaching out to some of the, at that time foremost authorities in research, in particularly in fibromyalgia. And realize that even they didn't have it all together.

So it's been a 25 year journey. But really, nobody made me expert in this, we had to go kind of do it ourselves and patch it together. And now I've seen thousands of patients and have tried many, many different interventions. So I have a really good feel for these patients. And when they really have what they were told they had, when they don't have it, and how to get to the right kind of treatments for them. But as the topic of your event really is, I think, right on the money with these patients, because we see that it's more than just the typical physical type of pain.

Doctors are trained, pain equals inflammation, usually tissue trauma, inflammation, pain, give them an anti-inflammatory, fix the physical trauma to the tissue. If you bang your hand with a hammer, it gets all swollen and blue and it's inflamed and that's why it's a pain generator. But in this kind of pain, it's not like that and doctors don't know how to deal with it because it's a typical pain.

**Alex Howard:** And of course, one of the challenges comes in and I'm sure we'll come to this is when traditional medicine treats it in the same way. Therefore, giving pain medication and then being sort of puzzled that the effect of that isn't the way it would be if you did have, for example. You hit your hand with a hammer or you had a major surgery and you needed to manage pain in the recovery process. I think perhaps that's kind of it.

**Dr. David Brady** It's changed, that's still in fact happening where doctors are just treating it the way they've been told to treat pain, pain relievers, anti-inflammatories, physical medicine, those kinds of things. And it doesn't work and true hypersensitivity disorders, the central sensitization disorders like fibromyalgia or chronic regional pain syndrome. Even other types of long term chronic pain and the provider gets frustrated with the patient because what they did didn't work and that's what they were told to do.

How can you not get better when I do what I'm supposed to do? And then the patient's frustrated with the provider because they're not getting them better. And it's created a really bad situation where there's a lot of frustration on both ends.

The patient is frustrated, the provider is frustrated. But it's been getting better, I think, from the standpoint of the providers being a little bit more open, starting to understand these things. But I know 10, certainly 20 years ago, the provider would do the things that they thought they should get, what the patient was complaining of better when the patient didn't get better. They dismissed the patient basically saying, "oh, it's all in your head, you're

making it all up, this isn't real." In a very condescending kind of way, which is really unfortunate and luckily, that that has been changing at least.

**Alex Howard:** Yes and of course, as much as that's immensely frustrating for the patient communities. One can understand that if you've got pain and giving you drugs to reduce that pain, pain should be coming down. I mean, that's if you're following a very simplistic germ theory, kind of simple medical model where you have a problem and you provide a solution. But of course, these things are more complicated than that.

Perhaps it's helpful at this point to just frame a little bit about what we're talking about, fibromyalgia we're talking about chronic pain, what those conditions actually are. Because I think that lack of clarity in and of itself ends up causing quite a lot of the problems here.

**Dr. David Brady:** Yeah, well, true fibromyalgia, which we tend to call classic fibromyalgia because it has all the classical presentations and symptoms and co-morbidities of fibromyalgia is a very complex disorder. And it's not what most people think it is and it's not what most doctors or healthcare providers think it is.

The hallmark symptoms or what the patient experiences. If you ask them what is their worst problem? They would generally say pain, but it's a very specific kind of pain. It's not very localizable and it's not restricted to one area or two areas or even a region. It's really what we call global pain. And that means it's all over the body, left side, right side, above the waist, below the waist, along the midline, out in the periphery and the extremities, so forth.

And it's mainly felt in the softer or compliant tissue. It's not the bones. It's not the joints. So it's very different from, let's say, arthritis. It's mainly perceived as pain or aches in the muscles, fascia, tendons, ligaments, the soft tissues. And that's where the name comes from, fibro-miyo, fibro, meaning fibrous, stretchy tissues. Not hard stuff like bone, miyo muscle, algeo pain.

So fibromyalgia, a pain in the soft tissues and muscles. But the name even itself implies that the pain is coming from those soft tissues and those muscles. So really kind of even by name implies it's a muscle problem, it's a soft tissue problem. So doctors think that too and they're looking for problems in the muscles, problems in the tendons, problems in the fascia, inflammation, muscle spasm.

So they give anti-inflammatories, they don't work.

They give muscle spasm drugs or mild relaxants, they don't work.

And then they'll just give overt analgesics like pain medications, they don't work.

Even opioids don't work in classic fibromyalgia by and large.

And it's because that it's not a pain that's generated where you feel the pain, which is really hard for people to frame up and for doctors to frame up. It's really an aberrant perception of pain in areas of the body. But the problem and the perceptual difficulties are created by issues that we refer to as central, meaning there in the brain. They are deep in the brain and they involve the pain processing centers in the brain and the spinal cord. So the problem is there. The problem is not out in the periphery.

So you get people in fibromyalgia patients or claiming their fibromyalgia specialists doing a lot of peripheral things. It could be anything from massage to manipulation to acupuncture, to any kind of therapy directed to the tissues that are achy and hurting generally doesn't work very much. It may help the patient in a very temporary sense, but usually those patients also have problems in the muscles and they have myo-fascial pain syndrome like many of us do, particularly when we're stressed and live in the modern lifestyle and so forth. But it doesn't get to the root of the deep seated central pain perceptual problem. But in fibromyalgia, it's not only the pain, they're getting hit with a lot of centrally mediated phenomena.

So pain is the number one, but the number two is pervasive fatigue. They're very, very fatigued in general, although it's very different from what we would call chronic fatigue syndrome. That is mainly fatigue, but it doesn't have all the pain stuff with it and they're very different things with different diagnostic criteria. But fibromyalgia, certainly fatigue is almost a hundred percent co-morbidity in those patients.

But there's other things, there's like vague gastrointestinal bowel things, gas, bloating, diarrhea, constipation, distension, things that get people diagnosed with another hyper vigilance, hypersensitivity syndrome, which we call irritable bowel syndrome or IBS. But also things like anxiety, depression, sleep disorders, particularly not feeling refreshed from sleep. So you wake up after you slept twelve hours and you feel like you've never slept.

Headaches, these are all things that are very commonly seen in fibromyalgia patients. Now there's other pain syndromes that sort of become locked in a central dysfunction as well that are more localized to one area of the body. And that's the classic regional chronic regional pain syndrome, which used to be called sympathetic reflex dystrophy, at least here in the states. And that often happens as a sequela of a trauma or an injury to that area. But then it also starts involving the sympathetic nervous system and the central pain processing centers. And even though the trauma resolves physically at the site, the pain never really kind of resolves. So that's a difficult problem to treat as well.

**Alex Howard:** And I think that this can sometimes be initially, particularly for those affected by some of these conditions, hard things to get their head around, particularly when their experience is localized. Like I'm feeling this pain in certain parts of my body and I've been to see all of these medical people and they're also focusing towards this part of my body. What you're saying and I know this is kind of part of what's groundbreaking about the work that you've developed in this field over the years. Is actually, for many people, particularly in this case of classic fibromyalgia. The core root of the issue is not therefore in the localized area of the pain, it's actually in the brain.

Say a bit more about that and about how that mechanism is actually working.

**Dr. David Brady** Yeah. And when I lecture live either to my colleagues, health care providers or to patients, I'll often say, back 20 years ago, they used to say fibromyalgia is all in your head. And they were right, but not in the way they were right.

They were meaning you're making it all up, you're imagining it, go home and stop being hysterical. And there was a lot of bias built in because most of those health care providers were men and most of these patients in fibromyalgia, IBS and like disorders are female.

So there is a lot of weird stuff going on in there with different gender bias and so forth. But even when you wash that away, it was just really hard for them to frame that up. But it turns out, now that we understand the disorder better, it actually is in your head. But it's a real physical, it's a real phenomena going on, there's a physiological aberration that's happening that's causing you to perceive this pain. So to you, this pain is as real as it gets.

So no one's implying that it's not a real phenomena, that you're not really suffering. It's just that you have to understand where the problem or dysfunction is accurately, if you're going to attack it to try to change things. Now, what most doctors don't even realize is now the FDA, at least in the US, the FDA and the parallel organization in the E.U. And UK and so forth. They approve certain medications for fibromyalgia and those medications are centrally acting medications on the deep centers of the brain.

Now, there's never been a drug developed from the ground up for fibromyalgia or chronic regional pain syndrome or any of those. But there were drugs that were tried through the many, many years of experience that doctors had trying to manage patients. And they gave these medications to patients like this not for their pain initially. They gave antidepressants of various classes to fibromyalgia patients because one of the symptoms is depression. So they gave it to them for depression and some of those patients said, "hey, my pain is better," or "I'm sleeping better" or they gave them other types of centrally acting drugs, anxiolytics drugs for anxiety and so forth, and they work. Or sleep medicines and they worked in one way, shape or another.

So that was part of how they started figuring out that this is a centrally acting thing. But even now, at least the drugs are approved in the US one is a class of antidepressant medications. It was originally developed for depression, they're called selective serotonin and norepinephrine reuptake inhibitors and then the other class of drugs are actually anti-epileptic drugs.

They've been around quite a while for epilepsy and for excitatory states in the central nervous system. These are the alpha 2 delta ligands, Gabapentin and things like that. But they really weren't designed to treat fibromyalgia; they were just subsequently re-approved for fibromyalgia as a use and given new names. Which drug companies love because they didn't have to patent or to develop the drug, they got a new name drug and a new patent, and a new indication and they're happy as can be, they're happy with it just like that. The problem is that those drugs don't work for the majority of people, partly because the majority of the people are misdiagnosed and have something else to begin with. But even the ones who are diagnosed correctly.

There's a certain amount of responders to those drugs and there's a certain amount of non-responders to those drugs. And what we know is that even the people who respond favorably, the majority of them, start to lose the clinical benefit from those drugs over a course of several months. But the side effects tend to be there and stay there. So they can be helpful in the right selected patient and we use those when they are helpful in the right kind of patient. But we also monitor those patients and we figure out is it helping them or not? And if it's not helping them, we take them off them. We don't just leave them on because there's a downside to being on the cure. So you need to get the benefit to put up with the possible risk, if you're not getting the benefit, don't bother.

But that being said, even though we have some tools in our tool box in the pharma realm, they're not very good tools, and they weren't designed to do the job specifically. So we need to look to other things, there's no great solution in pharma right now for any of these things.

**Alex Howard:** But I think what's really interesting in what you're saying is that, it pointed towards something that there was some sort of mechanism. Even if it was only lasting for a few months, some form of mechanism that was happening, which is a big, bright clue towards, what is that mechanism and what are some other possible ways of working with that?

**Dr. David Brady:** When they started looking at why this may be and looking at neurotransmitters and central action and through different metabolites and so forth. What they started seeing actually is a pattern that they had recognized before as being associated with post-traumatic stress disorder. And a lot of this was researched out of horrific military experiences and what soldiers came home experiencing and so forth. And it really broadened the understanding of the traumatized brain and the traumatized subject, and how that can alter patterns in the neurochemistry and neuro behavior in a long term imprinted type of fashion.

And what they saw was you see the same kind of things in your, broadly classified as hypervigilance disorder. So these are fibromyalgia, IBS, anxiety and panic disorder, severe insomnia, things like that. Where it wasn't quite as dramatic and upfront and in your face as the classic battlefield PTSD, but it was a very similar and consistent pattern.

So that helped inform what was going on in these types of patients and that also then provided the linkage for them to go and do research, and look at these people who ended up with fibromyalgia and IBS and anxiety disorder. And when you really take very, very careful medical histories, family histories, personal histories. You find out that an inordinate percentage of these subjects who go on to develop those hyper-vigilant disorders, have an alarmingly consistent story in what happened in their early life. And they're much, much, much more likely to have had what Peter Mole calls adverse life events. They've had a difficult time at some point and the more it's in their formative years in childhood. When the nervous system is pliable and sort of moldable, and it's learning its environment and how it should behave, and how it should react to the world.

If during that time of your neurodevelopment, you were in a very problematic scenario where you felt under threat, you felt not safe, not secure. If you were undergoing abuse, verbal abuse, physical abuse, certainly sexual abuse is massive in this type of effect. Or even just feeling not safe, feeling threatened or unloved by people. Let's say in your family unit that you feel should be most protective of you and most loving of you when they're not. You know, very cold, distant parents, very authoritative father figures to young girls. A classic example is an alcoholic father who's hardly ever there and when he does come home, he's drunk and yelling and beating the mum and the daughter, the young girl is there and feels she's next on the hit list. You hear that stuff, too many bad divorces, witnessing horrific stuff. Now, not everybody has that kind of overt history, but it's amazing how many more people have that than average when you start asking these types of patients about those kinds of issues.

**Alex Howard:** And of course, I think one of the things that happens is that when people have grown up in those kinds of environments, it's sort of all they've ever known. And so people tend to normalize, at least in that kind of psyche. They normalize, well this is just my life, that's how it is for everyone and often don't realize the impact on their body. And also don't realize that they've perhaps normalized to being into a kind of hyper vigilant state. And that's what they've always known therefore that must be what they think is normal.

**Dr. David Brady:** And that's kind of what their nervous systems inner dialog is too. I need to be constantly on guard because I never know when the next threat's gonna happen. So when you hear that fight or flight kind of a response you think of going into that only when necessary, when there's an actual threat. Well, when they were growing up and their nervous system was figuring out what is normal, what is my normal posture to the world? They were under that kind of threat. So they ended up in a persistent sort of higher level of awareness or vigilance.

That's why they call it hyper vigilance. Their nervous system never wants to let its defenses down. So it's always in hyperdrive and the person doesn't do this consciously. They can't really control it unless they learn to control it, but this even occurs when they're sleeping. So their nervous system doesn't let them cycle through all of the normal stages of sleep. We go through these different specific brainwave states in sleep and we have to get down into stage three and four when it's very predominant in delta, deep sleep, delta waves. That's when the body literally lets its defenses down, relax and restores itself.

So these people often have a hard time getting to sleep because their minds are racing because they're hyper vigilant. But then when they do get the sleep, they stay in superficial sleep. And when we put them in sleep labs and there was a guy in the University of Toronto all the way back into the late 1970's. His name was Harvey Moldofsky and he started taking these fibromyalgia patients, back at the time when no one believed that it was an entity or a real thing. He did, and he realized right away that these patients were complaining of sleep problems. Including that even if they slept for 10 hours, they would wake up feeling literally like they never went to sleep. So he put them in sleep labs and he wasn't just looking for sleep apnea and all the normal stuff. He was really digging deep and he found a very consistent pattern in classic fibromyalgia patients and it's called the alpha wave intrusion.

And what it means is, even when they get into the so-called deeper levels of sleep, like delta wave sleep, they have alpha waves riding on top of their delta waves. Which means there's a part of their nervous system just going no, no, no, no, no. Don't go into that sleep because I don't know what's going to happen and I need to be on guard. And, if we spend our entire existence in that kind of state, there's a price to pay. It takes a lot of energy and you just can't stay in that state and be healthy. And the older you get, the harder it is because you don't have as much resiliency and metabolic reserve. So these fibromyalgia patients, they can kind of hold it together many times through their 20's and even into their 30's. They may have complaints and they may not be doing great. But it's really not until the mid 30's, around 40, that they start coming and going, you know what? I just can't deal with this anymore. I'm crashing and burning. And it's really not surprising.

**Alex Howard:** It's interesting what you say about sleep, because often people don't realize the impact of stress on sleep, and I think the alpha wave intrusions are really good examples

of that. I think one of the simplistic ways I talk about it is a bit like. If we talk about the fight flight or freeze state being back in caveman days, we're trying to escape the saber tooth tiger that's hunting us. If there's a risk that sabertooth tiger is still out there, you're not going to fully switch off and go to sleep. You need to kind of sleep with one eye open, constantly looking for that threat and when we're in that hyper vigilant state, what happens is that our nervous systems always have to be ready for the potential danger or threat that's out there.

**Dr. David Brady:** Really part of part of dealing with these patients is, you can't just drug them into dialing down their nervous system entirely because then they feel like zombies. I mean, there's ways to do that. You can turn someone's brain all the way down, but then their life's not worth living.

So, there are things we can do on the biochemical axis to improve that, to help that, to kind of take the edge off it. But ultimately, they have to sort of learn how to change their resting brain state and change their central nervous system posture. And a lot of that is where the really good research comes on cognitive behavioral therapies and these types of disorders.

And cognitive behavioral therapy is a big tent, it has a lot of things camped in it. But the thing we rely on probably more than anything are a couple of different things. One is we really emphasize that patients really get serious and diligent about a daily practice that's sort of relaxing to them. That brings their nervous system into a state of rest, and focusing not on all the external things and all the sensory things, but they just really dial it back.

And some of that stuff is simple, everything from deep breathing to guided imagery, which sounds real woo. But it's really just imagining yourself in a nice pleasant place without stress, being in silence, being in not a large amount of light, no T.V. 's, no emails, your phones off, all of that. And just concentrating and visualizing something peaceful and concentrating on your deep breaths. But then all the way up to things, including meditation, I mean, full on learning how to meditate in a really serious way. Certain relaxing forms of yoga, taichi, things like that can all be helpful in the long term.

But in the shorter term, we actually use functional EEG and do baseline EEG studies on the person and we show them what their brain waves look like. And then we send them through active exercises in the office when they can actually see real time their brainwaves. So they kind of learn what they need to do with their breath, with their thought, with their attitude, with their posture, everything to lower the excitation in the brain. And then we actually will give them device based, even though we don't want them on their devices as much as they usually are and we don't want them on there at night. But we give them device based heart rate variability technology so that they can kind of monitor on their own, how they're doing.

Heart rate variability is really a window into this hyper vigilant situation. So it can teach them when they're controlling things and when they're not. So that combined with different biochemical interventions and we tend to really rely on nutraceuticals, botanicals, things that are less heavy handed. It's not like hitting someone in the head with a hammer, it's being more subtle in the functional way you're trying to modulate their brain biochemistry and their nervous systems stance. And it usually works better than hitting them with these pharmaceuticals that weren't really meant to treat those disorders to begin with.



**Alex Howard:** Yeah, part of what I really like about what you're describing is that you're coming at it from a kind of top down, bottom up kind of multiple perspective. And I think that sometimes people can be very resistant to this idea. Partly because of what you mentioned earlier around the kind of original medical perspective, if we can't find anything wrong with you. Therefore, we know everything, we're all powerful, therefore nothing is wrong with you, you must be making it up. And the sort of move from that to the recognition that there's a very real experience that's happening. But it so happens that the part of the mechanism that is driving that is in the brain doesn't mean you're making it up, but it means that the brain, the nervous system has learned to become over activated, and that is then impairing and impacting function.

But then coming at it from the point of view of calming the nervous system, working through some of the cognitive things that are happening, learning to use devices. I think it's great. But also it's not just working at it on that level. You're also, as you mentioned on the nutraceutical side, looking at the physical impact and I think that's something that in the traditional trauma, for example, the world, can sometimes be forgotten. That's because we're talking about adverse childhood experiences or adverse life events, things that have happened. The resolution must be only in talking therapies or in kind of mindfulness strategies, but also we need to address the physical impact of those.

**Dr. David Brady:** I think you're right. You have to come at it from all those angles and one of the challenges is it's hard for any one person, no matter how smart they are, how gifted they are as a clinician to really own all those domains, it's a lot of different stuff.

So it really is, you need a team, you need a referral network, you need people working in harmony as a collaborative team to get these patients well and medicine doesn't always do great with that. So it's very compartmentalized over specialized. If I can't get you better, I'll refer you to this person and if they can't get you better, they refer you to this person. But none of those people are talking, they're all giving you a prescription and they're all giving you advice, so it's inherently difficult. I do think that the whole psychological side of it, the counseling, whether it's, I mean, it's morphed a lot through the years, I'm not an expert in this. But it used to be "oh, you have to talk about it. You have to relive it. You have to process it out." To know other things, other ways to deal with it, even forgiveness, therapy or whatever it may be. That stuff's all really important, particularly if there are specific events, specific abuses, specific dynamics between family members or what have you.

That is where personally as a provider, I need assistance doing that from people who are much better at that than I am and understand it more than I. But on the other hand, there is really, really patterned, learned, almost locked loop kind of dysfunction that's going on in neurochemistry and the way the brain's behaving, that you can really help guide and push in the right direction with the right type of nutraceutical therapy, botanical therapy, nutrient therapy and in some cases drug therapy.

**Alex Howard:** Can you give some examples of some of the pieces of that part of the jigsaw that can be important?

**Dr. David Brady:** Sure, in hyper vigilance disorders. It's really that the nervous system is locked in this state of hyper excitation, which is akin to a stressful event or a threat. So when you just look at stress physiology. We're very much looking at what's going on with stress related hormones and neurotransmitters. Now, many people are used to immediately thinking of cortisol or doing salivary cortisol tests, they're nice and they're useful and so forth. But honestly, I've been practicing so long, I can almost meet someone and talk to him for five minutes and I could pretty much tell you where their cortisol is.

**Alex Howard:** I believe you.

**Dr. David Brady:** The other thing is because cortisol is a stress hormone, but it's really a stress hormone that just makes you kind of break down anything you can to make sugar, to run, scream, kick, fight, whatever. But the things that really amp your nervous system up like we're talking about, are the catecholamines. So that's adrenalin, people call it right, epinephrine, norepinephrine but there's also a role of dopamine, there's a role of GABA, there's a role of serotonin in this balance, in this equilibrium between reacting appropriately and calming down appropriately. So we look at all of those different transmitter and hormones I just talked about.

So we'll look at them, some of them directly. Some of them are best measured as metabolites, functionally like inorganic acid testing and various other ways. And then we try to support and backfill what we need to in these different patients. But generally, the hyper vigilance patient, like a classic fibromyalgia patient, will tend to have elevated levels of the catecholamines metabolite. So epinephrine, norepinephrine, dopamine metabolites, because they're making lots of catecholamines to maintain that hyper vigilant state. And we see the metabolites coming out in the urine or we can measure them in the blood.

At the same time, their cortisol is usually low. They're like in this, if you want to call it old school terminology, adrenal burnout or adrenal fatigue or whatever. But they're generally in a lower cortisol state, which you wouldn't really think of cortisol as a stress hormone, you would think it would be high in such cases. Oftentimes it's just not high because they can't do it anymore, their adrenals really are kind of shot. So they have lower cortisol but elevated catecholamines almost as a compensatory reaction. So we use things that are central acting calming agents, that are not so strong as to cause someone to be almost hypnotic.

So we'll use things like calming neurotransmitter precursors, inositol. Things like that. But there's some really nice calming botanicals that have long historic uses and there's many of them. There's your overt kind of GABAergic central nervous system calming common herbs like valerian and passiflora and melissa, lemon balm. People used to use kava before it became like more controlled, kava kava. But one of my favorite is actually a camellia species known as German chamomile. German chamomile is a really nice botanical because it tends to calm the nervous system. It reduces the catecholamines, but it does not cause a overt hypnotic type of effect, it doesn't make you feel drugged and it's an adaptogen as well. So kind of helps on the other side of the adrenals with cortisol.

A lot of adaptogens are stimulating, so a lot of people go out and get an adrenal formula at the apothecary or something and it's got Korean or Chinese ginseng or panax ginseng, it's got rhodiola, it's got eleuthero in it. It's got licorice or tyrosine or whatever. Those are all

driving adrenal glands and to lift up cortisol, but at the same time, they'll overproduce catecholamines and they'll make patients worse often. They'll make them more anxious, less likely to sleep. So we're going to use adaptogens that are calming a bit sedating, but yet have that adaptogenic effect on stress hormones.

Things like *Withania somnifera*, the common name is Ashwagandha. It's a really good herb from ayurvedic traditions. But even the name, the genus without any of the species, *somnifera*, *somnilates*. It's a calming agent, but it's highly adaptogenic so that's a great choice. But the driving to neurotransmitters that we really look at in these cases are serotonin. Because serotonin is really sort of a chill neurotransmitter, it helps your mood, it helps you not be depressed. It is absolutely vital for sleep, particularly driving you into restorative stage 3 sleep. It's involved in proper bowel function and motility.

So remember, these people have bowel problems and a lot of it is because they have central and spinal, cerebrospinal fluid, low levels of serotonin, almost universally, they are not good serotonin producers. And I think people who are in those scenarios, like we talked about, who genetically don't make, don't have a lot of serotonin production reserve, are the ones who are very susceptible to developing these disorders. Because people had been in horrific environments growing up, even though it's predominately a female phenomena, it's gender specific. I mean, fibromyalgia is 90 some percent female at least. And many of them have really bad experiences, but they never go on to develop these disorders, so clearly there's a susceptibility to it.

And I think that people who don't have a robust serotonin reserve are the ones that are susceptible. So often when they're put on the drugs like the SSNRI or even an SSRI, those antidepressants. They're meant to block the reuptake of serotonin in the synapse. So the serotonin they make stays in the distal synapse and does its thing longer.

But the mechanism of the drug fundamentally depends on you having at least a reasonable baseline level of serotonin. So we find a lot of these people just don't make enough serotonin for the drug mechanism to even work very well and they tend to be the non-responders. So if we give them serotonin precursor therapy like one of them would be 5-hydroxytryptophan with a little pyridoxal-5-phosphate or P5P in the formula to help convert it to serotonin, they make more baseline serotonin.

The drug works or we can eventually get them off the medication altogether if we give them enough precursor therapy and get their serotonergic pathway working. And then the other thing we look at is GABA. GABA receptors are very important and if you're not getting enough influence on the GABA receptor, you will tend to have, kind of that anxiety, kind of hyper kind of state. So we'll use things that are GABAergic and I mentioned some of those botanicals like Valerian and Passiflora and so forth. But we actually use the neurotransmitter GABA quite frequently. I use a fermented, chewable, very fast acting one called Pharma GABA and it's available from many different sources, but it can be very, very useful in those kinds of situations.

**Alex Howard:** One of the things that I think's really interesting in what you're saying as well is that, people often with fibromyalgia particularly will say, well, "I need you to give me stuff to get to stimulate me more". Because it's almost like the system is so stimulated that they

feel kind of exhausted. And a lot of the work that I do with people on the psychology side is, you calm the nervous system and then actually normal energy production starts to work. And there's a kind of calm, they actually have more energy, but it's real energy. And it's interesting what you're saying, the same thing is true working with herbs and nutraceuticals that, the more you calm the system, the better quality sleep, the better quality digestion and actually the more real energy you start to see.

**Dr. David Brady:** So you're right, it can be a little counterintuitive, but at the same time we're doing other testing to rule out other things, whether the other thing may be actually what's causing their symptoms.

You always have to remember every patient has the right to more than one disorder at any given time. A lot of these things we're looking for are prevalent in the population. So people that also have fibromyalgia, one of these kinds of chronic pain conditions often also have these other things.

So we're looking for their thyroid not being optimized. We're looking for their mitochondrial energy biochemistry, not working right with organic acid testing. So if there's an energy production deficiency, things going on with their metabolism or their thyroid is not driving their metabolism hard enough or what have you. We have to address those things, too. And oftentimes, probably more often than not, we have to address some of those things as well as dealing with the central nervous system issues.

**Alex Howard:** Yes. And just as we're sort of putting the pieces together here, I think also it's probably just worth commenting on the diet and food is also an important part of this as well. If somebody is not getting enough quality protein, blood sugars all over the place, they get inflammation because they've got dairy or wheat intolerances, maybe just comments on that piece just briefly as well.

**Dr. David Brady:** Yeah. I think anyone who is suffering from a chronic illness even more than the average person needs to really pay attention to their diet. Quality in, quality out, garbage in, garbage out. So they really need to have a really whole fresh food diet that's nutrient dense and that gives them the kind of nutrition that they need. I think trying to be less inflammatory helps because even though fibromyalgia is not an overtly, systematically inflammatory disorder, because the pain is not really being driven by inflammation.

Often these people have other things going on as well that are inflammatory. And we do know now that at the micro level, deep in the brain, there's micro inflammation and that's why we use a medication frequently now with fibromyalgia. And with chronic pain patients, which is Naltrexone, which is, as you know an opioid abuse drug, it hits opioid receptors and stuff. But that's not how it's working in fibromyalgia and in other disorders, it's an amphoteric agent in that it's it can really extinguish your quell really deep micro inflammation, deep in tissues, including in the deep centers of the brain where this pain perception abnormality is occurring.

So low dose Naltrexone can be very, very useful. But what I've been using for the last couple of years and in many patients and like anything else, there's responders and non-responders, but we're using cannabinoid therapy for sure. So CBD is very, very useful and helpful in the pain perception, in the anxiety, probably more than any other symptom is it useful in. And also seemingly is helping them get into deep stage 3 and 4 sleep. And I think it

might be actually modulating that deep micro inflammation in the brain in a similar way to LDN. So those are all cool things but back to the diet stuff. I mean, even in my book, in my program and in the Fibro Fix, in the beginning, there's this 21 day sort of clearance detox thing. And a lot of people are just, even though I wrote about it, I made sure I wrote exactly what it is in the book, on the website.

The 21 day introductory detox is not a cure for fibromyalgia. It's not even a treatment for fibromyalgia. It's just sort of clearing the decks. Trying to clean up your metabolism a little bit, trying to make you less inflammatory, trying to get the baseline stuff covered, which is to get you on a better diet and in a better metabolic state. So then we can go to work with the specific therapeutics. There's no way to detox your way out of fibromyalgia. There's no way to anti-inflammatory your way out of fibromyalgia. It's not going to happen. It's not going to work.

**Alex Howard:** That's a great place, I think, to wrap things up Dr. Brady. If people want to find out more, you mentioned your book, which is excellent, The Fibro Fix. There you go, got it right there. Where else can people, I definitely recommend people get the book. Also, do you want to mention your website and say a little bit about how people can find out more about how they can go further with you?

**Dr. David Brady:** Yeah. I mean, for content more specific to what we were talking about today, fibromyalgia, regional pain syndrome, chronic pain. Probably the best site is to go to the book website, which is [fibrofix.com](http://fibrofix.com). There's lots of resources, there are lots of reading, there's a sample of the book, I think the introduction of the first chapter is there. There's some free white papers on proper diagnosis of fibromyalgia. There's a million podcast interviews, scientific papers, all kinds of stuff.

So check that out and there's information there on how to order the book, it's on Amazon and all the other places as well. But if you want to have a broader look at my work in autoimmunity, gastroenterology, fibromyalgia and a little bit more about me, my practice and my research work. You can just go to my main website, which is just [DrDavidBrady.com](http://DrDavidBrady.com).

**Alex Howard:** Fantastic. Dr. Brady, thank you so much. I really appreciate your time today.

**Dr. David Brady:** Thank you very much. Bye bye.