Concussion Repair: The Overlooked Path To Brain And Body Healing Transcript

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Introduction and Guest Background

I'm your host, Jason Prall. And with me now is Doctor Dan Engle. He is a psychiatrist with a clinical practice that combines the aspects of regenerative medicine, psychedelic research, integrative spirituality, and peak performance.

Doctor angle is an international consultant to several global healing centers, facilitating facilitating the use of long standing indigenous plant medicines for healing and awakening.

He is the founder of Full Spectrum Medicine, a psychedelic integration and educational platform. And Thank You Life, a nonprofit funding stream supporting access to psychedelic therapies.

Doctor Angle's medical degree is from the University of Texas in San Antonio. His psychiatry residency degree is from the University of Colorado in Denver, and is child and adolescent Psychiatry Psychiatry Fellowship degree s in the Oregon Health and Science University.

He is the author of the Concussion Repair Manual A Practical Guide to Recovering from Traumatic Brain Injuries, as well as his new book, A dose of Hope A story of MDMA Assisted psychotherapy.

Welcome, Doctor Engle. Jason, good to be with you again. Well, I've chatted with you before about, plant medicines. MDMA, assisted psychotherapy and and all things sort of shamanism as well as I know you have a deep background, experiential wisdom with, with that side of, of the healing world.

And, although I'm so tempted to continue to talk more about that because I love that world and I'm so fascinated. I really wanted to bring you on to talk about concussions.

Because I think this is a fascinating area of, of neuroscience and, and health that that many of us may not realize that, that we're touching. And I think we have this idea of concussions as something that you know, a football player, a hockey player, a boxer might get.

But but the US regular folk don't really have any relationship with, with concussions. And so, I think there's a little bit of, something here for, for all of us.

And, and I just want to start off by asking kind of how you got into the sort of concussion world. How did that sort of pique your interest? Yeah, it's it's a great question.

You know, when I hear you read my bio, there's a bunch of things I could put in there. And the bio is kind of a little bit more heavy on the plant medicine side.

But truth be known, what got me into integrative medicine and eventually plant medicine in the first place was a series of head injuries. I had about six really good strong, severe concussions.

And the fifth one was two weeks before medical school jumped off a pier, hit a sandbar, broke my neck. Oh, ended up starting medical school in a halo.

One of those things where you had it screwed into your skull. Had that on for three months. Finally slowed me down. And it was what got me out of surgical care and emergency care, which is the direction I was going in to the new trajectory of psychiatry.

How Concussions Led to Dan Engle's Work

Neurology. Because I wanted to understand more about head and neck injury. And then I also had just been fascinated about the brain and the mind and that kind of interface. Yeah.

So it was very much an experiential process. And and it's also the direction of mind body medicine, particularly as it relates to what I would call hardware and software technologies.

We might even think of like plant medicine work or psychedelic work, being in the software side of things, neurology and neurodegeneration and healing from concussions and brain injuries being on the hardware side of things.

We're actually going to be closing the we're already closing the gap. The gap needs to be closed even further between neurology and psychiatry to bring those two fields even closer together.

When you study, either you get boarded in both. So I'm actually supported in psychiatry, in neurology. So I kind of geek out on both sides of the equation.

But for me, when I had my last concussion, which was actually the worst one that turned upside down in the snowboard park, put an eight inch crack in the back of my helmet, started having a really bad post because of syndrome, and couldn't shake it.

I was able to shake off the residue from most of the others, but that one really crossed the line, so to speak, and I had neurologic colleagues in the space I studied it.

I was pretty sure I had post and cursive syndrome. Nobody had really good therapeutics. This is about 20 years ago, so I put almost a half $1 million of my own money into neurologic research to try and fix my brain, so to speak.

And that's essentially what became the majority of the therapeutics that I put in the concussion repair manual, maybe help us define concussion makes meaning I think a lot of us may know what it is, sort of in just in layman's terms, and we understand it on some level.

But but from a medical perspective, what's actually happening in the case of a concussion, how do we sort of define that? On a sort of physical level?

Yeah, it's I find for me, it's helpful to understand where we've come from in the previous diagnosis and kind of like the orientation you've used to think about it and what we know about it.

Now, because most of us are probably hanging out in that sort of former, definition. Yeah, 100%. I don't know if you even saw like, I don't follow a whole lot of sports, but I do follow head and neck injury in sports and, Miami Dolphins quarterback to, tag level.

I think I said his name wrong, but, he just had a really bad, very public repeat head injury over a less than a week period. And the defense on the coach's side was that he cleared all the protocols.

So it wasn't a head injury. Well, that's like saying, you know, if I make my engine light is going off in my car and I take it to the mechanic and he looks at everything and he says, there's nothing wrong, because I checked it out and I go, well, the engine light's on right there, I can see it.

And there's a mismatch between like, what's clearly, evidential because the light would be going on anyway. And he clears it from his perspective. But there's something else. There's some of the glitch in the system right.

So we have not yet everybody's brains unique, everybody's injuries unique. And everybody's healing is going to be unique. So it's really hard to have a one size fits all model NFL.

All the combat sports have gotten a lot better in the last decade, with assessment of concussion off the field and return to play requirements. We're a lot better than we have been.

We still have a long way to go. So when I studied neurology, this is like I started studying neurology in med school 30 years ago. The definition at that time was that a concussion equals a loss of consciousness.

And a lot of physicians, even E. R. physicians in many ERS, because I, I talk to clients all the time. And they said I felt bonked. My head was dizzy, vomiting, couldn't, you know, find out where I was.

Very clear. Concussion went to the ER, but I didn't lose consciousness. When did the E. R. told the doctor what happened? He said, well, you didn't lose consciousness, so it wasn't a concussion.

That's absolutely wrong, right? We don't need a loss of consciousness to have a concussion. And most people, two year point before most people have concussions, aren't playing combat sports.

Yeah. There's like your average, you know, soccer mom getting in a fender bender and you know, having a frontal head contusion with the steering wheel or, a neighbor walking down the street, slipping on ice and hitting the back of their head, or skiing. Right?

I mean, there's so many activities that we might do, and we hit our head and there's no there's no obvious signs. Right? Vision's not blurry, necessarily.

Might be a little woozy or something, but maybe not even then. And I guess what I'm what? I'm curious about is you kind of further explain this. It seems to me logically that there might be some spectrum where there's not this, like, definite line where it's like, okay, now you had a concussion and, you know, on this side of whatever equation or diagnosis or, symptomatology do, you didn't get a concussion.

Everything's fine. The brain's cool. Like no issues whatsoever. So in other words, everything's cool. And then all of a sudden, everything is not right.

Yeah. Like, it doesn't seem to me. It's not. It's not a clear delineation.

What a Concussion Is and Why It Gets Missed

I can't I can't take a blood test and say, oh yeah, you test so many degrees positive in the concussion arena. It's the evidential symptoms are both subjective and subjective.

That's. Yeah. So the subjective symptoms would be, cognitive impairment. So if I'm, if I can tell my attention, focus, concentration, ability to focus on one thing and then shift sets to another short term memory going into long term memory, my ability to track multiple things simultaneously.

If I have the subjective experience of that, that's the first marker. Now I can test that objectively with executive function tests. You know, there are a lot of either even more available at home tests to do that.

Like CNS. Vital Signs is one company that does that. It's an online testing system, but if you don't have a baseline to compare it to, it's hard to be able to say, like, oh, this is how well you were functioning before, and then you had your hit.

And now here is where you're at. And theoretically, does that give us a location or a part of the brain that we can tell is affected? It could, if you put it in the context of the other objective findings.

So this is where the neurologic test comes in. You were speaking about a functional neurologist, at, you know, right before we got on the show, part of who's like, you know, building this kind of platform that now this discussion that we're having, in my experience, the functional neurologist, chiropractic trained have some of the best diagnostics to be able to help location and therefore functionality to a particular area of the brain that's been injured.

And so when I first started going through my rehabilitation and found it, my first mentor was a chiropractor. He wasn't a functional neurologist. He's more of a applied kinesiology.

More like structural integration therapist. Amazing practitioners. And there's a lot of different schools of chiropractic medicine, just as a lot of different schools of medicine in general.

But in regards to functional neurology, excellent objective neurologic clinical findings, and therefore being able to identify the area of the brain that's injured and therefore the rehabilitative practices to engage.

So you've got the subject of sine. Cognitive function is just one. Also like sociability. Like for me, when I had post because of syndrome, everything was so, I was hyper sensitive because there was so much neurologic inflammation.

I didn't want to be around a whole lot of external stimuli. It was like way too overloading for my system. So externally that would look like social isolation.

But mostly it was just like trying to get the inflammatory response because my nervous system was too keyed up. Yeah. Other symptoms might look like increased sensitivity, light sensitivity, noise sensitivity, kind of like that environmental sensitivity, could include, headache.

Immediate post-concussion could include nausea, vomiting, disorientation, not having, recall for the hit or the event that just happened. So some of what I'm talking about is both both in they like post-acute.

Early concussion symptoms. And then you get into what's called post concussive syndrome. I was using that term before. That's when you have symptoms of the concussion.

Usually it's increased sensitivity. And deficits in cognitive function, may also look like depression, insomnia. And those are symptoms that last for four weeks or more after the the hit of insults, so to speak.

The worst thing you can do is stack concussions on top of each other. And that's what happened in the Miami Dolphins game that I was just referring to a few weeks ago was super obvious.

He got hit, was kind of dazed after the game, said it was a back injury, four days later, gets hit again, and now is clearly in this like reactive neurologic, concussed state where you can see the two to call us in the hands going into this really like extended, overreactive neurologic position.

So that's one clear example of where the system failed. Again, the systems, the systems are getting better, first and foremost. And this is what a lot of the NFL players were talking about after the game, is they have to hold each other accountable.

Yeah. Because if you're in that situation and you're an athlete, you know that if you're in the middle of the game and I've had the same experience, if I get hit and my competitive drive is just like, I'm going to wrap that thing tighter so that I can keep playing well, and this is not.

Yeah, sorry. This is this is what I find too. I mean, because I know it's very well. In fact, I remember in maybe sixth grade when I was just starting, you know, tackle football.

And I remember, I remember getting hit and blacking out. Well, I don't remember blacking out. I remember the hit. And then I remember waking up and I couldn't tell, you know, at that point, I didn't know.

Was I out for half a second, was out for four seconds again. There. There's no concept of time except for I woke up and at that point I actually felt fine once I came to.

But it was a very jarring experience for for me at that age. And then, of course, I remember many others that would, you know, would get hit and they would be coming off and so woozy.

And of course, you ask them their name or, you know, the date or what city they're in, and they have no concept for, for any of that stuff. Right. And what's wild about that?

And this is sort of the competitive driver or the athlete or, you know, to be honest, is the average person that might be again, snowboarding or skiing that takes a gnarly fall.

There's this period of just letting things play out right. And sure enough, on the football field, I've seen many guys in that state that and this is, you know, this is at this point 20 years ago.

So back then, we didn't have as much sensitivity around this stuff to actually say, hey, we you need to be held out for a bit. It was more like, hey, you be held out for a bit until you you seem normal again, right?

And that's what happened. Right? So eventually that person that didn't know what his name was and what city he was in, and didn't know, couldn't follow the finger, couldn't add or subtract or anything like that, all of a sudden would come to you now and again, it's like, okay, go in.

And so this is what I think you can find again, even when you're snowboarding, right, is that you sit there and you kind of just wait for things to come back to reality, and then you're off again.

And this is where you where you're saying we have a really precarious situation at our hands. Now, why is that? Why is it so precarious in that state.

Because stacking an additional injury on top of a previous injury has exponential worse effects because you start to increase exponentially this, this inflammatory load, the reactive oxygen, oxygen species, the, the, the meninges start to tear and fray even further the lymphatic system.

So the body has a lymphatic system, the brain has a glimpse attic system. So it's essentially the system that washes out that inflammatory load when you cross the threshold.

And its internal systems aren't able to take care of that inflammatory load. Then you start building up this reactive, oxidative stress. So that's kind of like what happens on more of the like cellular level.

Then you get more of the anatomic level. We start talking about stress to the meninges. We start talking about these areas of the brain that get bruised.

And when you look at the long term effects of these stacked injuries, it looks like, evidentially. And pathologically like advanced Alzheimer's disease.

So now we have a term for that called chronic traumatic encephalopathy, or CTE. And it's this progressive accelerated neurodegenerative condition because you've been stacking so much of this inflammatory load over time with both cellular and, and atomic, negative impacts.

So ideally in that, in that pause before returning to play or returning to just daily usual activities, you've got enough of the opportunity for the neurologic system to take care of itself and start healing, that the human operating system is a self-organizing healing system.

But when we cross the threshold of its ability to take care of the acute injury, then we have to have a time out. Just like if you break an arm, it's best to not use that arm while it's healing.

And everybody's injuries different, everybody's brains different and everybody's healing is different. So that's going to look a little bit different for everybody.

And there are things that you can do to stack the cards in your favor. Boosts both therapeutically. Like what can you do after you get hit, but also what can you do to prevent the degree of potential impact that has a negative effect?

Why Repeat Head Injuries Are Dangerous

So we can kind of talk about both of those, but I also want to just highlight what you're talking about, which is in each of those experiences, that person may not have lost consciousness.

You did momentarily. I have at times in the past, but even when that person doesn't have the full loss of consciousness, but that they don't know who they are, where they are, if if they're sensorium, if they're kind of like state of orientation is off, that's an altered state of consciousness, right?

So you don't now have to have the loss of consciousness if there's any altered state of consciousness, that's a hallmark indication of a concussion, even if it's brief.

Yeah. So we have now kind of like this picture of what's happening symptomatically, what's happening clinically in what's happening at a cellular level.

And once we start educating people on the importance of paying attention to that and the downstream effects of if they're not paying attention to it and they get hit again, what are the long term impacts of that?

And we're able to see that more evidentially. So it's so much of a round about it now is around education, education players, education coaches and education layperson because like how many people are skiing and snowboarding and having just random falls.

How many people are hiking like you know, I live in Sedona now. There's always people mountain biking and, you know, Super Manning over the handlebars. Mike.

Yeah, it's one of the worst. I have some friends that do that and they're always injured. Yeah, right. Because you're like stuck and you're, you're pedals and you can't get out.

Yeah. Or a variety of other things. So how many times the average person hitting their head having an altered state, a little dizziness, maybe they just shook it off and it didn't seem like it was that important.

But at that point it's like, okay, stop, start the ticker. And at least for the next couple of weeks, be really kind to yourself, to your energetic input, to how you're treating your nervous system.

Pay attention to your sleep. Immediately post injury, people oftentimes will sleep ten, 12, 14 hours, maybe several hours more than they're used to. And actually that's adaptive and therapeutic.

Yeah, some people might call me and say, you know, for the last three weeks I've been sleeping like 12 hours a day, and usually I sleep like 7 or 8. And I'm kind of worried like, well, that's actually supportive because when you have deep sleep is when your nervous system is repairing.

If that goes on longer than 4 to 6 weeks. Now we need to talk, but allow yourself to have that just down time so your nervous system can repair. That's just building in the ability for the system to kind of take care of itself.

So I want to center most of the rest of the conversation around sort of the chronic aspects to, the things you're talking about, the CTE, the concussions and the repetitive brain injuries.

But for for a moment, I'd like to stay on this sort of acute topic. So if if somebody were to sort of go through a concussion, experience or traumatic brain injury of any kind, what are some of the things beyond just kind of rest and, and sort of turning things down?

Is there anything else we can do any therapeutic? Well, we got a lot of technology these days. There's a lot of cool things in the sort of neurology world.

Are there any tools that we can use to help, help recovery in that sort of immediate window after an injury occurs? Yeah. Yeah, absolutely. I think of it in three arenas.

I think of things to do, things to take and things to avoid. Things to do, get rest, things to take, targeted supplements and some, therapeutics, particularly in the tech side if it's available.

Right. Things to avoid another head injury. Alcohol, sugar, anything inflammatory to the system. A lot of environmental kind of overload, a lot of screen time.

Right. You really everything we're wanting to do is just calm the nervous system down. So things to let's kind of like, unpack it from there. Let's start on the thing because these are more like active things to do to take, you know, tropics and you're kind of like neuro neuro reparative agents.

Easy things to get. Over-the-counter CBD number one. Yeah. Very good. As a neuro anti-inflammatory agents. Also good on the neuroprotective side. CBD fish oil, also incredible anti-inflammatory agent.

Systemically. The quality. Really good quality. Right? Absolutely. 100%. Yeah. And, you know, I'm not pushing any products here, but Nordic Naturals burgers are always better.

So usually the bigger companies kind of have tend towards a lesser quality. But Nordic Naturals is one of those exceptions. They're absolutely the largest, purveyor and distributor for sure, but they have a pretty good product, usual therapeutic dose.

I won't get into doses because that's a little bit, you know, more detailed. Yeah. But, you can use a hefty dose. And in an acute, particularly ICU setting, some people benefit up to 12 to 16g official day, and only for that acute phase where you're just needing to put out the neurologic fire, so to speak.

I've noticed this with CBD as well, and of course, I think what I've also noticed the CBD is some people are very sensitive to it. In other words, it actually affects them in a fairly like they can almost be like they're they're on a journey with it.

Like it's like it's a plant medicine and other people tolerate it very well. Regardless of that, my point is, I often find that people that aren't familiar with taking CBD, you know, I think it is always good to start slow and see your tolerance, but I think people stop too early with CBD.

In other words, I've seen really, really profound benefits with just what what seem to be massive doses of CBD. But that's where it seems like the benefits lies in that, that upper end when it comes to those neurological conditions.

Yeah, yeah, CBD is this really interesting one because to your point, you can there's such a wide dose range. Yeah. And it's extremely safe. Yeah. You take too much you get tired.

And then that's usually beneficial. Especially if you know now that's your like nighttime dose. And then you would usually peel it back to half or maybe a third of that for your daytime dose.

Right. There's different CBD your full spectrum. You have isolates. And there's such a wide variety of efficacy. So it's kind of like, okay, try and find a good clean product and take it to the point that, you know, there's a benefit, right?

And then again, if you overshoot the mark, then take that at night and then peel it back during the day. We've used 1000 to 2000mg a day right in the neurologic rehabilitation clinic, because it's such a good anti-inflammatory agent.

And we would oftentimes work with veterans who had a combination of PTSD, which is a psychological downstream effect of trauma, plus a TBI or person because of syndrome, which is the neurologic downstream effect of a trauma.

So when you have both of those, like the mind and the brain are both in these hyper reactive state, CBD is really good for both of those. Yeah. So those are two.

Magnesium is really good for settling the system. Because really calming as a kind of a nerve thing. Single mineral agent. And then we can get into more of kind of like those would be the big three kind of over the counter, right?

Very low side effect profile, extraordinarily safe. And then you get a more of a targeted supplements. So that would be like alpha, GPC, phosphate, Syrian phosphate, ional choline, some of the peptides, some of the more like, specific anti and anti-inflammatory agents like, glutathione.

Yeah. I didn't know toning is beneficial in this regard too. Right. Melatonin is great. Particularly a person has insomnia. It's great anti-inflammatory agent.

Most people take too much of that. And, you know, you take too much. If you get a little kind of groggy or hung over the next day.

Acute Recovery Tools and Supplements

These are just kind of like examples of a few different things in that acute window that are really good. One thing that is very effective in the long term posting because of syndrome kind of arena is nad, yeah, right.

Because, posting as a syndrome just feels like the system is on overload. It's either really, kind of taxed and fatigued or it's it's still super inflamed and kind of like hyper reactive, but needs one of those things that bring cellular energy into the engine, so to speak, and really churns out mitochondria, ATP, ATP production.

Now you have better energy output. It's not very comfortable. It's it's a somewhat uncomfortable experience. And some people are like, oh yeah, I tried nad in this like oral pill form, but I'm talking about IV nad usually a pretty therapeutic dose.

And then we get into more of even kind of like the next stage IV therapeutics, which could be for many people would be ketamine therapy is amazing because it's so good at supporting that lymphatic system, kind of, cleaning of the neurologic, like that inflammatory residue.

And for people who aren't familiar with ketamine, just give a give us a quick sort of primer on what that is. Yeah. It's it's been clinically used over the last 40 years as a surgical anesthetic.

And then off label use for the last 35 years and treatment resistant depression. It is, schedule three. People do need to have a diagnosis in order to receive it from, licensed provider.

And I tend to work with clients who have pretty severe p six person syndrome and a variety of different psychological issues as well, like PTSD, addiction, depression, anxiety, OCD, etc.

and that they oftentimes didn't have before or weren't near as bad until their injury. So again, now you've got like the neurologic kind of presentation and the psychology presentation.

Ketamine can be really good for both. But you do need a prescription. And and it's and it's a, it's a psychoactive substances synthetic psychoactive substance.

Substance that would we could loosely cause a plant medicine so to speak. And, and often generates visions or understandings and, and also physical responses in the body in the neurology.

Right. There's a really again, I'm always tempted to go down that rabbit hole with you and get into the fun stuff. Right. But there's some really interesting things experientially when you, when you start to, work with some of these, these type of medicines.

Right? Especially in a clinical setting, there's a, there's a lot of therapeutic value. That can happen both in the mental emotional space as well as in the neurology in the biology. Right.

Like that's I think is under appreciated with the ayahuasca, the psilocybin, you know, and the things like the ketamine and MDMA that there's an actual physical aspect to this stuff that is that's that's undergoing.

And to your point, ketamine is legal, right? So it's an entry point into self-discovery and self-examination, because it does engender this altered state of consciousness.

We oftentimes in the kind of like the psychedelic renaissance, we oftentimes kind of focus on that software side of things. But ketamine is a very good neurologic healing agent, too, right?

And not many people are using it, particularly for long term head injury residue. So then that kind of opens up the, the rest of like the tech side and the interventional therapeutic side.

If we keep going down like we talked about over-the-counter supplements, we just started talking about targeted supplements and we got into NAD and ketamine.

If we keep kind of going down that road, you've initially get to stem cells, exosomes, which are next generation IB therapeutics, exosomes you can think of like signal messengers.

Stem cells are kind of like seeds of potentiality to to stimulate new growth. We've seen exceedingly good benefits in both of those arenas. Stem cells.

Unfortunately, we can't use the most effective just because of legalities. And therefore not everything's equal. So again, to kind of do due diligence, but that field is significantly accelerating.

Yeah. It's happening outside the US. Right. Like all around the world, there's some really exciting things happening with stem cells and and really profound benefits being realized in a wide range of, of chronic ailments.

Right. Even things like ADT and autism and cancers and autoimmunity and, you know, the worst of the worst, we're seeing things progress in a beautiful way.

So, and I think because the brain is so, metabolically active and there's so much going on there, I'm very excited that once we get approval to use and I think stem cells, the most beneficial stem cells are we are able to use them for certain cancers, I believe.

I think FDA has cleared them. But for the most part, we have to use our own stem cells. Right? And really, what we want is the useful stem cells that come from umbilical cord tissues and these type of things from safe births and all that where nobody's harmed.

And like, that's the really, really vital stem cells. Right. And there's I'm just super excited to get to that point because they're showing so much prominence.

I think with neurological issues, brain issues, we're going to see tremendous, tremendous benefits. Yeah, absolutely. And this is part of the excitement I think it was the this past decade in the 20 tens was the decade of the brain.

You know, we're just finding more and more of these available therapeutics and ideally and making them more and more widely available to the masses because not everybody's going to be able to access or afford stem cells and exosomes.

But if I don't put it in the equation, then I'm leading, leaving out one of the biggest therapeutic agents. So just shy of that, we also could think about peptides, a new novel agent that's exceedingly helpful in neurologic repair.

They're not as scheduled or regulated as stem cells. They're much less expensive, and they're easy to get. Right. There's a variety of different, peptides on the market.

I won't go into that list because that's a whole deep rabbit hole, but something else to investigate. And then we and then we have. So that's more of like the interventional therapeutics.

And then you in the practitioners we mentioned functional neurology, somebody who has an experience of Chinese medicine and acupuncture who know how to use actually acupuncture, acupressure and needles to really calm the nervous system can be super helpful.

And then we peel it back to, like, things that people can do at home and think that they get things that they can access on their own, like floatation therapy is extraordinarily good for helping a person calm their nervous system.

If they're in a reactive kind of over, over protected neurologic state, which is good. Like if I'm if I'm healing from an injury, I actually don't want a lot of input because my brain's already got so much happening internally.

Anything that usually would be okay, you might feel now salting, right? So if somebody presents with that's like, okay, go into the tank, get on some CBD, maybe some fish oil, and just turn the volume down on everything.

So flotation is very good. A lot of people now are starting to own or rent hyperbaric oxygen tanks and chambers at home for use. More and more widely available are like 30 day trials for people to use at home.

So now you have water float tanks, you have oxygen in the hyperbaric arena, pulsed electromagnetics in those frequency devices, neurofeedback and the ability to retrain overactive brain states, cognitive rehabilitation, which is both at home and also practitioner driven.

So now you've got like the tech side of things that people can do at home. And then I get into like the nature side of things that people can do. How about eMDR?

Is that something that that is going to provide your amazing. Right. Typically more on the psychological side as we talk about like the downstream effect of trauma, I don't even know if there's a lot of research for eMDR as it really as relates to TBI and person syndrome.

When I say TBI, traumatic brain injury, but anybody that has any if you have a significant TBI, you're going to have some degree of psychological, adjustment to that.

Right? EMDR is very good because it has these cross lateral, stimulation patterns that rewire the brain to a more rested state. Right? So no downside, only an upside.

And very, applicable to use, especially if anybody has experience with eMDR before a head injury, with benefit like. Great. Let's use that again because it was good for you before.

It's only going to be supportive now. Yeah, I've only heard of it is beneficial on the software side. And I've seen tremendous things. Tremendous. Especially with the eMDR practitioner who knows it really well.

Yeah, yeah. And then we get into the nature side of things, sun, vitamin D, sound and really therapeutic. Like treatment and healing oriented sound therapies, vibrational devices, even using your own sound therapy or even your own internal sound therapy.

So humming. Yeah. And some something called, meditation when you actually, like, close your ears, you can also close your eyes. That's kind of like the old school looks a little funny, but, if I'm ever because I'm, I'm.

Advanced Therapies for Brain Repair

I track my neurologic state all the time because I've had so many injuries in the past, and I know what what it feels like to really be on. And if I, you know, if I'm traveling a lot and maybe my nervous system is a little keyed up or people don't know have any idea what I'm doing, if I'm just holding my ears closed and I'm humming at the same time, right?

Because that stimulates the vagal nerve. Any humming or vocalization will do that. And when you do that for long periods of time, now you're resting the primary nerve center between the gut and the brain that dictates what's called parasympathetic tone.

So after injury, usually we're in person, we're in sympathetic overdrive because now we need to be in a protected state. We don't want another injury.

So you can start to reregulate towards parasympathetic tone by doing a lot of different things, including that humming. But in practice. Right. Let's see, we talked about sound, sex.

So sex is therapeutic for sure, particularly getting a person back into their body and their hormones kind of re regulated, but too much sex or particularly in ejaculation in like giving too much energy out can be a downstream effect.

So if I'm talking to a lot of athletes who have a big sex drive, and maybe particularly as men in a performance oriented culture, we tend to have a lot of identity around our sex and our sexual performance.

It's actually rehabilitative to be able to hold a person's energetic experience and work on the energy body by doing some of the, like, ejaculatory withholding techniques.

And riding the wave of that experience without losing any of the energy on the other side. So there's just different ways to kind of like uplevel our experience of being able to hold our own energy.

We might call that qigong H. E Yin Yoga. Things that that increase energy in the in the, the, the energetic system, so to speak. Chinese medicine might call that like the meridian chains.

Vedic might. It might call that like the Naughties. We don't really have a sense in allopathic western medicine of what the energy body even is, but anything that's going to bring energy into the system and kind of generate more and more and have it be held in a place towards dictating repair.

Yeah. That's that, that's, that's regardless if it's just a head injury or anything else, but particularly neurologically with a head injury. Yeah. What you're naming here is that sort of unique concept that I think in the West, we again, we don't have a lot of, understanding around of how to work with it.

But it's this idea of, of cultivating energy. Right. And, and, and holding it to be able to cultivate it without losing it. Is is a concept. Again, this is a lot of practices in the East and, all over the world use these type of techniques to cultivate energy.

But again, for us, it's it's like the only place we get we get energy from food or maybe the sun. And we don't really think about energy any more than that.

And it's, and it's wild because we don't fully recognize and think most of us, even my self understands the concept, don't fully recognize our power to cultivate and cultivate energy on that level.

Again, this is qigong as a public need primary practice that is sort of dedicated to this cultivation of energy itself. Right. And cheap. Really? Yeah, yeah.

You're chu your energy force, you're kind of like energetic imprint. And how much energy you have available on your own, right? Because we're primates, natural, you know, natural products of the living ecosystem.

We can access energy from the sun, from food, from water, but also from our own internal practices so that we don't have to reach for caffeine. We don't have to reach for the young based adaptogens that are going to bring exogenous energy.

And how do we cultivate it internally? Yeah. So all these practices are around that. If we start now, we're talking

about like we're starting to get into prevention.

Right? So one of the prevention strategies for posting because of syndrome is simply meditation because it increases levels of self-awareness. And so meditation is for as well as when you when we do it more actively, we can actually start to more, have more agency and resource in self-regulation.

Right, right. So that means being able to at will regulate our nervous system. We can track it and become aware that now we're in a sympathetic tone or fight or flight tone or just too stressed.

Or maybe it's just like, you know, becoming normalized to a stressful environment. How do we become more aware of that? And how do we start to reregulate our internal state?

Meditation. Really good. Because it generates that level of self-awareness. And if I know what my previous normal healthy baseline is after a hit, I can tell how far I've come.

And now I've got more insight into really being able to knuckle down on a PXE or brain recovery protocol. Physical resilience. Interestingly enough, the more strength and tone a person has in their neck, the less likelihood of a concussion, and especially a post concussive syndrome, because you have more stability.

So if you get hit, if I have more internal integrity here, then and less laxity, then it's less likely my head's going to do one of those, like it's called coup counter coup or like a hit and rebound, kind of like bouncing effect, so to speak, in the brain.

It's not quite like that, but we can just use that as analogy. So like, you know, some of the fighters are used to now using this thing called the iron neck, right?

Which is this device just builds that like internal integrity. So that's like one example of like physical resilience, cognitive resilience. We can build into the we talked about mental resilience with meditation physical resilience with something like strength training and cognitive resilience by actually having different aspects of framing different learning styles, having more internal mental and neurological flexibility.

So brain training exercises just by themselves can also be protective against long term effects of person because of syndrome, as well as the long term effects of neurodegeneration in general, like dementia, etc..

Yeah. So talk to me about sort of the longer term aspects of concussions, head injuries, TBI of all kinds. Because again, if it's if, if we refer back to something that and I find this actually sometimes, in my practice when I'm working with people that people have may have had a head injury that they totally forgot about, that was ten years ago or whatever.

And, and I find that it's probably still affecting them, today, you know, when it comes to chronic health conditions, you know, one of the things I like to, to teach is that they really all come down to core wounds.

And these can be core emotional wounds. Right? Core, core wounds, in these sort of, again, mental emotional aspects of things, traumas and that kind of thing.

They can be heavy metals, right? A somehow building up a chronic heavy metal issue or, or it could be infection, right, of mold. These tend to if, if affecting the system long enough or in a more in an acute way can have long term effects.

But they all go back to a core wound or many core wounds. And one of the things that I find is, again, not really looked at when it comes to chronic ailments that aren't head related, so to speak, that they're obviously head related.

Again, might be a, a gut issue, right? And might be infections, might be migrating motor complex motility issues, a Sibo, right, a classic example of something that people continue to look for in the gut.

But these things can be tied to the brain. Right. And a traumatic brain injury of some kind. That was two years ago and not fully addressed is now having downstream effects throughout the body.

And so I think we don't often look to head injuries enough and for that matter, physical ailments, physical injuries, they may be affecting structural postures and in soft tissues and throughout the body that again have downstream effects that are complex and that no question, when the source of the injury or the wound has not been acknowledged, let alone address.

So let me talk to me about some of that, because, again, painting a picture that can be kind of hard to unwind for both a practitioner and somebody that's dealing with chronic ailments.

But nevertheless, I want to bring awareness to it, because at least if we if we have a little awareness, we can investigate that, that side of the equation.

Yeah 100%. Okay. Just doing a time check. So I want to see how, how much time we have to get deep into this, these waters.

Long-Term Effects, Hidden Head Injuries, and Healing

Because you're, you're bringing up something fascinating that in my experience any, any significant wounding. If we look at it on the software side of things or on the hardware side of things, software side of things, those wounds might be like rejection, abandonment, betrayal, injustice.

Yeah. Humiliation. So, like, you can think of it like government. It talks about in regards to addiction. It's not so much the trauma. It's a response to the trauma. But. Right.

So we have these core wounds that can happen. Our response to a it's the adaptive aspect. Right. So on the software side, how are those traumatic events getting encoded into a person's psyche.

And on the physical side, how are those traumatic events getting encoded into the physical substrate. The structure itself right. If we look at it just on the neural that I mean, that's a deep rabbit hole.

And it's also if we look at the long term effects, when the person has education and support, then usually those, those insults, those injuries, those traumas are actually used as fertilizer for growth, adaptation.

Right? Personal development, personal mastery. But we need both education and support. So if a person is suffering in isolation and they don't know why, if you get ten years down the road from a really bad head injury, but there's no appreciation for the severity of what happened.

But now that person doesn't think is clearly their memory is a little off. Maybe they're a little bit more irritable. I know when I had post because the syndrome, I was highly irritable and I would swing.

I already have a lot of fire, so I would really swing pretty precariously from one side of the equation to the other. It was disruptive from my life as well as the others around me, and it was only when I really started to dedicate myself to the reparative process and I could slowly see benefits.

That was the first thing that I noticed is I was less reactive, was like, okay, now I'm on the right track, but if we don't have that education in the support, then we're kind of like suffering in isolation.

And how do you like how do you like point back to the original event? That's where it's really important to work with an intuitive practitioner or a guide of some sort.

Ideally, you know, medicine is as much of an art as it is a science, and we have handicap the majority of our medical practitioners, especially our paths, especially Western medicine docs, because the average time they deduct spends with their clients is 11 minutes.

It's really hard to be intuitive in 11 minutes. Yeah. And when you say intuitive, by the way, I just want to, maybe put a different word to it for those who kind of have this hard time with sort of psychic intuition that that's out of the equation, but it's a feeling. Right?

So, you know, so much of our Western culture with, with medicine and with a lot of things is head based. It's thinking. Right? And there's a lot of cognition and there's a lot of, reasoning, that comes from that. And that's beautiful.

And I make a lot of headway, pardon the pun. But when I hear intuitive, what I, what I'm hearing is feeling, there's like a feel playing the piano. There's a feel that you're playing. Yes. You know where the keys are. Yes.

You understand, you know the notes and the chords and how it all works together. But it's it's the feel, right? And there's this different aspect to whether it's the game of basketball playing the piano, doing medicine or any other sort of artistic endeavor.

It's the intuition I feel is this feeling that you have in the moment, as you're listening with your body, with your entire system. Right. And that's a so I just want kind of bring it out.

It's sort of the woowoo intuitive, you know, psychic lady type of thing. Because I know you. And that's really what you're talking about, right? Is this, like, feeling through what's really happening with this person?

Yeah, yeah. It's like, seeing what's not necessarily obvious. Yeah. We're having a kind of a gut feeling, to your point, a gut feeling of what might be the underlying primary factor.

And so the reason I bring it up is because the majority of people are not going to see functional neurologist, they're going to see the primary care providers, or they're going to go to the e. R.

Or they're going to see a nurse practitioner or a variety of other people. Right. So I'm actually speaking to those people on the clinical side, as well as the person on the, the the consumer, the person going through the process themselves.

It is really important for us to develop our are feeling tone. And in this culture, we we're so bombarded with so much really fast information. It requires a lot of methodologies slowing down, being a little bit more kind of like, spacious to allow the, the gut feeling to present itself.

Otherwise we're going to overwrite it and we're just going to be like these practitioners that just trying to make widgets following standard of care protocols without understanding client experience and without understanding the, the, the subtle aspects that could be a head injury years ago.

If somebody is presenting with chronic headaches and that is a slow build up of a neuro inflammatory process because maybe their gut is off, maybe their diet is off, maybe they're in a stressful living situation.

But the insulting event was a head injury many years ago, and their neurologic system now has been kind of like tweaked from its ideal expression. It's like if you tune your radio dial to an ideal neurologic optimization point and then you get injured, it gets knocked off of that optimal kind of frequency setting, and just a little bit can have a long term downstream effect.

It's like sailing a boat. You know, if I'm wanting to go here and I gradually start going here, by the time I get further down the road, I may be way off track.

Right? So that's where we really it it it's a, it's a, it's a requirement if we're going to reclaim excellence in the medical arena predominantly in the primary care sector, that we slow everything down and we start to get back to more of like an intuitive gut feeling aspect where we can actually give more space to the practitioners so the client can actually tell their full story, and then they can have a dialog, and then they can both kind of come to a more intuitive center, a felt sense of where their original insole is, and then now be able to educate the person on the

things to do to repair, and maybe a secondary specialist to be able to confirm that or evaluated further, like a functional allergist who's able to now do a full neurologic exam that has more subtleties than the general practitioner is going to know how to do and be able to say like, oh yeah, look at how your eyes are tracking, or look at the fact that now your cognitive measures have dropped by 30% over five years, maybe it's neurologic early cognitive impairment, but if the original event is a brain injury, which downstream can look like Alzheimer's disease, you treat it differently.

Then if it's an Alzheimer's disease picture because of heavy metals. Exactly. That's the key, right. Like that is so important what you said there. And again, it's it's one of those pieces that I find is missed in so many clinical pictures.

Again, no matter what chronic issue it is. We're starting especially in the integrative functional medicine space. We're looking for metals, we're looking for parasites.

We're looking for these things now more. And that's fantastic. You know, we're doing a lot more detoxes and cleansing of the system.

Prevention, Resilience, and Where to Find Dan Engle

And and again I think because so many aren't trained in sort of functional neurology, we just blank out on the fact that there's a there's a possibility that there were some traumatic brain injuries in the past that could have set the stage.

And so we need to attack this thing, in a different way. And, you know, again, that's why I'm so excited for clinics like yours and the work that you do, Mind-Body medicine, which hopefully we eventually just call medicine, because how could we ever separate the two?

But we're coming back to this reality that we can, play the software and hardware game together and really develop a full clinical picture with some really cool stuff, right?

I mean, again, the ketamine is in the CBDs and, and the, the functional neurology tools that we have, the technology that's coming and of course, all the things that we have at our disposal like nature exercise, of course, adjusting diet, sleep, loved ones.

Right. Hanging out in a setting where you're, you're feeling loved and accepted. I can't float tanks, right? Like, I think you painted a very beautiful picture here of all the tools we have in a disposable.

And to me, this is where we're going when it comes to these traumatic brain injuries, concussions. I mean, you see this in the NFL. You see this with with those groups and organizations that have a lot of money and resource to be able to dedicate. That's where they're turning.

They're turning toward these type of things. Right. Because that's what's having the biggest impact. And so again, Doctor Angle, I appreciate you coming on, sharing your wisdom with us.

Please tell us more where they can, where people can find your book, and more of what you do. Yeah. Thanks for asking, Jason. Always a pleasure to be with you.

Thanks for having me on. Yeah. I always enjoy our conversations. And I know we could go deep in the paint for hours. And the variety that I want to be mindful of time here, I really could keep going.

Yeah. So easiest place to find me directly is doctordanengle.com. I work, you know, on that software side of things. Full spectrum medicine is our psychedelic integration program.

On the hardware side of things, that's the concussion repair manual and our concussion repair program. And then kind of like spanning the gap between both of those is is so growing field of what I would call transformational

medicine.

Yeah. MDMA with some of the neurologic tools like in eMDR, even for instance, like like, a trauma recovery therapeutic, like MDMA with a trauma therapy practitioner who can train somebody like eMDR.

And now you've got a better exponential benefit, right. So the book A dose of Hope is about that kind of MDMA supportive psychotherapy, aspect. And we just launched a nonprofit called Think You Life, which is a funding stream to support people to access, ketamine, psilocybin and MDMA when they become legal and people that wouldn't be able to afford it on their own.

So it's a it's the first thing you really focused psychedelic therapy fund. And I think there's probably half a dozen or other projects or so, but those are kind of like the big ones for now.

So again, thank you so much for coming on. I've got a two year old pulling on my arm here now. It's that means it's time to go. But thank you. Yeah. Great to see you again. And and again.

Thanks so much for everything you do. Yeah. Likewise. Jason take care man.