



**Transcript of “Dr. Dwight Jennings: TMJ, Jaw Pain,
& Substance P - 179”**

Bulletproof Radio podcast #179



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Speaker 1: Bulletproof Radio.

Dave: Hey, it's Dave Asprey with Bulletproof Radio. Today's cool fact of the day is that researchers just discovered that the skin of chocolate beans or cacao beans contains a compound that reduces unhealthy bacteria in your mouth.

This doesn't mean that you have an excuse to eat the new [Bulletproof chocolate bars](#) because chocolate doesn't usually contain the skin, but it does mean that there are antioxidants and other compounds like polyphenols in the skin of chocolate that have effects on the body that we've just discovered and that's cool.

Today's guest on Bulletproof Radio is an amazing guy and if you're watching on YouTube or you're watching the iTunes video, you can actually see that I'm filming onsite for this. I'm onsite with Dr. Dwight Jennings at the Northern California Cranio-Facial Diagnostic Center, which is, Dr. Jennings, the longest name for a company ever.

Dr. Jennings is not your normal dentist. In fact, Dwight I would say you're an abnormal dentist in the most complimentary way of that. You might have heard me mention just on a few podcasts that I've done something to face or to my jaw alignment. Dr. Jennings is the guy who masterminded this.

I have a chin, I have a square jaw that I didn't use to have because of what he's done and it's non-surgical. It turns out there's a huge amount of inflammation that can happen up here on your trigeminal nerve. If you're like many, many people, what your grandmother and your mother ate affects the way your jaw and your upper spine are formed.



I had a smaller upper pallet and my lower jaw was jacked packing up and there's no way that I could actually know this was going on because for me to chew always created stress up here which would trigger my fight-or-flight response.

You can do the heart rate variability training. You can do all sorts of things but if at a core level your nervous system is getting just hammered every time you chew and when you sleep, you're not going to like what happens. Even if you eat the right diet, even if you do everything else right, you're still going to have these symptoms.

Dr. Jennings first presented his work at the Silicon Valley Health Institute, the anti-aging group that I run eight, nine years ago. I came in to see him. Now we're going to ask you lots of questions. Welcome to Bulletproof Radio.

Dr. Dwight Jennings: Thank you. Glad to be here.

Dave: How did get into hacking the jaw? You don't really do cavities. That's not your game.

Dr. Dwight Jennings: I don't. I was a general dentist for about 10 years and during that time I study a lot of European orthodontic techniques which you need to do this work. As I got those techniques I just started doing more and more orofacial pain cases and 10 years into my practice I limited my practice to orofacial pain and dental orthopedics.

Dave: Let's just say when someone like me comes in and say, "All right, I don't really think I have that much of a bite problem. I noticed maybe sometimes I have a little bit of TMJ but it's not a big deal." What do you hear when they say that? How do you translate that?

Dr. Dwight Jennings: There's a background that I noticed that the vast majority of humans these days are moderately compromised that's why there's such a high incidents in headaches and lot of other musculoskeletal problems. The high incidents of ear infections in infants, all this is symptoms of jaw orthopedic defect.

Most people get by fairly well. They may not necessarily develop a TMJ pain condition but the dysfunction here leads to a lot of inflammatory propensities in the body. I would be more curious in their complete medical history and see how many inflammatory conditions show up.

Dave: You look at changing the alignment of the jaw as a way to address systemic inflammation in the body.

Dr. Dwight Jennings: Yes.

Dave: What happens to the people who have systemic inflammation?

Dr. Dwight Jennings: I'll go back and talk a little bit about the sensory zone from here to here and ear to ear is your trigeminal nerve. What's special about the trigeminal nerve is it has 100% times more dense pain fibers than any other nerve in your body.

Dave: You feel pain in your jaw long before you feel it in your elbow.

Dr. Dwight Jennings: Not necessarily. When this function gets disturbed ...

Dave: For people listening in their cars, this function meaning around your face.

Dr. Dwight Jennings: Correct. This function within the trigeminal distribution area leads to an elevated pain neurotransmitter called substance P. Substance P is probably the most major modulator inflammatory response in the body.

Dave: You turned me on the substance P a long time ago and I read some of the research that you sent me and I've done other research on it. Substance P is probably the oldest pain-reception molecule. I think slugs even have substance P.

Dr. Dwight Jennings: That's true.

Dave: This is something that very low down in our biological signaling. What does it do? How does it work?

Dr. Dwight Jennings: It has three or four different effects on the body. It opens up cell membranes and makes cells become less efficient so you can't detox if your substance P levels are too high. Opening up the cell membranes and depolarizing cell membranes it makes you hypersensitive so you get the allergies and the asthma, multiple chemical sensitivity and a number of other allergic type responses.

Because it opens up those cell membranes it's a major neurosecretory modulator so it throws up your hormones levels. It's a major modulator of movement so you get a lot of movement disorders.

Dave: What's a movement disorder that would come if you had jaw misalignment?

Dr. Dwight Jennings: Torticollis, scoliosis.

Dave: Scoliosis can be caused by an uneven bite?

Dr. Dwight Jennings: Yes. Japanese have done 35 years of research on bite distraction in animals and basically all the research is not available in this country.

Dave: You mean all those kids with scoliosis now if their dentist were looking at functional things instead cosmetic things that they might just magically straighten out their spines when their jaw was done right?

Dr. Dwight Jennings: Correct.

Dave: Are you hearing this right now? He's not lying. I know for a fact that what you're saying is true but no one talks about this.

Dr. Dwight Jennings: Right.

Dave: I even noticed my son, he's five now, and if something happens in jaw - when he was born you know your faced gets kind of

smashed coming out. He had a lot of upper neck pain that was actually tied with his jaw.

Within five days of being born we had some very gentle release for his jaw that allowed him to fully relax his body. To this day if he falls and whacks his face, which kids do all the time, he'll fall over more often. It is tied to hip alignment and jaw alignment.

You mentioned it can cause scoliosis. If you have a low back pain can a jaw misalignment cause that or is it the low back pain causes jaw misalignment?

Dr. Dwight Jennings: Very common. In chiropractor they understand the relationship, I think it's called a Lovett Brothers relationship between upper cervical and lower spinal relationships. If you twist the upper spine there's a compensatory twist in the lower spine.

The upper cervical typically is very unstable as your jaw goes back on you so bringing the lower jaw forward and re-positioning the lower jaw goes a long way to creating upper and lower spinal stability.

Dave: Someone comes in and they have overbite where their lower teeth are behind their upper teeth in the front. You're pretty much going to always assume that they have some neurological dysfunction or some even mitochondrial dysfunction, the cellular energy things, because you can see it in the way they chew.

Dr. Dwight Jennings: Correct. If we go back genetically, all primitive humans bit tip to tip, end on end.

Dave: Their front teeth they met like this?

Dr. Dwight Jennings: Like that.

Dave: My front teeth meet? They didn't use to meet. I used to have my front teeth hit really hard and my lower teeth were up and hitting the back of my front teeth and you're saying that's not healthy.

Dr. Dwight Jennings: Right. There's biomechanical reasons why we need, must, should and do better biting end on end which most dentists consider abnormal. This joint, your TMJ joint is your only joint that can translate the slides back and forth and since it can slide back and forth, dentistry think it's OK for it to slide back and forth but it's not.

It does much better if only rotates and when you have an overbite you have to slide your jaw forward to bite things off. You have to slide your jaw forward to control air flow and speaking and so you create a hyper mobility in this joint which impacts the trigeminal system and leads to elevated substance P levels.

Dave: This will be like if you were going to do something with your shoulder, which is not a complex joint, every time you had to do a shoulder press you had to push your shoulder really far back or really far forward and then do the motion.

If you lift weights you know that if your arm is really far up and you're trying to do something here you have no strength and it's going to create a shorter girdle dysfunction. A similar thing happens here. It can do that, it's just not a good idea. We chew, I don't know. You probably know how many times a day. Do you know how many times a day we chew?

Dr. Dwight Jennings: Our teeth are actually touching less than five minutes a day when you're eating. What you need a good bite for is not to chew but for your jaw to relax. When you have a bad bite your jaw is always on guard trying to keep you from banging into the teeth.

Dave: I was unaware that my jaw was doing these things. Before I came in to see you, I'm a biohacker so I do weird stuff. I think I'm the only guy that does that. Like I'll test this, it sounds like a lot of work.

I melted these little plastic things with a lighter actually and I formed them over my back teeth and put them in for two days. It was amazing because after I did that I didn't want to close my

mouth anymore because I realized how much muscle stress to just force my jaw closed. I don't want to live with this.

I came in you're like, "What are those weird plastic things?" I also fill my own cavities. No, I don't. You came and you saw that. Can you talk a little bit more about neural crest formation and where your front four teeth come from? I think this was a big thing for me like fight-or-flight. Just walk people who are listening in their cars or watching online through the process.

Dr. Dwight Jennings: Embryo logically, there's the endoderm, mesoderm and ectoderm, the outside, middle and inside layer of skins.

Dave: These are things that are forming in the womb in the first trimester.

Dr. Dwight Jennings: Right. Then there's a fourth germ layer called neural crest cells and neural crest cells form all the important parts of our nervous system and a lot of cranial bones, front four teeth. Bite disturbances tend to disproportionately impact neural crest derivatives.

Dave: The way I would feel that as an adult male, who's allegedly performing at my top, is that if I'm hitting those four teeth all the time and they're plumed in, this is just the front four top teeth, to my nervous system, they're going to cause more nervous system physical stress than I otherwise would experience.

Dr. Dwight Jennings: Correct. Impact in neural crest cells like substance P level going up. Substance P controls stem cell differentiation in the body. When your substance P levels go out of whack, you can't make new brain cells. The brain can't differentiate and repair itself that well.

Substance P control stem cell differentiates in the bone marrow so you can end up with not enough white blood cells and red blood cells, leukemia, lymphomas. There's a research out there that think that Substance P is the sole cause of leukemia.

Dave: Wow. That's profound. You're saying now that jaw alignment, by triggering systemic inflammation and damaging your cellular membrane so your mitochondrial energy creation doesn't work can have a contributing role to cancer?

Dr. Dwight Jennings: Yes.

Dave: That's amazing.

Dr. Dwight Jennings: Back to where you mentioned earlier about the aerobic to anaerobic respiration in the mitochondria, my understanding is that that happens because the cell membranes open up and there's a calcium influx which messes up communication within the mitochondria. There's very extensive literature of substance P causing a prolonged calcium influx in the cells.

Dave: Interesting.

Dr. Dwight Jennings: We're seeing that's primarily problem of opening cell membranes, depolarizing cell membranes and the calcium rushes in and messes it all up.

Dave: If you follow some of the other Bulletproof protocols on the website, I talk about things like earthing. I sleep on an earthing sheet which actually directly affects the flow of electrons in the body. There's things that you can do with magnets and pulse electromagnetic frequencies.

We had that stuff at the [Bulletproof conference](#). Anything that increases your ability to move electrons across the cellular membrane makes a difference. In fact, you can even hack the outer cellular membrane by just eating the right kinds of fat so that you can create a healthy cell membrane.

Then you have a mitochondrial inner cell membrane and that also needs certain kinds of fat. You need your fish oil, you need your saturated fats and you need moderate amounts of ALA and you need some arachidonic acid in there even though too much of that is bad, too little is bad.

What we're finding from you though is that an environmental signal that comes about stress levels from the alignment of your bite, which was caused by what your mother and your grandmother ate, that that is now changing the function of our cells. Is this complex or what?

If you want to take advantage of that knowledge and you want to say, "Well, I can't go back and hack my grandmother retroactively," because so far we don't have any technology for that. Now my upper palette is smooched. I'm triggering my fight-or-flight response multiple times a day by hitting my front fore teeth.

I'm raising my substance P levels by increasing jaw tension here. That's reflected in the way I walk, the way I stand, the way I breathe, the way cells respire. It's affected my cancer risk. It's affected also AMS and Parkinson's.

Dr. Dwight Jennings: Yes.

Dave: You've found connections in your patients with jaw alignment and the symptoms that they're having from those diseases?

Dr. Dwight Jennings: Yes. There's very extensive YouTube videos now on treating Parkinson's through bite therapy.

Dave: What percentage of people do you think have a bite alignment that would benefit from having treatment?

Dr. Dwight Jennings: Probably in excess of 75% of the population.

Dave: This might be biohackers could pay attention to. Where do people go, if they're in wherever it is they live, and they're interested in finding someone who can help them get their bite aligned? If you're in the Bay Area you're like the jaw whisperer, at least in my view of things, so this would be the place to go.

Dr. Dwight Jennings: There's a couple of professional organizations. One, look at the International College of Cranio Mandibular Orthopedics,

ICCMO, and then might also want to look at the American Academy of Cranio-Facial Pain.

Dave: OK. We'll put links to those in the show notes for you. You can just go to bulletproofexec.com and we'll give all that to you. Now, you've been doing this for about 30 years?

Dr. Dwight Jennings: 35 years now.

Dave: 35 years. That's amazing. We're going to film at the end of this so you'll actually want to watch this video on YouTube or in iTunes because we're going to do a bonus video afterwards where you're going to actually fix my bite alignment because something happened here, we'll talk about in a minute.

The big question I have for you though, let's just say I'm a new person who's going, "I guess I do have a little pain. I want to do something with this." How long does it take to fix this? How much work is it? How painful is it? I know from my own experience but you've worked on tens of thousands of patients over 35 years.

Dr. Dwight Jennings: Usually we're starting on people that are in a lot of pain. Over 50% you can get them out pain within 48 hours. To treat it, depending on how you treat it, can take anywhere from 2 to 10 years.

Some cases that we have that are really skeletally shrunk and reduced in size you have to go in and grow those jaws bigger over a very slow period of time. Majority cases they're going to treat on about 2 years.

Dave: It took me about 2 years and what we did is you made a metal appliance that basically pushed my upper jaw out. As I recall, I wore that all the time, but maybe not when eating, the metal stuff. Did I wear that when I was eating too?

Dr. Dwight Jennings: Yes you did.

Dave: OK. It was a bar crossed out my mouth, you couldn't see it. It affected my speech a tiny bit but you get used to that very quickly. We spread my upper jaw out. I didn't get gaps in my teeth or anything but that was just to make space for my lower jaw to be in its natural position, right?

Dr. Dwight Jennings: Right. The process is getting the jaw lined up functionally. Once you get the jaw lined up functionally then you have to move the teeth and get them back together. That typically requires that the upper jaw be widened to accommodate a wider part of your lower jaw being more forward.

Dave: Once we did that you also made essentially it was like dentures that clipped in and I wore these things all day long even when I was eating, anytime I was awake and then I had a night guard that I still use to this day so when I sleep my jaw stays aligned, which really helps sleep quality and just physical alignment of the body.

I come in maybe six or eight weeks and you would adjust the height of my appliance that held my lower jaw which changed how I look. Over the course of about six months, my jaw slowly relaxed and just came forward. If someone is going through this kind of treatment they come in every six to eight weeks.

Dr. Dwight Jennings: Most cases four to six weeks.

Dave: Four to six weeks, OK. Then you make slight adjustments.

Dr. Dwight Jennings: Correct.

Dave: You know how to do this and I know that you have wax molds and strips of green wax and carbon paper and you are like a Michael Angelo of these things. You'll pick the thing up and you look at it and you have a little drimmel tool and people are going to actually see you do this to my bite guard.

The only question is like OK, 35 years of experience, you're one of the leaders in this field. What do everyone else do, maybe the

dentists just don't know how to do this? Is there a technology they can use?

Dr. Dwight Jennings: A couple of things that we do, our orthopedic model is a little different than what most dentists have. We're treating people to a minimal range of function so we're looking at where that jaw swings in a fair arc of closing and we want the bite to support that.

Most dentists are still looking at you under a dental occlusal model and so they typically put more overbite back into the cases than I do. Yeah, getting the jaw lined up.

Then we use polyvinyl siloxane to check our bites with, which is probably about 30 times as accurate as carbon paper. That gets us a little more precise than the average dentist when they're checking bites.

Dave: One of the things that happened to me about two and a half years ago, one of the caps on my back teeth ... my back molar, well probably put the camera in my mouth during the bonus interview for this.

My back teeth have caps on them that Dr. Jennings installed which allows my jaw to stay in a neutral position so don't have constant physical stress. One of them popped off and I was eating something sticky. The adhesive the failed after many years.

I went to a local dentist Vancouver Island where I live and I said, "Can you glue this back on? It's really dysfunctional to have an extra two millimeters on this side and not this side. It's causing muscular pain. This is bad."

He said, "Yeah, I can glue it back on." I said, "Is it going to be exactly aligned the way it was before? Does it work like that?" He swore up and down, "Oh yeah, there'll be no difference."

He put the thing in and within a day I had upper back pain, neck pain, this radiating pain that went from my jaw, up the side of my

eye, along my scalp, over my ear and then back in upper back. Why did that happen when he glued this cap on just a tiny hair width crooked?

Dr. Dwight Jennings: When you glue crowns on they never go back on exactly the same.

Dave: They look the same. How much of difference really matters?

Dr. Dwight Jennings: We're looking at ten thousandths of an inches is critical in the mouth.

Dave: That's a hair's breadth.

Dr. Dwight Jennings: Yeah.

Dave: The width of a human hair on one side. If the jaw was higher, why did that cause radiating pain from jaw, up over at the top of my head and then down into my upper back?

Dr. Dwight Jennings: Because of the high density of pain virus within trigeminal. When it gets excited just a little bit, it triggers a massive response.

Dave: Your experience is bat 75% of people have a hair's breadth worth of alignment problem and that that raises systemic inflammation even though they don't know what's caused by that tiny alignment.

Dr. Dwight Jennings: Actually, most people are getting into trouble when they're off an eighth of an inch. The vast majority of our patients that show up for treatment are often about and eighth of an inch, they're not off a few thousands.

Dave: Eighth of an inch?

Dr. Dwight Jennings: The jaws off spatially about an eighth of an inch.

Dave: We don't know how sure how far I was. I doubt you'd remember that out of your tens of thousands. It was probably substantial, I

would imagine, just given as much stress as there was there and the changes from these were really profound.

Before we show off my bite guard, let's talk about sleep apnea. You've told me some things that are astounding. Tell me about what this does for sleep apnea and then tell me about the guy who kept using CPAP machine for psychological reasons.

Dr. Dwight Jennings: There's 85% of the time sleep apnea is caused by obstruction. It's obstructive sleep apnea and it's obstructing from the tongue blocking the airway at the back of the throat.

Dave: So the tongue is falling into the airway?

Dr. Dwight Jennings: Correct. That's why when people lie on their back they tend to snore and have more apnea. When you bring the jaw forward it brings the tongue with it and opens up that airway. When that airway is 50% reduced over optimum yet on average it takes 15 years off your life.

Dave: If you're wanting to live a long time, having your jaw forward while you sleep might be a good strategy?

Dr. Dwight Jennings: If you're significantly obstructed.

Dave: Do you have a study about that 15 years? Because right now there's like 50 people Googling saying that this is totally BS and it cannot possibly be true.

Dr. Dwight Jennings: Yes there are studies on that.

Dave: Yay! I'm not surprised there are studies because if you're not breathing you're not getting oxygen, you get subtle hypoxic things in the body. I do a lot of other stuff outside the scope of what we're going to talk about to change the oxygen levels in my body.

Dr. Dwight Jennings: It's gone through off the entire autonomic function also.

Dave: The autonomic function, as your fight-or-flight response, this is the rest and repair versus run away and kill things. If you're always in the run away and kill things mode, which you probably are if you're like most people who live in cities today, this is just going to make that worse so it's a matter of degree.

You told me a story once and it was a patient who had had sleep apnea for many years and slept with a CPAP machine. A CPAP machines are those things that's got a little compressor running and it basically forces air into you.

This guy had no more sleep apnea after a he started sleeping with one of your appliances, the nighttime bite guards. Can you tell me why he left the CPAP machine on? Do you remember that story?

Dr. Dwight Jennings: I don't remember that story. No.

Dave: I still remember it because it was so striking. This was probably from five or six years ago when you told me. It was because he couldn't sleep without the sound of it because he'd associated the CPAP machine with quality sleep. Everyone who listens to Bulletproof Radio knows the quality sleep is precious.

He just found that he was afraid to sleep without the sound so he just flipped the switch, sat the CPAP machine on the floor and then go to sleep with his new appliance. That's the sort of thing where people go, "Really?"

The bite alignment controls many things from you stand, the way your knees work, the whole body. This piece of knowledge is just missing from most doctors, most surgeons. If you're doing a knee surgery and there's a bite alignment problem, is there really any connection between those two?

Dr. Dwight Jennings: We see medial knee pain very frequent with TMJ problems. Very, very high, probably 30% of the time.

Dave: When I was 14 I was diagnosed with arthritis in my knees and I've had three knee surgeries before I was 23. There's a screw in my

right knee. I recognized now that this was probably a contributing factor, my jaw.

I also had systemic inflammation, adrenal dysfunction, which I probably had, which is also tied to jaw alignment, is also directly associated with knee problems. In fact, particularly the knee problem I had where your knee cap was dislocating when I would walk. When I was a sophomore college I'd just be walking and my knee would just fold sideways and I just fall over. It was inconvenient.

Dr. Dwight Jennings: The other point on the trigeminal nerve, the trigeminal nerve is a predominant influence on the reticular activating system, the part of your brain stem that keeps your brain awake. When there's too much trigeminal disturbance the brain won't shut down. It won't let you fall asleep. You see a very high incidence of sleep disturbances with bite issues.

Dave: Is narcolepsy tied to bite disturbances?

Dr. Dwight Jennings: I would think so, yes.

Dave: Bottom line is if things aren't running in your body the way you want them to run, especially if you can see that your front teeth are in front of your back teeth, this is an avenue of exploration for you and you want to go to those two resources that we have on the show note that are going to tell you where to find a specialist who can do this kind of stuff.

Dr. Jennings, I'm a quantified like measure-the-body kind of guy. What you do is based on many, many years for clinical experience and you're measuring things with a mold. As far as I know, you're not necessarily doing a full 3D laser quantified scan of the jaw alignment, things like that. Are there technologies that make this easier for dental professionals to move into neuromuscular stuff?

Dr. Dwight Jennings: There's actually the specialty of neuromuscular dentistry that uses high tech equipment. They use jaw tracking, place a

magnet on the lower jaw, sensor rays which is what's right behind you there.

Dave: Love it.

Dr. Dwight Jennings: Sensor rays.

Dave: You have Myotronic gear. I was going to ask you about them. Is this new?

Dr. Dwight Jennings: No.

Dave: I've never used this with you.

Dr. Dwight Jennings: They use also surface electromyography. Your temporalis and your masseter should fire equally and simultaneously when you're closing. They also use jaw tracking noise. I've gotten away from that equipment in recent years because it just pushes cost up too much and I've become so efficient with what I do that I can ...

Dave: You can tell by looking at your patient's repertoire because you have the experience to just do it.

Dr. Dwight Jennings: Right.

Dave: For someone who is trained as a dentist but doesn't have a background of many years of doing this, is using the equipment a viable option?

Dr. Dwight Jennings: Yes.

Dave: When people are looking to get their jaw treated, they could look for someone who has Myotronic equipment as a pretty good sign that they're doing this.

Dr. Dwight Jennings: Bioresearch as a second company that makes it also.

Dave: Bioresearch?

Dr. Dwight Jennings: Yes.

Dave: All right. Myotronic, Myo Light Muscle, Myofascial and Biotronic.

Dr. Dwight Jennings: Bioresearch.

Dave: Bioresearch, sorry. We'll put those two links in the show notes as well so people could go to the two websites you talked about that give us a list of people who do this kind of treatment and then they can also call and say, "Hey, are you using this gear? Yes or no?"

The fact they're not using the gear doesn't mean they're incompetent or anything. It's just feels like it's a sign. I found that when I go to every dentist and I say, "Do you know about jaw alignment," the answer is, "Yeah. Totally. I know about jaw alignment. We always do that," but they're missing the link between what happens here and just the cosmetic side which is in my mind less important than the functional side.

What happens here affects inflammation of your substance P and all these other conditions, that's largely missing. They'll make you look pretty but they won't give you the relaxation of the nervous system, the reductions in substance P.

Dr. Dwight Jennings: Part of that has to do with they don't have good training in European orthopedic appliances so they're trying to treat you with just a splint. We have so much more sophisticated splints that we use that are dental orthopedic in nature or European orthodontic orthopedic in nature that allow us to facilitate jaw repositioning more effectively. Most of them are general dentists without much orthodontic background.

Dave: Got it. Finding someone who can treat you is a challenge. I know you have a lot of people fly in. In fact, I flew in. I set an interview because I've been wanting to talk to you on camera rather than just over Skype because we've worked together on improving my performance.

Let's talk a little bit about tinnitus or ringing of the ears and jaw alignment. I've had executive coaching clients with ongoing

problems who I've sent out like that's a jaw problem. How does ringing in the ear tied to the jaw?

Dr. Dwight Jennings: There's actually some very good literature on that and they basically know that hearing take sensory input from all parts of the body. There are some experiments where they go in and manipulate, scan sensory and alter hearing. The predominant influence on hearing is your trigeminal due to its high density and proximity to hearing. When there's a disturbance within the trigeminal, it has a major influence on your propensity to develop tinnitus.

Dave: Interesting.

Dr. Dwight Jennings: Bite therapy is highly effective at reducing tinnitus, higher than any other known modality on the world.

Dave: If you have ringing of the ears you might want to look at jaw alignment.

Dr. Dwight Jennings: Right.

Dave: That's kind of cool. When we talk about substance P there's some other things that you can take as supplements that modulate substance P. Are you on top of what those are? Can you tell us what you know about?

Dr. Dwight Jennings: Sure. To eliminate substance P out of the body you got to either fix bite or take cayenne pepper. Cayenne pepper depletes substance P out of the body. People who eat a lot of cayenne pepper are tough of brains. They don't feel pain as easily. Cayenne pepper is primarily used in hot climates to reduce the substance P so they don't feel the temperature as much. It keeps the body cooler.

Dave: It's amazing what cayenne can do. What I found with cayenne, and largely because what we've talked about many years ago I upped my dose of it, cayenne pepper also because it's a moist agricultural product that gets dried that there is a fungal

contamination problem, a very substantial and mostly aflatoxin more so than ochratoxin A.

If you're going to do cayenne and you're buying the jar of discounted cayenne or even the little flexi bag, you're not going to like necessarily what happens with that because you're going to get substance P lowering and you're going to get toxins that are there that raise substance P.

The levels, when they are regulated depending on what country you're in, are set assuming you're going to have a very small amount of cayenne. If you're using it therapeutically you're going to take a lot more so you can actually get meaningful amounts of mold toxins there.

The hack that I use now is you get the capsules of cayenne. You can open them and put them on your food and it works. The downside is, if you're listening, 20% of people are nightshade sensitive and they get rheumatoid arthritis when they eat the lectins that are present in nightshade vegetables. Unfortunately, cayenne is a nightshade vegetable. You may get joint from taking something that lowers substance P because our bodies are tricky. I'm a fan of it.

There's another study that was recently published that looked at the effects of taking cayenne with either [Brain Octane](#) or the [XCT oil](#). This was a generic form of MCT but those are the two that I make

What they found is that it increased the bioavailability of the compounds in cayenne that the body needs. You can actually use an oil to increase absorption. If you put cayenne in your coffee you're probably not going to like the taste but it works.

Dr. Dwight Jennings: There's a study too done I think in the University of Washington that showed that people that eat peppers twice a week have a 25% reduction in Parkinson's.

Dave: Wow. There's a reason for using these foods. I put them in the suspect foods on the Bulletproof Diet with the new [Bulletproof Diet](#) coming out. [Orderbulletproofdietbook.com](#). Please go there and pre-order and I'll send you a lot of free stuff.

That book I write about specifically cayenne. You want to do it but there's a list of Bulletproof foods that reduce inflammation for the vast, vast majority of people. They're suspect foods that may cause problems but may be OK for you. Then there's like kryptonite foods like we shouldn't be putting that inside humans or even animals.

Getting that spectrum down was really important and I put cayenne there even though it has such strong benefits as a healing herb.

Dr. Dwight Jennings: Yeah. It's a double-edge sword.

Dave: Yeah. That's frustrating to me because I like to just put it in there. Everyone should just have this all day everyday, but there's a quality issue and then there's a lectin sensitivity immune issue there.

Is there another supplement or another food that people can focus on?

Dr. Dwight Jennings: That eliminates substance P but there's a lot of things that will mitigate the effects of substance P and that's most of our spices. Then just a lot of other supplements, antioxidants and stuff will reduce your substance P impact.

Dave: Things like polyphenols?

Dr. Dwight Jennings: Yeah.

Dave: The two most common food sources of polyphenols would be coffee and chocolate. There's also things like ginger, from memory. Turmeric is another lowering ...

Dr. Dwight Jennings: Vanilla.

Dave: Yeah, vanilla. Mycotoxin for your vanilla. I wonder I use that stuff. Can we talk about vanillin?

Dr. Dwight Jennings: There are vanilloid receptors in the body that actually vanilla affects and that's what most of our spices are derivative of vanilla base.

Dave: Even capsaicin, the active ingredient in cayenne is vanilloid. Vanilloids are named after the original antioxidant spice, vanilla, which I did not know until you told me about vanilloids many years ago and I went and I had done this research. I'm like, "Oh my god, I had no idea."

That's one of the reasons that I went out and developed [Vanilla Max](#). It's a real vanilla powder that's ground from vanilla beans and we use multi-week process to breakdown the mold toxins that happen when you dry a bean in a tropical climate like you always get some fungal growth. We have a curing process that reduces that and then we test it for the levels.

I found that taking something to reduce inflammation that also causes inflammation, the results are unpredictable. They're a lot more predictable when you remove the negative stuff and just keep the positive.

Dr. Dwight Jennings: I think other point that needs to be brought up is something that's very poorly recognized and that's C fibers. Our C fibers are the pain fibers in the body, unmyelinated nerve fibers that produce the substance P.

Dave: You said unmyelinated?

Dr. Dwight Jennings: Uh-huh, unmyelinated.

Dave: They're naturally unmyelinated or they unmyelinated because of health problems?

Dr. Dwight Jennings: Naturally unmyelinated. They're slow transmitting.

Dave: Myelination is insulation that goes around your nerves.

Dr. Dwight Jennings: Correct.

Dave: People who have nerves that are supposed to be insulated and the insulation breaks down get all sorts of bad things. Listen to the Terry Wallis' podcast talk about what happens, you end up in a wheelchair and you get all sorts of pain. The pain fibers that are slow, that are not insulated, these are the C fibers. Tell me more about those.

Dr. Dwight Jennings: C fibers, unbeknownst to the vast majority of the medical committee, are polymodal.

Dave: What does that mean?

Dr. Dwight Jennings: We're taught in medical school C fibers get pain and pressure and that's about it, but they're actually polymodal. C fibers pick up radiation, electromagnetic fields, barometric pressure and real critically, they measure body pH.

Dave: Wait a minute. Are you telling me that electromagnetic fields have an effect on the human body?

Dr. Dwight Jennings: Yes.

Dave: Shocking! Actually, not shocking. One of the reasons I'm here, Dr. Jennings, is that the TSA broke my night guard. I think it was them or maybe a baggage handle, anyway it broke. My jaw alignment is off.

In fact, I had to stop using my nighttime guard, the one I sleep with those splint, because I have master pain on the right side of my brain and my shoulders are all jacked. It's an unhappy situation.

When I look at at what happens from that kind of thing, and I hear all the things you're talking about, it makes a lot of sense because one of the things I used to mitigate the pain is a pulse electromagnetic frequency device.

You've actually heard the podcast of Dr. Bill Pawluk, a device called the SomaPulse. There is a code in that podcast if you want one of those, like a special discount for Bulletproof people. It's a turbo electromagnetic pulse that you can put on either side of the jaw and it causes increases in blood flow and it causes reductions and inflammation.

I've been using that just when I sleep I put it under my face and it's helped so I could stay off of the inflammation and the reduction and cognitive performance when my jaw is off so that I can fly down here and have you.

Dr. Dwight Jennings: Another factor on the trigeminal that's almost always overlooked by the medical community is that the trigeminal is a major modulator of brain blood flow. It's what they call the trigeminal vascular system. In particular, the trigeminal has a major influence on pre-frontal cortex.

That's what brain freeze is all about. If you get too much stimulation with too cold foods, it affects brain blood flow. The trigeminal seems to have a direct effect on glial cells on the brain that has major ramifications to brain repair, brain blood flow, autism, lot of different things.

Dave: If you're a long time Bulletproof fan, you've probably come across me talking about the upgraded [focus brain trainer](#) which trains you to move blood to the front of your brain, the pre-frontal cortex, because a lot of people don't have enough blood there.

If you heard the podcast of Dr. Daniel Amen from the Amen Brain Clinic, I did his scan more than a dozen years ago now I think and it found no metabolic activity in my pre-frontal cortex. This was before I realigned my jaw.

I've done everything possible but I consider jaw alignment to be one of those things that's as important as diet or exercise and as well toxin avoidance and all the other things that just increase human performance in general.

To your point, I did not have that and I had insufficient cerebral blood flow. It's trainable. You can thin your blood by taking things like turmeric and fish oil so you can get more circulation. You could do hyperbaric oxygen. By the way, we had that at the [Bulletproof Conference](#) a month ago.

We're all targeting the same thing. Get enough blood here and get enough other things like ketones or glucose so that your brain can do what it's supposed to do, even [unfair advantage](#). How do you get the mitochondria to work better?

If you're doing all those things and you didn't align the jaw, the signals from these C fibers are going to now allow enough blood and thus enough oxygen to get into the front of your brain. Why do people have a lack of blood flow in the front of their brain? What do they do behavior-wise?

Dr. Dwight Jennings: Within the last 6 months we'd had two 17-year old boys that lost cognitive function two weeks after they took off the braces. A poor job extracting teeth messed him up pretty bad. He lost cognitive function.

Dave: Two weeks his brain stopped working.

Dr. Dwight Jennings: Two weeks after they took his braces off. He couldn't do math, he couldn't process. He got fuzzy, he got depressed, anxious. He went looking for a lot of doctors for over a two-year period of time and he was having attacks weekly. We repositioned his jaw and got his jaw more forward and he's gotten four months without an episode except for one time when he took his mouth piece off.

Then we have another 17-year old boy who was normal until age 12 and he fell off a cliff and he'd become quite autistic. He got

movement disorders, lost eye contact, very anxious, depressed. They put him in a pretty impaired autism class and school and when I examined him at age 17, his 12-year molar had come in in cross bite.

Dave: You fixed that?

Dr. Dwight Jennings: We got him in a splint. He's now been working with somebody on the East Coast. He had pretty dramatic turnaround within a week. He can make eye contact. Within about three or four weeks his vocabulary is starting to come back on him where he can relate and within a week he was starting to be more conversational.

Dave: That's the reason why I wanted to interview you and just expose the knowledge that you've built over your life to people because there are hundreds of thousands of kids and adults who are functioning at a sub-par level and they have no clue that something as sleeping with a bite guard or just aligning the jaw could turn their lives back on. There's all kinds of switches. You can throw multiple switches at the same time but this is such a major one.

You can imagine, I was about 25, 26 when I started to really experience cognitive brain fog. I'm working at one of the founders of cloud computing companies called Exodus. Career is growing crazy, having an amazing time, but I'm starting to experience cognitive decline and I can measure it. I can see that some days I'm quantifiably slow.

I don't think this was the only thing going out for me. I was living in a house that now I believe had toxic mold and I had lyme disease and all sorts of problems, but this was there and this was a part of those problems. I think if I had not fixed this by working with you that I wouldn't be at the level of performance or health than I am today.

If this is going on, if your kids have braces or if you have TMJ pain, it's not just a jaw pain thing. It's a functional disorder and it's going to affect your brain. It's going to affect how you sleep, how long you live and all of that.

Let's say that someone has a kid who's 5 or 12. What's the minimum age that people should look at helping their kids have a lifetime of cognitive and health function?

Dr. Dwight Jennings: My daughter was severely retruded on her jaw when she was born to such an extent that she had a pretty major speech impediment. The time [inaudible 00:42:28]. She was goofy sounding and it affected her. She couldn't run. She just couldn't. We started her at age 3.

When you bring jaws forward, the jaw bends back into the socket again and it elongates the lower jaw. We took her from the smallest mouth of probably anybody have ever treated and she was able to keep all of her wisdom teeth. She ended up actually a little bit under bite. She was valedictorian.

Dave: Wow. Congratulations.

Dr. Dwight Jennings: I think it's a big factor in her academic success.

Dave: Does this type of treatment cost more or less than normal braces in orthodontics?

Dr. Dwight Jennings: In most offices it costs more.

Dave: A lot more or a little more?

Dr. Dwight Jennings: A little more.

Dave: That's because a lot of them are using the quantitative stuff?

Dr. Dwight Jennings: Yeah. In my office it's about the same.

Dave: Do you get cosmetic benefits from aligning the jaw or is this primarily functional?

Dr. Dwight Jennings: You get both. When you align those jaws and develop the jaws you end up with bigger jaws and bigger smiles and you have the teeth straight at the same time.

Dave: This is a piece of advice that I have for other parents. I've got two young kids. If you are considering braces for your kids and you don't take the kids to someone who has studied this type of alignment, what you're doing is you're basically saying, "Let's spray paint the problem. Let's put a Band-Aid on it."

What you can do for approximately the same amount of money is you can address the cosmetic side of it, but more importantly you can give your kids the ability for their whole body to move properly and for them to have less inflammation and maybe even less cancer and EMS and Parkinson's and all that stuff much, much later in life.

This is really important. If you're an adult and you're doing this, you're working on your career or you have a family and you want to have your emotional regularity, you want to have the energy to just bring it all day long, which is a core part of the whole Bulletproof idea, you might want to consider this for yourself.

I know from my personal experience this really helped me. Just about no one talks about this. I'm hoping that when you hear this you'll take a look in the mirror and say, "Maybe my bite is misaligned, maybe I'll go talk to someone."

More importantly if you've got kids, if you or your spouse were eating a lot of grains and processed food before and during pregnancy, the odds of your children having a smaller upper palette and a lower jaw that's backing up, they're much higher. I know because that research is in the [Better Baby book](#).

In fact, we researched what my wife Lana could eat and what I could eat before we had our kids to restore fertility but also to

specifically help to mitigate that problem. To be honest, what Lana's mother ate and what my mother ate probably has a bigger influence than what Lana ate.

If you do this right, you fix your diet and you even just align your kid's jaws, what will happen is for the next at least two and maybe up to seven generations you can have an impact. That's powerful stuff.

Dr. Dwight Jennings: Very powerful. The effect of bite on health is pretty well established. There is at least seven articles in my files by different medical organizations that had shown that people with TMJ problems have very high medical utilization rates. They get sick at a very high rate for a broad spectrum of conditions. I think it's primarily because of the effect that substance P has on inflammatory conditions.

Dave: We might reduce healthcare cost because the U.S. has one of the lowest healthcare costs. Oh wait, they're the highest healthcare cost in the world for lots of reasons. Things like that that are relatively affordable where you do it once and it has many years of quick payout because it reduces things, it's probably worth it just for your own economics as a consumer.

You want to have lower healthcare utilization because it sucks to feel crappy and then go to the doctor and then have to pay for drugs on the other stuff. This is just a way of increasing resilience.

The core of my own practice has been to go from being a non-resilient person who had chronic sinus infections and strep throat and all of these health conditions, overweight, all that, to become someone who can fly 100 plus times a year and not get sick - at least most of the time - and someone whose brain works all the time and has enough energy. I wasn't born with that. I built that.

This is a core part of it and it's as important as food. If people have listened to the 150 plus episodes, you know I care about food but

if you're chewing your food with a damaged jaw, you're not doing it right.

Dr. Dwight Jennings: I think it's important too to understand how most orthodontists look at the orthopedic problem. 15 years ago, the American Dental Association changed the official title of orthodontist from orthodontic specialist to orthodontic and dentofacial orthopedic specialist. They name grabbed but they didn't change their educational requirements.

Dave: Got to love that.

Dr. Dwight Jennings: Orthodontist now. If you look at most orthodontist they don't ever put the dentofacial orthopedic part in their title. They just say their orthodontic specialist. The dental orthopedics has to do it to getting the jaw lined up and the ortho has to do with getting teeth straight.

They're different things but most orthodontist don't understand the difference or the different requirements. You can't align jaw with braces. The defect is almost always that the back teeth aren't tall enough.

If you strap all the teeth together with braces the back teeth won't grow taller. You typically have to put some kind of an appliance in there that lets the back teeth erupt up taller, which is not braces.

Dave: We certainly did that. We put in this appliance that left my back molars uncovered to allow them to grow. They grew a little bit but not enough which is why we just put caps on them and all that.

It works. It's worked for me for I want to say seven or eight years now. I've had this for quite a while. I just really can't say enough how important this is.

What percentage of dentists would you estimate are trained in this?

Dr. Dwight Jennings: Probably less than 5%.

Dave: Less than 5%. This is why you need to do your research if you're going to go to someone and you're going to focus on jaw alignment for functional health, the neuromuscular side of things versus teeth alignment. Obviously, straight teeth are important, right?

Dr. Dwight Jennings: Yeah.

Dave: Is there anything else that I should ask you or anything that we haven't talked about that people should understand? Oh, athletic performance. We forgot to talk about that. We know that Oakley and Nike have bite guards to improve visual perception and athletic performance. Enough about being healthy. Let's talk about exceeding normal levels of performance by playing with a bite. How does that work?

Dr. Dwight Jennings: I haven't read all the literature but Under Armour has theirs and their research showed that building the back teeth up on the average person increases their strength 17%, increases their physical endurance, improves their reaction time which improves their balance.

There's an orthopedic surgeon in Southern California who worked for the Padres and the Chargers and he claimed that 70% of all sports injuries had a bite component to it. I think partially substance P also controls the ligament's collagen matrix.

Dave: Wow. Collagen is kind of important.

Dr. Dwight Jennings: If your substance P level are all too much, you don't make high grade collagen.

Dave: Wow. That I did not know about. I have a friend who's dealing with lyme disease and ligament tears right now. That's quite interesting because when you have a lyme disease or toxic mold exposures your substance P levels are high and that probably contributes to lack of healing and ligament tears.

Dr. Dwight Jennings: They also think that 95% of lymes patients have TMJ problems. There's a very high correlation between the two.

Dave: I believe it. You have a systemic inflammation that allows the lyme spirochetes to grow in the body and often times the inflammation comes from functional things and it comes from environmental things. You can eat a really bad diet, you get in a car accident, I have painful divorce. Any of those things can raise the stress and inflammation levels enough that the bad stuff moves in.

Dr. Dwight Jennings: There's actually research too showing that substance P opens up cell membranes wide enough to allow the spirochete infiltration.

Dave: That's really interesting.

Dr. Dwight Jennings: There's literature, a researcher out of Children's Hospital on Philadelphia and he thinks that if you could control substance P you should be able to control HIV because of the same phenomenon.

Dave: That's a big claim.

Dr. Dwight Jennings: That's if you close up those cell membranes. You should be able to control HIV.

Dave: The longer I've been a biohacker, the more I believe that what happens on the surface of the outer membrane of the cell is so critical. A lot of the [Bulletproof diet](#) stuff is around how do I build an outer membrane that is made of the right kinds of stable fats versus unstable fats. Then how do we allow the outer membrane and the inner membrane to work together?

Those things are profound but I did not know about the opening of the outer membrane that could be caused by jaw alignment or anything that raises substance P. Wow. That's pretty profound.

We're coming up on the end of the interview. There's a question that I've asked all 150 plus guests. Given what you know, not just

about dentistry but what you've done in life, your top three recommendations for people who want to perform better. If you want to kick more ass, do these three things. What are they?

Dr. Dwight Jennings: I think it would definitely be look at the bite and I think nutrition being number two and I think supplementation being number three.

Dave: Awesome. Dr. Jennings, thank you for being on Bulletproof Radio. Your URL is TM ...

Dr. Dwight Jennings: Mjcalifornia.com.

Dave: Tmjcalifornia.com. We'll put that in the show notes as well. We're going to end the official podcast but you should tune in to our YouTube channel or to the iTunes video because we'll have a second thing where I'm now going to show off my amazing bite guard, which if you're driving you don't get to see, but I've used this thing for a long time. It's broken which is annoying. We're going to fix that and we're going to look at my bite alignment.

This is a little drugstore bite guard. This is what I've been using, a little floppy thing, because this one is broken it was causing headaches. This is the best available. All it does is add height in the back.

You stick it in your mouth and it adds height on the back molars and it provides some cushion so that if I clench or grind at night, which I intend to not do anymore, it will protect the teeth. We're going to fix this and we're going to stick the camera in my mouth and actually show it what it's like to have someone look at your jaw.

Thanks for tuning in. If you liked this episode, I'd really appreciate if you went on the iTunes and left a kind comment and I'd appreciate even more if you went to Amazon and ordered the [Bulletproof Diet Book](http://Orderbulletproofdietbook.com). Orderbulletproofdietbook.com, send your Amazon receipt there and I'll send you a whole bunch of free stuff, which is cool.



If you'd do me the favor of ordering the [Bulletproof Diet Book](#) now it helps my publisher see where it's going to end up and it helps them order the right amount of copies. I'm just asking you as a favor. Please support me by doing that. If you're planning to buy it later buy it now and I'll send you a bunch of free stuff and that's cool thank you.

Did you know that Cyber Monday didn't even exist before 2005 and now it's the ultimate online shopping day of the year, even bigger than Black Friday?

It's true. In fact, last year Cyber Monday was the biggest online shopping and savings day ever. Now this December 1st, I'm upgrading Cyber Monday to help you hack your holiday shopping list by kicking off a special online event with exclusive savings.

The savings continue on December 2nd in celebration of the [Bulletproof Diet Book](#) launch. We're kicking off 12 days of Bulletproof. That means you get great 24-hour savings on the different products in the [Bulletproof online store](#) every single day from December 2nd through December 13th.

In the spirit of giving, you can even save 25% more on top of the daily discounts and cross up to 12 names off your gift list all at once by getting the entire bundle of products with just one click of your mouse.

If you haven't already, just make sure you sign for email updates at [bulletproof.com](#) or like Bulletproof on Facebook to make sure you get all the details. Then just mark your calendar to watch your email inbox and the Facebook page starting December 2nd for your invitations to each of 12 days of Bulletproof.

Thanks for listening and I'm excited to help you give the gift of Bulletproof this holiday season.

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