The Hidden Link: Bruxism's Impact On Heart Health Transcript

(Transcripts are generated by AI and may contain errors)

Introduction to Dr. Ruan and Integrative Medicine

Well, everybody sit down. Get out a pad, maybe stand up, get out a pad and take some notes. This is really going to be a great interview and something I think that I'm going to learn a lot and you're going to learn a lot.

And that's the essence of reversing heart disease naturally Summit. We have a Dr. Ruan I have a such a wonderful rich biography on him but he is in I want to say Houston, Texas.

I don't know if it's a suburb, but I know it is. Houston, Texas Center for Lifestyle Medicine. I think we can read that on Dr. Ruan's t shirt that is spelled R U A N you'll see it all throughout this summit, reversing heart disease naturally 2.0. A Board certified internal medicine physician but specializing in functional and integrative medicine.

So he is thinking outside the box and he's trying to do all that within medical insurance models, which is really, really honorable and excellent and has a very popular LinkedIn site where he discusses rebuilding health care.

So if you're on LinkedIn and you want to learn about the new medicine, go over and follow Dr. Ruan he's got a book there. We're all waiting for a doctor's guide.

I'm waiting for this one. The Doctor's Guide to Thriving in Integrative Medicine: Secrets to a Successful Business Without Burnout And if it's out already correct me.

Yup. It's just came out. It's on Amazon, so. Okay, well, that's good because it's a must read. And if you happen to be a healthcare professional and you're tuning in to this great interview, you want to go over to PhysicianTransformationInstitute.com It's a great website we've gone all over it but you might want to join Dr.

Ruan in the second annual retreat of Physician Transformation Institute discussing AI spirituality and simplification. You might want to find some strategies to avoid physician burnout, which are everywhere, even though we clearly have an audience right at this moment that has health care providers and others.

So anyways, thanks so much for being here.

Sleep Apnea, Arrhythmias, and the Trigeminal Cardiac Reflex

You work hard. I work hard, but your message is important. Thank you so much for having me on. I appreciate it. No problem. And you want to teach us because that's really the essence of this.

And I'm a student too, about this skull mouth Heart connection. Oh, my God. I've never talked about that. And jump right on in and just take us through this over the next little bit.

So I'll kind Can I tell you the story of I came into this not knowing another one I talked about, I learn in medical school. All right. I learned so much from dentists and orthodontists over the last couple years that there's been a lot of aha moments that really came out.

So one of the things that we do at Texas Center for Lifestyle Medicine here in Houston, Texas, is we practice medicine based on it's a program based. So people are coming in for different programs, fibromyalgia, PTSD, pos autonomia We have now one of the largest ehlers-danlos program in the country.

And so it's a program based approach, right. And so one of the things that I'm a nerd at is I'm a data miner and I do coding, which means I look for data.

So that's correlating diseases nicely tends and diagnostic codes with symptomology. And so one of the things I

discovered in 2018 is that a lot of people with arrhythmia, arrhythmias, do you have quite a ton of evidence of sleep apnea or sleep related disorders?

So that's that's not anything new. In fact, I think 2021 circulation publication came out asking for cardiologists to think about sleep apnea, especially after the diagnosis age fibrillation and heart failure rates.

And so well, that's nothing new. But what's interesting about it is that, you know, our our body is so amazing at compensating that a lot of the compensation mechanisms of sleep disorders, such as sleep apnea, is a cardiovascular disease or arrhythmia, such as for pollution.

Long story short, you have a hard time sleeping. You have a hard time getting air into your body in the evening time, the heart rate increases and that can precipitate arrhythmias and all sorts of different things as well.

Right. And so that process actually starts in your canines. And let me let me kind of dissect it down for a little bit. And you're saying canine like teeth in your mouth.

Okay. So you have it's not just in your canines. Canines are a huge part of it. So you have these nerves that go to your teeth and they come from a branch of the trigeminal Nerve. Trigeminal nerve sits like on the side of your face, like my hand right here.

And there's different branches right? You have a massively branched mandibular branch and they send smaller branches to the teeth. So as it turns out, in order for the trigeminal nerve to function normally, it has to receive signal back into this small little bundle, nerves right next to your called a visceral ganglion and to top it down this so the signal comes when your teeth is shut together.

Okay so what happens is there's a lot of kids, especially who have, you know, early tooth removal, who have narrow palates and they can't fully shut together.

And this is in dentistry, this is called dental malocclusion syndrome. So they're either diagnosed with overbite, crossbite, etc., etc., and their trigeminal nerve cannot receive the signal back to the hypothalamus to calm down.

And therefore, it creates disruptions within the vagus nerve. And the vagus nerve is a nerve that goes to the heart, slows down the heart rate and goes to the rest of the body.

Right. And so a lot of these kids get diagnosed with ADHD. ADHD, sometimes tics, sometimes bipolar disorder. Early on adults, but they all have the similarity is that they have some sort of narrow either narrow palate or some sort of sleep disorder breathing that's create this effect.

And as it turns out, that's a huge effect on the heart. So we look at journals and oral maxillofacial surgery because sometimes there's motor vehicle accidents where they have maxillary mandibular fractures and they develop arrhythmias right afterwards.

Jaw Development, Malocclusion, and Airway Structure

Right. And they can't calm down. They develop, quote unquote, mental health issues. But afterwards, it's like their body and the brain can all come down.

And now we have later on multi-organ damage from that issue. That's right there. So we thought it was like PTSD, but there's actually a reflex called the Trigeminocardiac Reflex The TCR is TCR actually has a huge implication of how we restore our autonomic nervous system.

I just I just want to interrupt you. You're brilliant. You are. You are brilliant. I'm really enjoying this. But the audience has heard about an oral health cardiac health connection, and they know that gingivitis or periodontal disease or perhaps silent infections under a root canal or a crown could drive inflammation.

And it's associated with diabetes, erectile dysfunction, dementia, disease, when you don't have excellent oral dental health, but you're really opening up a completely new pathway of Trigeminocardiac Reflex And I know you're going to start telling us about grinding and bruxism as a trigger of cardiovascular disease that I think for most of us is a fascinating new topic.

So I just wanted to lay that out and make sure I got it right. As you're listening to me learn. Yeah, absolutely. Okay. I can do a. Deep go at it, Professor.

Thank you. In fact, you know, I can take it to the dentist who taught me this really famous guy. By the name is Dr. Felix Liao you have a lot of books on Amazon and one of them is right here.

It's called Your Child's Best Face. Okay, How to Nurture, Top Health & Natural Glow So this is all about growing a child's face when they're younger. Now, why is this important?

It's because we humans have now been exposed to tons of process and soft foods. Right? The diet that we have now is complete and different than it was before.

There's not a whole lot of fiber intake in the Central American diet anymore. The actual chewing during early development is not necessarily there. And then there's another issue.

There's a bigger issue is that there's a fear of a choking hazard. I think the choking hazard has been really well publicized over the last few decades.

And so the challenge of a child to actual solid foods is not as robust earlier on. Right. And so what happens is there's actually less challenge to the palate.

And the palate requires like chewing and a challenge in fiber to actually expand before the human actually fuzes the bone later on in the teenage years.

Right. And so dental plays a huge part of it. But you're right, Dr. Kahn, you also have periodontal disease. You have other issues and oral microbiome issues in the mouth.

Also these too called cardiovascular disease as well. But today I'm really going to focus on the actual structure because this is pretty new to me. So we think about it as we grow older.

There's a lot of people who have had their wisdom teeth removed, but in reality, wisdom teeth removal means that the teeth doesn't necessarily fit in to the palate.

So there's basically like less real estate for the tooth to go into, right? And so when that wisdom teeth is really the palate remains narrow. And in fact, the top arch, the top palate doesn't necessarily come down is because because the mouth doesn't widen.

The palate remains like arch right here. And guess what's right above that is your nasal septum. So a lot of people have deviated septum. So if chronic sinus issues is also related to arrhythmias and cardiovascular disease.

So your skull held extraordinarily important for your cardiovascular health. Let me sense. Yeah, fascinating. Yes. And on top of that, what people are doing these days is because of a lot of the Central American diet, is that because there's less fiber even as an adult, people are eating inflammatory diets rather than anti-inflammatory diets.

Right. And so that inflammation causes mucus to aggregate in the mountain to throw. People are sniffing all the time, clearing the throat all the time.

Right. And and and that creates these issues within the airway that can threaten the airway. People start snoring more. And when you snore, that means there's area resistance.

That's going in. And as that occurs, the propensity for arrhythmias or abnormal heart heartbeats become much more. And then inflammation comes out even more after that.

So we see in these patients, they have really high elevated markers of mild peroxidase, which is one of the markers of seeing bloodwork for for inflammation.

We see elevated interleukin six T and alpha. These are all things we can look to in the bloodwork to see what's going on. Right. And also and they also have elevated LP little AA.

I've heard you talk about that for for quite a while, apolipoprotein B markers, right.

Bruxism, Airway Restriction, and Autonomic Dysfunction

So a lot of these advanced lipid markers that we actually see in the bloodwork, a lot of times even in people change their diet, they may only get about halfway there.

The other half maybe looking at what's going on in the oral airway, do they have bite issues? Do they grind or clench their teeth? Because if you if we as humans, we clench our teeth is only to make room inside, to tend to open our airway, to get more air in.

And some people are thinking, well, maybe people are anxious here in their right. So they're anxious here. And there are then are they having clenching because of the anxiety?

Well, let's think about that. So if someone is anxious and we get our teeth like this activates the trigeminal part of that reflex to try to get the vagus nerve to calm down.

Okay. That's why when you're overstimulated by something, we go into this this protection mode, kind of hold our breath right or good our teeth and hold our breath.

That's actually part of us trying to calm down. Some people have molars or canines that don't even touch because the pelvis. So no matter how much they grip it, they can't calm down.

So they get diagnosed with mania, hypomania, bipolar disorder, anxiety, panic disorders and you name it, ADHD is is a huge one as well. But these are the same people that develop arrhythmias as well, develop heart disease as well.

So we really have to understand the our skull and our airway is a huge component to attempting to reverse cardiovascular disease. Wow. All right. So lots of conversation.

This summit about the importance of testing for sleep apnea, correcting sleep apnea, my atrial fibrillation, for hypertension, for weight issues and the rest and all.

And we've talked about oral health, but now we're talking about structure of the jaw. Structure of the mouth. Teeth have been removed. Teeth are moving around.

And you're talking I mean, let's just focus one more topic for now. But the grinding the bruxism or not everybody uses be are you asking how does that play in how does that play into triggering that trigeminal cardiac reflex that may come in to our blood pressure to drop or heart rate to drop or even our stomach function?

How does that all play in with grinding? Yeah, so the grinding mechanism. So first of all, you can actually tell who grinds by looking at them. And if you're listening to this or watching this and you feel maybe that the back of your neck is developing a bit of a hump and that your neck is being pulled forward, you have a lot of muscular strain and straining your neck.

You might be grinding a lot if you notice that your temples and around your eyes are starting to get a lot more

strained. You may be grinding a lot, and what's happening here is that your body's accommodating.

Grinding is nothing. Our normal grinding is trying to compensate for a small airway. So as you grind, you're running your jaw forward to do what's called a jaw thrust.

And as you get jaw thrust, you actually expanding your airway and the area in your neck that your trachea, which is your windpipe, is connected, is is within it's trying to enlarge.

And that's why your neck is being forced forward over the last few years. Okay. And so these are people, typical people who actually grind. So you're dentists or dentists are so used to now that I would tell people that they grind.

But the people who really grind, you can see grinding where on the teeth you can see that the roots of the teeth are buttressing out like this into the gums.

Right. And so many people have these issues that we see. So what happens is part of the grinding is because the body is trying to restore equilibrium.

So what happens is during sleep is let's say if you have a restricted airway during sleep, you go right to open your mouth. You try to get more, Erin.

But in order to do that, you can't be in deep sleep because technically if you're in deep sleep, your body's paralyzed, your brain paralyzes your body in deep sleep.

So you don't really get into deep sleep. If you don't get into deep sleep, your body's autonomic nervous system fight or flight versus the wrestling digest becomes very, very discombobulated.

Right. And what happening here is the grinding, which is activated charcoal. Laura was trying to calm the vagus nerve in the heart down. At the same time, we can only do so much.

And so a lot of these root mechanisms right here is that the body's trying to find it like fit correctly. Right. But because of mal occlusion or not fitting correctly in the teeth, the body continues to try to do so.

So instead of the teeth doing the job, the entire neck and fashion, which is the connective tissue covering the head and neck in the body, in the chest, it starts going forward.

Now, here's the problem. When your neck starts going forward, it pulls on a diaphragm and the diaphragm doesn't fully pull down. And so diaphragm coming down is required for you to take a deep breath.

So not only are you having sort of these apnea episodes, you also can't take a deep breath. So you production of this beautiful gas and nitric oxide is significantly less over time over the years as well.

So it's very much a physical structure that has a curtain and really all sorts of winding mechanism. Wow. So you may know you grind, maybe your sleep partner notices your grind.

I think there's people are grind their teeth during the day. It's not exclusive the nighttime thing, right? Yeah. So there's people who do grinding teeth during the day and a lot of people listen to this and play are kind of get my teeth a little bit and that comes from a come from sort of subconscious play on the brain, like triggering the master muscles to like ones down, right?

So chances are if you grind during the day, you're probably going to be more at night that your body's been trained to do it. You're certainly at your next dental exam, whether you're hygienist or dentist, you probably want to ask the question, are there any manifestations of bruxism or grinding, say, bruxism?

It's such a cool word. It is a cool word. It is a cool word. And pursue that.

Clinical Evaluation and Treatment Options for Grinding

So and then, you know, the connection like immediately I'm thinking about patients of mine that are very frustrated wearing their aura rings or bad apple watches and they're HIV is never where they want it.

And they go through so many, you know, machinations to improve their HIV. But I've not been pursuing this possibility that higher vagal tone or some other alteration of the TCR is part of it.

Can you can you see altered HIV measurements from bruxism? So we do a lot of those measurements. We measure the autonomic nervous system. We measure patients blood pressure, different positions when they bearing down.

Right. We do brain frequency activity. One of the things that I specialize that is looking at quantitative EEG so can perceive see when there's temporal lead right here the triggering a brush triggered.

Right right. And we work with a neurologist, a sleep neurologist that looks at this at nighttime, how much thrush is right in nighttime. And at nighttime you can already see Ryan power address one 2940 just like that.

Okay stop grinding. Goes back up going again, heart rate drops. Right. So this is the hyper vagal tonality. Basically, the vagus nerve is been creating so much of the parasympathetic response, the heart actually slows down.

Sometimes that can trigger pause or heart rate pause for more than five or six or 7 seconds. Some of those people who require pacemakers, we can see that as well.

In some people, when their heart rate slows down, as they come back up and they develop atrial ablation where the heart rate goes faster and rhythm becomes abnormal as well.

So that's all seen by our our neurologist team here as well. And so as we coordinate things together, one of the things that we make sure people do is they see the actual airway dentist and their dentist is different than regular dentists.

They're actually trained in oral appliances, devices and splints that can keep the teeth align. And we actually redo their autonomic nervous system and all this stuff like that after they get their appliance done.

If you see dramatically dramatic improvements, not what I didn't expect to see is how much their mental health improves. A lot of depression, anxiety, panic attacks like they start like disappearing.

It's really, really interesting and incredible. I can't help but do it when I learn of something new. I go over to Bob bed and put in bruxism and tcr and whoa.

There's all kinds of warnings, reviews, articles, series and the connection to cardiovascular disease. They and I'm a nervous system so this expert is on the Marty teaches has something new we're going to shut down this standard portion of the presentation which is just been fascinating.

I do want to confirm that I have just ordered please don't accuse me of being a multitasker. You're wonderful book in paperback, The Doctors Guide to Thriving in Integrative Medicine Secrets to Successful Business Without Burnout.

What a wonderful, wonderful goal. And the fact you're trying to do it in an insurance model to make it more widely available and cost effective. So hats off to you for trying to remake the system into a better one and a more equitable one and all the rest.

We get the opportunity to go a little deeper with our special guests who's just blowing us away with information we've not heard before. And now this isn't the Guinness Book of World Records Summit, where we have to come up with new things.

But, boy, we really learn a new field, this oral health, oral cavity structure, the skull and jaw and potentially various cardiovascular syndromes as important as atrial fibrillation, hugely important.

This exciting. So let's just say somebody has been having some rhythmic issues and sleep issues and they come in from their dentist and they announced to the family, I'm a grinder and I hear that from patients all the time as a non grinder myself, I don't spend a lot of time on it, but nonetheless, what can be done?

Give us a little rundown in your clinic. You have an amazing team and what can be done. Yeah, that's a really good question. What? A lot of people grind their teeth and if not, sometimes they're clenched or necessarily grunts.

Right. But both are trying to actively same thing, which is sort of a common response. So here's the question. If you grind, who else in your family, also clients who also family snores.

WILSON Family have sleep apnea, right? Chances are there's a huge hereditary pattern to this. That's the first question. And if you have children, you better watch out and look at to see if they grind as well, because that's a huge deal.

And if you capture it in a pediatric population before the age of, let's say, 15, 16, so much easier to deal with from a dentist point of view than adults.

Now, the other thing to think about is that if you're a grinder, your clincher is do you also have next string in pain? Is your posture going forward like this okay.

And one of the most commonplace know that is your feet. Because what happens is as your access goes forward like this, it's like the Leaning Tower of Pisa, right?

As you lean forward, your feet have to accommodate. So a lot of people develop this thing called plantar fasciitis because their postures actually lurching forward and everything is tightening up.

And your body has to restrict you from going forward by by constricting the fascia, which is the connective tissue like a giant arm. Right. It's trying to like hold your back there and a little goes in the bottom, your feet up to up to your head.

And by the way, I know this because my mother is an acupuncturist, so she does a lot of those releases for people when they have these airway issues.

Who to See and Why This Matters for Cardiovascular Health

So so that's the other thing to figure out, because it really can cause pain. In fact, the entire fuel of fibromyalgia are people with sleep disorder, airway syndromes that have malocclusions We actually just did our fibromyalgia conference with four health care professionals a month ago.

We want to relabel five miles in airway occlusion disorder with mouth. So so that's it. So if you have that, it's really important to talk to your doctor, talk to your cardiologist, say, hey, like I might need a sleep study, especially if you snore.

Now, most people with sleep apnea actually do not snore, believe it or not. Right. And so if you do snore, that means you probably have some bad in you, but try to get a sleep Study is really important because there's the sleep is the most important lever you can pull to improve your cardiovascular health by far.

Right. And so if you're not having adequate sleep, you can't adequately rest up. And that's what happens when you grind or clench teeth. The third thing is think about this.

This is talk to your dentist. Okay? Now, some dentists on their website, you'll see they treat sleep disorders like sleep apnea, oral appliances. Those are actually the ones that have a lot of knowledge about this.

There's a association, AAPMD, the American Association of Physiologic Medicine and Dentistry. AAPMD has an entire registry of airway trained doctors who are able to do this.

And in fact, there's a there's a very large consortium in Houston called Sleep Education Consortium for all doctors and dentists who work together to treat these things right.

But these are the people that you want to talk to once again. That's AAPMD And then another thing that you want to think about is mental health. Do you have a family history of mental health issues?

And I see this a lot, especially family, the history of bipolar disorder. I see that multiple generations have the same arch palate that's right there, the same dental model occlusion.

Right. And there's actually things that we do in our in our clinic to actually measure it with and see if they can actually activate their body correctly.

It's very simple things. So but we see this in multiple generations every single time. You know, our skull shape is really inherited over time. And in fact, every generation gets a little bit worse.

So it become more narrowed. And that's a byproduct of the foods that we've been eating our since our ancestors has been eating very different food than we have right now.

You know, nobody nobody has McDonald's French fries, you know, a couple hundred years ago. Right. It doesn't doesn't exist. Right. But it's so important to take that into consideration.

And the fifth and last thing I want you to consider is that if you're one of those people who have done everything for your health, eating the right things, you're eating a polyphenol rich diet, right?

You're doing all the right things. And maybe you've done it with fasting and change of everything in your life. If you're exercising and you like man might like cardiac inflammatory markers are still high.

You're still on steroids and maybe a little still high, right? Like something is missing. And then you're a grinder. Well, guess what? The bruxism or the grinding is sort of the last frontier that you haven't really discovered.

And a lot of times when that's treated those cardio markers, they improve pretty much within within about a year, which is really fascinating to see. Hmm.

Wow. Well, you have given us so much food for thought. And since your time of the oral passageway, it is the food entry. And just fascinating. I think you're really touched a lot of people with, you know, a plan to upgrade their health.

And that's all we're trying to do, upgrade your cardiovascular health. And as a brain mouth structure, nerve, TCR pattern is just another way to do it.

People are frustrated. Doc Why am I not getting healthier when I'm doing so much and ignoring this whole system that you've laid out so beautifully? So I want to thank you so much for your time, your busy doctor, busy father, busy husband, busy entrepreneur.

And we have really learned a lot. So thank you so much. And hopefully we'll be able to repay the debt at some point and help your audience. Thank you so much. Appreciate it.