

A sunburst graphic with numerous thin, light gray lines radiating from a central point behind the text.

Healthy Moms Podcast

BY **Wellness Mama**[®]
simple answers for healthier families

Episode 86: The Science of the Oral Microbiome
and Remineralization with Will of OraWellness

Child: Welcome to my Mommy's podcast.

Katie: This podcast is brought to you by Four Sigmatic. If you follow me on Instagram, you've probably seen me mention them because I have been using and loving and Instagramming their products for years. They have an amazing instant mushroom coffee. Hear me out before you think it's weird. I know, mushroom coffee doesn't sound good. It's not only the best instant coffee I've ever tried, it's also pretty high up on the list of best coffee I've tried. It's cheaper than coffee shop coffee and it's so convenient because it's so portable and it tastes so much better. But it isn't just ordinary coffee. It has super food mushrooms like Lion's Mane, Cordyceps, and Chaga mushrooms. And these mushrooms have some big health benefits, and especially immune benefits. I personally, especially love them for the energy and the mental clarity without the jitters from traditional coffee. And did I mention how good it tastes? So I always take these instant coffee packets with me when I travel, and I also always drink it at home these days now that they have a big tin that lasts about a month so I don't have to open a little packet every day.

Some friends of ours recently traveled for three months carrying only the backpacks on their backs, and they brought an entire three months supply of this instant coffee in their bag that had limited space. In other words, this coffee beat out a pair of jeans for how important it was to make it in the bag. It's that good. And, of course, if you aren't a caffeine person, they also have a variety of mushroom tea and other products that don't have the coffee so you can get the benefits without the caffeine. And I love them so much that I reached out and they agreed to give a discount to my listeners. So go to foursigmatic.com/wellnessmama and use the code "WELLNESSMAMA" to get 10% off. That's Four Sigmatic, F-O-U-R-S-I-G-M-A-T-I-C.com/wellnessmama.

If you're like me, and you live in an area where it's sometimes hard to find any kind of specialty ingredients, especially if you're talking about organic ingredients, gluten-free foods or allergy-friendly foods, I highly recommend that you check out Thrive Market. So Thrive is like a combination of Costco, Amazon and Whole Foods and here's why I say that.

So like Costco, they have a yearly membership fee and this lets you access all of their special pricing and deals. Like Amazon, they're online and they also have very fast shipping and it's usually free with most orders. And then, like Whole Foods, they carry high quality foods and specialty ingredients, and especially focus on GMO-free and organic foods. So it's really been helpful to me and I know that you're going to love it too. You can also get a free jar of coconut oil with your first order. So check them out. Go to thrivemarket.com/wellnessmama.

Katie: Hi, and welcome to The Healthy Moms Podcast. I'm Katie from wellnessmama.com. Today, I am here with someone that I've known for a really long time and whose product I absolutely love. His name is Will Revak and he and his wife founded a company called OraWellness, which our family has been buying from and using their products for a really long time.

They have an amazing story of their own journey into this industry and how they created their first product. And I also have a new flagship product that I'm really excited to share with you guys today. They're happy to have customers all over the world, 50 countries, and they have a no nonsense approach to holistic oral health and a product that really works. Their mission is simple. It's to help the world be a healthier, happier place and helping other smile more, which I love. And I'm excited to talk to Will today because I got quite a few questions about oral health and I think he can provide some really good perspective on these. So, Will, thank you for being here.

Will: Thank you so much for having us today, Katie. It's a pleasure.

Katie: It's always fun to talk. And to start, I would love if you could share kind of the journey that led you guys to get into this industry to begin with. You have a really fascinating story I would love for everyone to hear.

Will: Sure, sure, yeah. To start with kind of the long distance back story is great. So like so many stories out there, necessity was the mother of invention. My wife, Susan, we're going back, gosh, I guess 20 years now, was in a dentist's office and the dentist, "Oh, let's check you out." And despite having gone to the dentist for, you know, her whole life had never had a what's called a Periodontal Depth Test done and had that done and the dentist, it got really somber in the room, I was there, too. And the dentist said, "Oh," you know, and she basically had advanced gum disease and a periodontal disease and the dentist more or less dropped a pamphlet in her lap that was talking about the common route for gum surgery for that condition.

And my wife said, "Well, you know, let's just hold off." We've always been very alternatively minded and she said, "I'm gonna look into this on my own." And she ended up treating her periodontal disease at home. And over the course of a year, went back to the same dentist and said, "Hey, I'd like you to retest me for periodontal disease," and the dentist said, she's like really perplexed, it was a woman dentist and said, "Wow, I must have mismeasured last year because you're not showing the same signs."

And according to this dentist and just modern dental literature, periodontal diseases are advanced gum disease, there's no cure. You don't get over it. It's not something that can go away. And my wife's like, "No, you didn't mismeasure. I've been diligent with my home care and I'd like to tell you what I'm doing." And the dentist, more or less, said, "No, I've got to go to another patient," and went in to the other room, more or less perplexed. Needless to say, we didn't go back to that dentist again.

So that's what got us started. For many, many years, family members would talk about their oral health issues and Susan would be like, "Hey, let me tell you what I did," and share it. I guess back in 2007, Susan and I, kind of in a prayer state said, "Okay, God, where is our home-based business that does no harm, that's really fulfilling for us, that really helps people and we can work together? We're ready for it. Where is it?" And it took about, I don't know, a year or two, we kinda looked at each other and said, "Maybe we should be talking about what you did with your gum disease?" And that's what got OraWellness going.

So on a wing and a prayer really, we said, "Well, maybe other people would like to hear about this," and so we started talking and here we are, you know, almost 10 years later now, and we have customers all over the world that are thrilled, happy and their dentists are astonished.

Katie: Yeah, well, and we use your brushing products as well and the toothbrushes and the brushing blend and have for years and years and we love them. And I love, especially, that they're small bottles, and they're recyclable, they're easy to travel with. It's just an easy thing to use.

But let's back it up a little bit, too. So I feel like when I started researching this and when I found you guys, there was this whole other side of oral health that I had never really thought to even research until I found you, guys, and until I had a cavity that I was interested in not having filled myself. And so I think there's this whole world that people maybe don't have never had the time to understand or knowing that they should understand and that's the whole side of almost like the biome of the mouth and how you have this interaction between plaque and saliva and pH and that you explained it so well. So will you kind of give us the overview of how that works?

Will: It's a fascinating story and I'm finding that just now the blogosphere is starting to discuss this, you know, we call it this perfect storm for tooth decay. It's an interplay between the pH, the balance of acid, alkaline balance in the mouth, sugar, saliva, and then the oral microbiome or the bugs in the mouth.

Now, first of all, we got to state that most of us in our culture are not aware of this, I'm sure your readers or listeners listening to your podcast are aware that this isn't all about like kill everything in sight and sterilize and that's been proven that that's not a route to health and wellness and vitality. So what we're learning more and more is that it's all about being a good steward or managing what we call your oral flora, your oral microbiome. We gotta be a good conductor to the symphony in our mouths.

And so there's this whole interplay that goes on between the balance of pH and what we eat and our gut health and our gut microbiome and the oral microbiome. And then, of course, there's this miraculous healing modality that we joke around and say, "Is the solution to tooth decaying gum disease hiding in plain sight right under our nose?" because if we know how to utilize our saliva and it sounds kinda silly, but it's so true. Saliva is like this total unsung hero, does so much in the mouth and yet we treat it like spit.

And it's just kinda silly, but it's so true that it normalizes pH, it flushes acids from the mouth, it has components in it that are part of our innate immune system that actively knock down and fight, you know, disease causing bugs that might be in our mouths. It's amazing. I mean it's a main factor for remineralizing surface decay. It's a fascinating one. So that's kind of a quick step through this relationship between pH, sugar, saliva, and plaque.

One other thing I'd like to point out, Katie, if I can for just a moment that it's an important distinction to make. We kind of as a corollary to the notion or the myth that we have to kill everything in the mouth is this idea that all plaque is bad and I want to help everyone understand here that the research clearly shows that actually plaque is just a natural thing and it's when the community, when the specific strains or species of certain types of bacteria are out of balance that now it becomes a disease-causing problem.

So plaque can actually help our teeth stay healthy. In fact, plaque helps to mitigate one of the main causes that causes our enamel to go away which is what's called acid dissolution. And so plaque forms like a buffer. It's called the pellicle which is a very thin layer of the initial stage of plaque that shows up on our teeth within minutes after brushing. So the important distinction to make is, like we said earlier, we want to manage our oral microbiome. We want to be a good steward of this and not kill it all, but maintain it in a zone where it is helping us accomplish what we want to do, which is to have healthy, strong, vital, cavity-free teeth.

Katie: Yeah, exactly. Unfortunately, I think it's hard to find a great dentist. You mentioned that you guys had to find a new one after Susan was able to fix her teeth and it took me years, but we found a really good dentist who has a more holistic mindset where we live and I'm actually really close friends with them and their family. And the husband and wife are both dentists and I love...they'll come over sometimes and we'll stay up so late talking about oral health, which maybe most people don't find that super exciting, but I do.

And it was really interesting because when the article came out about why flossing is not actually effective, it kind of rocks the dental world and he wasn't shocked at all. He's like, "I have seen that data for a year," he's like, "It always blows my mind that the industry holds it up as this Holy Grail," when he's like, "In reality..." and he started talking about how you have this bacterial balance in your mouth and when you do things like over sterilize your mouth with mouthwash and all these things and you're trying to kill the strep mutans bacteria that can lead to cavities, you're also unbalancing the other bacteria and you could open up for gum disease and all these other problems.

And just to hear a dentist explain it was so exciting because I know you've seen this, too. There are more and more dentists coming on board and looking at this holistically, instead of just a single thing that you're just trying to treat this single bacteria or a single problem in the mouth.

Will: Yeah, thankfully, the community is being allowed really, you know, more and more vanguard dentists are stepping forward saying...well, they gotta be careful because they have a very narrow niche that they can work in and the regulatory agencies do not like them bucking the party line. So they've got to be very careful and, thankfully, there's more and more of an acceptance in the climate now of dentistry where they can come up and say, "Yeah, the mouth actually is connected to the rest of the body and relates to the whole body," and kind of obvious things to the rest of us that they haven't really been able to say it for years, I feel.

Katie: Yeah, exactly, but yet they still have had to operate under that principle like I know I have friends who had heart problems as a child and whenever they get their teeth cleaned, they're supposed to take antibiotics because there is a connection between the mouth and the heart. So I think that's what I love so much in your writing. You, guys, have a blog as well on your site and you touch on how the mouth is so connected to the rest of the body. So let's just talk about that for a minute...

Will: Sure.

Katie: ...for people who aren't familiar. What are some of the ways that your mouth interacts with the rest of your body?

Will: Wow. Okay, let me back up and say, neither Susan and I are dentists. We're self-studied. We're blessed that we have a community of people, a global community that love what we do and essentially support us by appreciating our products and buying our products and find benefit from them so we can continue to research and talk to other members of the community and dentists and researchers and stuff like that to gather information.

So our background is in the Chinese Longevity Arts. We've been studying taichi like arts for over 30 years now. Okay, that's our background. So we're very holistically minded at heart. So with that, I'm going to throw kind of a weird notion. Why on earth wouldn't we consider the mouth to be intricately connected to the rest of the body when it is the main pathway that new stuff gets into our bodies? It's like how do you not make that connection? And I guess that's really our main job here. One of our missions is to help heal this mental or psychic disconnect that our culture has with our mouths. It's like, how would it not be totally connected?

And so with that in place, asking, you know, how is the mouth related to the rest of the body? Well, it is the main pathway that we bring new stuff into the whole body. So with that in mind, the oral microbiome has direct impact on the gut microbiome and you and I both know from being in the blogosphere that leaky gut, intestinal permeability, and gluten intolerance, and autoimmune issues, and all this whole slew of issues all relates to the gut microbiome which is directly linked to the oral microbiome. I mean they're sister microbiomes. They're not exactly the same. They have different species in them, but they're along the same path to the same river that flows through the body.

So that's a main one that I'd like to get out there and then I mean then you'd have to look at the tons of research that show that things going on in the mouth impact the various different internal organs in the body and seemingly unconnected which is the challenge for our culture because now we have the information like you shared. If a person has a recognized heart condition and they're going to the dentist, the dentist is required to, you know, make sure that they're on antibiotics to knock down any bacterial infection that runs from the mouth from the dentistry and flow into their cardiovascular system. That's a recognized one.

Now, which ones aren't recognized? Well, I mean there's direct connections between oral health and neurological health. There's direct connection between oral health and gut health, we've already covered that. But then, if you get a little more esoteric in getting to the holistic side of things like Chinese Medicine, there's a connection between all the different teeth in the mouth and all the internal organs and glandular systems and endocrine system in our bodies.

So really, I believe that there's a day in the future that we will find that dentistry is not separated from medicine in general. I mean we, many years ago, you participated in this. We interviewed a bunch of experts for the Healthy Mouth World Summit and I mean since then, we continued to interview experts and share what they have to say.

And one general theme that always runs through the discussion is that modern medicine, including dentistry, over compartmentalizes health and the body, because it overspecialize and dive in but where is the big picture, umbrella person that can step back and go, "Hmm, that's interesting. You had a root canal two years ago and you had no signs of..." let's call it what is here, there's a common relationship between root canals and breast cancer, "You have no signs of breast cancer, you don't have that in your family lineage, what's going on here?" And step back and go, "Well, maybe we should look at your teeth." But I mean there's a clean connection between those two but it's not officially recognized.

So I think that addresses your question, but that's a whole subject in it of itself, Katie, really I mean the relationship between the mouth and the health of the rest of the body is humungous and my prayer is that for future generations that our culture will heal that disconnect and dentistry and medicine can merge once again and have this interdisciplinary approach to health and wellness.

Katie: Yeah, I think you hit the nail on the head when you said that the theme is that they've over compartmentalized medicine and health, because a dentist typically doesn't have training in oncology or in any other part of the body in depth just like an oncologist who studies breast cancer wouldn't necessarily be looking for answers in the mouth that I think that's gonna, hopefully, like you said become a big thing in the future.

And, interestingly, enough, I've been recording a lot of podcast episodes recently and I think that the awareness is rising and that a lot of people talking about this, hopefully, like what I can share, what you share, and what other podcast guests share will help to connect those dots because we've had one talking about the biome of the skin and how that contributes and how it interacts with your gut and with your mouth and with everything else. And another talking about how even the process of birth starts the microbiome for a baby and how that affects every aspect of their life. So I feel like we're kind of on the verge and I hope that tipping point does come really soon. I think it's definitely needed.

Will: It's happening. I mean we're demanding it as we all as the public raise the bar and say, "Hey, we're aware of this," and then we go to our health practitioner, dentist, physician, whatever, and say, "What about this information?" We've got a new dentist here where we live in the Hawaiian Islands and Susan went to him and she said, "Hey, you know, how do you feel about using ozone?" And he's like, "I don't know," but he's open to it. He's receptive to it. She's like, "Well, I've got some ozonated water here and after this and this, I'd like to swish with the ozonated water."

So the first time we went there, he's like, "Okay, no problem." He was receptive and open to it. The second time, it was obvious that he'd done some research on it and he's like, "Hey, give me some of that ozonated water. I'm gonna put them in one of this and I'm gonna use it right over here, too." So even though he doesn't use ozone in his dental office yet, there is this emerging acceptance that the patient or the public can come and say, "I'm aware of this. Here's the research to back it. Time for you to step up and learn about these multidisciplinary approaches."

Katie: Yeah, absolutely. And I'm encouraged, at least the several dentists I know that are younger, they do seem to be very open and researching on their own some of these different things and I think that's going to drive change as well from within which is amazing to see.

Will: Yeah, I agree.

Katie: So let's talk a little bit about the differences, because the products you have and the information that you have is very holistic and complementary in explaining how to support the process that naturally occurs in your mouth and support your saliva. What would conventional products...how are they in contrast to that? Because I know, like we've mentioned, they have a lot of other things like triclosan was in toothpaste at one point, things like that that do disrupt the bacteria in the mouth, but there's other ways that these products can affect your mouth as well. So how would you explain that?

Will: Well, so we kind of organically came up with this process that we used personally and then, you know, started sharing in our blog and people liked it and so we've carried on with it.

We have a two-step process that we take any product that you're going to be using in or on your body, you know, we can extend it out to that level but since we're talking oral health here and that's kind of our niche, we'll stay within that. The product that you're gonna use in or on your mouth...now, here's what we want to do is educate the listener. So you listening, you'll be able to do this on your own now. You won't need Katie or me or whoever else to help you do this. You'll have the data, the system that you can use to do it on your own.

It involves simply answering two questions. What is the impact of this product or ingredient in the mouth? Okay, so you pause there. Let's talk about triclosan or microbeads or artificial flavors and colors or sodium, saccharine, or glycerin, or...you know, the list is on and on. Dentistry doesn't leave any...leaves a lot to be hoped for in the future in their products and the reason that I feel this is the case is because the formulators have not healed this disconnect. They've not realized that what you put in your mouth goes into the whole body. It's been proven.

I mean anybody familiar with homeopathic medicine knows that you don't have to swallow those little pills, you put them under your tongue and they get absorbed through the cheek and gum tissue, right through the mucosal

tissue. Same thing with anything we put in our mouths, but if the formulators of a product aren't aware that what you put in our mouth goes in the rest of the body, then they're going to think that's it's okay to put, you know, triclosan or whatever else in the mouth as long as you rinse and spit, you're okay, and call it good.

So here's the two-step process. What's the impact of the product or ingredient in the mouth? And once you have that answered, then you just go downstream. What's the impact of this product or ingredient downstream in the rest of the body? So are you okay if we talk a little bit about fluoride here? I mean that's kind of an awesome obvious one.

Katie: Absolutely, that was on my list of questions. So, yeah, let's do it.

Will: Okay, so fluoride is kind of the elephant in the living room in dentistry that has arguments on both sides and the tough thing for the public is who are we to believe? You know, you've got people like you and I and many others screaming from the rooftop saying, "Don't use fluoride," and yet you have extremely intelligent people with tons of degrees and money behind them saying, "Use fluoride." So who's right?

What we have to do is get beyond this simplistic notion of right and wrong. It's not right and wrong. It's simply a matter of from what level are we looking? If we're looking strictly in the mouth and we are thinking that the mouth is this isolated entity that isn't, you know, at the beginning of the headwaters to the rest of the body as far as the microbiomes, then one can rationalize using fluoride, because I mean it's straight out of the CDC, fluoride enhances remineralization of weakened regions of the teeth before they evolve into what we know as a cavity. It inhibits further demineralization to resist future decay and it destroys the enzymes of bacteria responsible for tooth decay.

Okay, it doesn't sound that bad. I mean destroy, I don't like using that type of terminology, but managing the microbiome in the mouth if it's out of balance sometimes requires that we knock down the numbers and I believe that that's okay to do, provided that we do so in a way that it's not undermining our bigger intent which is to achieve whole body health and wellness. So that's really where a lot of products hang up as you can look at a product going back to our simple two-step questions, "What's the impact of fluoride in the mouth?"

Well, that's the impact, okay? It kills bad bugs, it does disrupt the oral microbiome, and in theory does help to make the teeth harder and more resistant to decay. The research on that is pretty questionable in my opinion. There are dentists that we follow, mentors of ours say, "You know, having a harder teeth really isn't the answer because it makes them more brittle and prone to cracking," which I think that there's quite a bit of merit to their arguments.

The thing that really hung me up with fluoride is, in the mouth at least, is that the compound that fluoride makes when it touches our teeth to make them harder and more resistant to decay isn't what our teeth are naturally made of. So that kind of messed it up for me. I'm like, "Wait, wait, wait. It creates a new compound on the surface of the tooth that is harder and therefore maybe more brittle, but it's not natural." I mean, yeah, it's just flat out not natural. That's my bugger about it. But then if we take it to the next level, fluoride goes out the window.

What is the impact of the product ingredient downstream in the rest of the body?

Well, okay, again, I'm not going to throw it under the bus hard, but, you know, I mean The Lancet, that's the prestigious medical journal out of Britain, recently published an article that classified fluoride as a neurotoxin. That's kind of a problem for me because if I'm taking a neurotoxin in my mouth that is relatively close to my brain and the rest of my neurology, I think that's a problem. To add to the evidence, a recent Harvard study showed a connection between fluoride and lower IQ in children.

So that kind of throws it out for me and the good news is fluoride isn't the only compound or the only, in this case, mineral on the planet that helps us to resist tooth decay. So it's really kind of a moot issue for me, because we don't have to use fluoride to protect against tooth decay and we can use other things that, oh, what do we know, aren't neurotoxic and, you know, cause lower IQ in children.

So that's kind of how we go about assessing any ingredient in the mouth whether it's fluoride or triclosan, or, you know, you name it. It's just what's the effect in the mouth? What's the effect downstream? And take a look at the research because it's out there and anybody can shake down the details and then you get down to a point where you're like, "What can I use?" and that's what helped us birth OraWellness because, again, necessity was the mother of invention. We didn't have anything to brush with after we had done the research.

We're like, "Okay, time to create something." So we went back to the drawing board and formulated what's now known as our Healthy Mouth Blend.

Katie: Yeah, I love that and I don't know if I actually knew that fluoride creates an entirely new compound in the mouth, but that makes perfect sense and to tie in like the whole body concept, Dr. Cate Shanahan who authored "Deep Nutrition" which ironically she talks a lot about bone structure and oral health in there as well. But she says all these vegetable oils that we've artificially created and that we now consume, they create these new compounds in our body because our body has to use what we give it and that it actually alters ourselves in our skin and in our tissue and that's one of her theories about why we're seeing high rates of cancer and other problems as well. So it makes sense that you're using something that the body doesn't recognize. It could have a negative impact.

Will: Yeah, and we don't know the long term...Cate is one of our heroes and she talks about the zombie oils that go out and convert other oils to be bad oils. She's phenomenal.

Katie: She is. And you mentioned something in passing that I would love for you to touch on a little bit. You mentioned glycerin, because that is one of the common ingredients in the "natural" oral health products to replace the ones that do have the more serious ingredients. But, at least, from the research I have done, there is some serious things you may want to consider before using glycerin as well. Is that right?

Will: Yeah. There was a research from a chemist several years ago that really purported this information and I'd love more research to be done on this, so that we just have more data behind it. But glycerin is a component of soap. It's part of the soap making process. It's a component of soap and as such, the research suggests that it coats the teeth and that can be a problem.

If we think about it, okay, our teeth are exposed bones, the enamel surface is there, and we have what we talked about that bacterial layer on it. If we manage it well, that helps to buffer and protect our enamel from one of the

major problems which causes our teeth to break down, which is called acid dissolution. How many of us...let's go back to our childhood days, you take the wish bone out of a turkey, have you ever soaked it in vinegar?

Katie: Yeah.

Will: For a couple of days and it gets all rubbery? Why? Well, because the vinegar, the acids, have leached the minerals out of the bone and made it really soft. They've lost their structural integrity. The bone structure there, the bone matrix has lost its structural integrity. That's acid dissolution at its finest. Okay, it's a great example of it.

So our teeth, our enamel breaks down to acid dissolution, unless we have protective mechanisms there that's like what saliva is for, that's what that initial layer, that healthy layer of plaque is there for. But we don't want to put like a varnish on our teeth, which this is what the research suggests that glycerin does by applying it every day through toothpaste. It creates a real thick like a car wax on our teeth and then it inhibits one of the main ways that our teeth remineralized which is by interacting with saliva, because saliva is really rich with the minerals necessary to remineralize the lost enamel. And so having car wax on your teeth, that's kind of a harsh analogy, but having car wax on your teeth is going to inhibit that saliva's capability of restoring enamel that has been lost due to acid dissolution.

Katie: That explains it really well. Thank you for delving into that.

Will: Sure. Yeah.

Katie: This podcast is brought to you by Four Sigmatic. If you follow me on Instagram, you've probably seen me mention them because I have been using and loving and Instagramming their products for years. They have an amazing instant mushroom coffee. Hear me out before you think it's weird. I know, mushroom coffee doesn't sound good. It's not only the best instant coffee I've ever tried, it's also pretty high up on the list of best coffee I've tried. It's cheaper than coffee shop coffee and it's so convenient because it's so portable and it tastes so much better. But it isn't just ordinary coffee. It has super food mushrooms like Lion's Mane, Cordyceps, and Chaga mushrooms. And these mushrooms have some big health benefits, and especially immune benefits. I personally, especially love them for the energy and the mental clarity without the jitters from traditional coffee. And did I mention how good it tastes? So I always take these instant coffee packets with me when I travel, and I also always drink it at home these days now that they have a big tin that lasts about a month so I don't have to open a little packet every day.

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If you're like me, and you live in an area where it's sometimes hard to find any kind of specialty ingredients, especially if you're talking about organic ingredients, gluten-free foods or allergy-friendly foods, I highly recommend that you check out Thrive Market. So Thrive is like a combination of Costco, Amazon and Whole Foods and here's why I say that.

So like Costco, they have a yearly membership fee and this lets you access all of their special pricing and deals. Like Amazon, they're online and they also have very fast shipping and it's usually free with most orders. And then, like

Whole Foods, they carry high quality foods and specialty ingredients, and especially focus on GMO-free and organic foods. So it's really been helpful to me and I know that you're going to love it too. You can also get a free jar of coconut oil with your first order. So check them out. Go to thrivemarket.com/wellnessmama.

Katie: To switch gears a little bit, because I definitely want to make sure we have enough time to talk about remineralization, this is something I wrote about years ago and that you and I have talked about a whole lot and it's the reason I'm so excited about your new product because it's a specific solution for that and I know that you've answered comments on my blog before. I've seen you in the comment section and I know that you have a heart for helping people to like sort of heal their teeth, and to have products that do that. So talk about the new product and how remineralization works and then how you're supporting that with your new powder.

Will: Sure, sure. So about little over three years ago, you know, we're self-studied and we just put our attention towards things that our community says, "Hey, Will and Susan, what do you guys think of this?" And so we realized we really needed to dive into the subject of decay and remineralization just to understand how it all works, hopefully, with the notion to come up with some solutions to assist our community and how to navigate that.

So here's a really broad brush stroke through this, okay? In order to affectively reverse the decay process, we have to approach decay both locally, that's what we mean by "in the mouth" and globally from a whole body perspective. And you and I both are well aware of the research in the past of Weston Price and all the other legion of crusaders out there, the health researchers and vanguards who helped us have the data now that what's going on in the mouth is a whole body subject.

Dietary strategies are critical to remineralize tooth decay, that there's no question about that. We have to provide our bodies enough of the right foods while reducing the foods that inhibit our ability to remineralize. Also, we have to address the microbiome and the gut health and we've already touched on that. Here's the thing now, okay? We can also address this in the mouth, you know? Saliva plays a role, acid dissolution. What we have in the mouth has a big impact on whether we can remineralize our teeth and stop tooth decay for good.

So here's what some of our research uncovered. The decay process in the mouth is a fascinating one. What we found is that initial decay, what a dentist would call a "white spot lesion" occurs before there's a full blown cavity. In other words, before there's a crater and a hole in the tooth, there's a generalized region of demineralization. Now here's the fascinating part, it happens under the surface. So specific bugs, like you mentioned, strep mutans is the main bug implicated with tooth decay gets over proliferated in the oral microbiome and the oral flora and begins to work its way under the surface, because the surface of the tooth is a porous surface, there's holes all over it even though our teeth feel smooth, there are very, very tiny holes.

And so strep mutans works its way down in and starts to colonize regions under the surface of enamel and creates these pockets of demineralized tissue. They just break it down more and more. And so after researching this for like, "Okay, how do we get minerals that are necessary? How can we utilize the structure? How can we utilize strep mutans to our benefit" and I believe we've come up with a very novel way to go about this. But before I get into that, let me back up.

So strep mutans through its process of living, creates acids as waste that then dissolve the minerals mainly calcium and phosphorus from the structure of our tooth just like the wishbone in vinegar and weaken our teeth to decay and that process just continues, okay?

So the game is to get the right minerals in the right combination at the right particle size to where they're needed to remineralize the tissue, because it literally just...how do I put this? Tooth structure is fascinating to me, it's funny, you know. You mentioned several minutes ago the idea of, you know, enjoy geeking out with your dentist friends, I never would have thought that I'd find myself way too late for my adrenal health to be reading old dental journals, but here I am in a position like fascinated with the subject because we have people that turn to us and say, "We want to hear what you guys have to say." And it's a fascinating way to contribute to the betterment of the lives of those people and so to dive into this subject and to, you know, I have dental journals from way back that going into old books, you get information that's very, very different than the standard information that's more or less regurgitated in conventional journals these days.

So what I found is this, calcium and phosphorus break down under the surface, get removed, get liberated from the tooth and then it gets weaker and weaker and weaker until, ultimately, the surface enamel gets broken down as well and now we have what's called the full blown...what we would call in our public eye as a cavity. But at first, it's a white spot lesion and they're still covered. It's demineralized underneath, but the cavity hasn't caved in yet. Does that make sense?

Katie: Yeah, that does.

Will: So here's what we found. Our teeth are made of calcium and phosphorus and a structure and a crystalline structure that's called "hydroxyapatite." Now that's a fancy word, all it means is calcium and phosphorus in a specific ratio with a little bit of oxygen and hydrogen. There's a hydroxy ion attached to it. So that's hydroxyapatite. That's what our bones, that's what our teeth are made out of. It's like 98% of our tooth structure is hydroxyapatite with a little bit of organic proteins in there as well and water.

So the game is to get the appropriate minerals in the right combination. We wrote a blog recently talking about, you know, making a pie. We were writing it over the holiday time and talking about making a pumpkin pie and so we're going to make a pumpkin pie but we all have is some apples. Can we make a pumpkin pie? Well, no, of course. And the same thing goes with remineralizing our teeth. We have to provide our teeth the minerals necessary that our teeth are made of, right? Kind of common sense. And then in the right combination, in the right particle size so our teeth can uptake the minerals. Does that make sense?

Katie: Yeah, absolutely.

Will: So the last piece of the puzzle that we have to solve was how do we get these minerals under the surface into these decayed regions? And for this, I'm really, really grateful to other researchers out there, Dr. Ellie Phillips of Zellies xylitol products helped us to realize this piece of the puzzle.

And the game is this, we're gonna do a little microbial ninja work here, if you will. So here is what we're gonna do, strep mutans, working under the surface of this surface enamel, demineralizing that white spot lesion creating the demineralization before the cavity, that causes the cavity. They still have these tubes up to the surface to get food. They're kinda like...how would I describe that? Just like a little pathway that they maintain because they still need to get food from our saliva, from the mouth down into that demineralized region to feed their colonized demineralization effort going on under the surface there.

So there's a supply chain, if you will, up to the surface. So we utilize xylitol because xylitol is a sugar but it's a different sugar and that it doesn't feed these bugs, but the bugs recognize it as food and they uptake it. So we utilized that as the novel strategy to get the minerals in our product down into these demineralized regions so that it can remineralize the decay under the surface. We don't want to wait until it's a full blown cavity, right? We want to remineralize these surfaces, these regions before it's a full blown cavity, if possible, because then you got the full tooth structure there and it's just way easier to care for for the rest of the life.

So that's kind of...I know I jumped all over there but that's kind of a runaround as far as how we thought through making Shine.

Katie: Yeah, that's really helpful because I think that's an area that there's not a lot of support for right now and a lot of...even though a lot of dentists will say that it's not possible to remineralize a tooth at all and I've had someone in the podcast, a dentist before, who would argue with that. But understanding your point earlier, obviously, that you can stop the problem, the less work you have to do, and also how to actually address it in a way that it's based in science and it supports the mouth, that's so hopeful I think to a lot of people.

Will: Yeah, you know, I think the dentistry knows what dentistry knows and they're taught only so much. They can't learn everything unless they continue to research and the sort of life learning and continue their research outside. And they're more or less victims of the dental schools and the curriculum and the propaganda that they're going to be taught there, so I really don't blame dentistry that the damage that's done really, unfortunately, is when the dentist utilizes their position of expertise in a stance against research that they don't know. That's a slippery one then.

Katie: Right, I would echo that, especially, I think like doctors, I always say this, I think the majority of people become doctors and dentists originally because they really do have a desire to help people and they truly want to make a difference, but also they have to have the humility to consider that perhaps what they were taught could have been changed or could have been wrong or that we have a deeper understanding at some point and I think that's when I get frustrated is when they kind of hang on to what they were taught in school, but don't consider that perhaps it was wrong.

I know when I posted the article that was widely...it was published in the New York Times and Huff Post and a lot of places about why flossing is not effective. I had a whole range, especially, of dental hygienists who got really mad in the comments and they said, "This is wrong. Absolutely not. I went to school for this. I learned this." And my point to them was, "I understand and I understand for one that you want to protect people and make sure they have good oral health, but you have to consider for a second that perhaps what you were taught in school could be wrong." And there are...there are so many good dentists out there who are doing that and that's so encouraging to me.

Will: It is. It is. And, you know, I mean that the whole flossing thing, that was quite a...we got a bunch of questions about that, too, because we actually still promote something that we have coined the term of "conscious flossing" but really we have to back up and say, "Okay, help me out here, Katie. It seems to me, that I mean in this day and age, you know, it's all about keeping your message shorter and shorter and shorter so that you can grasp and understand it in less time because we are such a habit now of society and it seems like the trend is not slowing down.

But if we're gonna talk about flossing, for example, or brushing your teeth, or anything really, we have to talk about it in a little more detail like can we throw flossing under the bus? When I researched all the evidence there that they talked about, the main argument that those articles were referencing in my opinion was the stance that dentistry has taken by and large is that flossing helps to reduce decay between the teeth.

Katie: Right, it stops cavities, yeah.

Will: Right, that was totally debunked a long time ago, right?

Katie: Right.

Will: But does that mean that we should not floss? Well, that's where I argue because if we look at a study that, oh, gosh, it was done in 2006 I believe. It was a study about lifestyle and it was related to oral health and cardiovascular disease. They took 300 people that all had biomarkers from their blood of C-reactive protein levels is the biomarker that is actually a better judgment of whether a person is at risk of heart disease than blood cholesterol is.

And they took all these people, 300 of them, had high CRP levels. Okay? They had high markers, so they were at risk of heart disease, okay? And they said, "All right, all we want you to do, we're not gonna change your diet, we're not going to change anything else, we just want you to floss at least once every other day, okay? Just consistently floss, so three to four times a week, floss." And in six months' time, they tested on every single one, their C-reactive protein levels were down within normal ranges and so in conventional medical diagnostics, they were no longer at risk of heart disease.

But the researchers didn't stop there. The researchers turned it around and said, "Okay, now, stop flossing." Thank God they did this. Stopped flossing. And all the markers went back up. So, you know, when I read that research, the person who wrote the article was like, "Well, that doesn't prove a causal relationship," and I get that that correlation does not equal causation.

However, doesn't it warrant a little bit more looking when something like that is so conclusively suggestive of a causal relationship there? It's enough for me to be like, "Well, I still floss but I floss consciously and I'm not doing it to reduce tooth decay. I'm doing it to manage my oral flora. I'm doing it to be a good conductor of the symphony of the bugs in my mouth, so that I keep them in the balance that I want to help me maintain optimal oral health."

Katie: Yeah, exactly. I feel like that's where all the confusion stems and I, of course, would be never saying either that you shouldn't floss, but it was interesting because that was the reaction largely from the dental community was, "Yeah, we'll tell that to all the people in our office who have cavities," and I'm like, "But you miss the point of the study which is that it doesn't affect cavities, it doesn't mean it's not important" and, obviously, it's still great for getting things out from between your teeth and maybe there are some bigger and more important implications, but to deny that it...like the research was pretty conclusive that it does not have a direct impact on cavities and they

were clinging to that like it did. I said, “You, guys, missed a big opportunity to educate people on the other reasons they should be flossing instead of clinging to that one and when there was science to contradict it.”

Will: We read your stuff and I enjoy them like, “Oh, Katie is going to get some backlash from this one,” because you definitely slaughtered the sacred calf there.

Katie: Yeah, but I think you would agree that there are times when it’s important to shed light on some things especially when they go against social norms when the social norms are incorrect. And to, hopefully, like I know you always do to do it in a kind way and in a positive way, but in a way that still challenges us to move forward.

Will: Totally.

Katie: Absolutely. So tell people a little bit more about how they can find out about this tooth powder and how to get it, because I know some people may be really interested in that.

Will: Sure. So the product is called OraWellness Shine and it’s a remineralizing and tooth whitening powder. You know, our primary focus was to facilitate getting the appropriate minerals, the right minerals like we’ve said, in the right combination, the right particle size to a demineralized region. So it’s utilizing three different remineralization strategies that are naturally occurring in the mouth to help remineralize decay and, interestingly, to not just remineralize existing tooth decay but to also protect against future decay.

Now, since we talked about this a little bit, hydroxyapatite is that compound that our teeth are made out of. And when we put fluoride on our teeth, then the fluoride interacts with the calcium and phosphorus in our saliva and creates what’s called “fluorapatite.” So it’s a sister compound, but it’s got fluoride in there instead of the oxygen and hydrogen and it’s slightly different, obviously, so that’s kinda brings it full circle and how fluoride actually does create a different compound in the mouth than what is naturally there on its own.

So OraWellness Shine, what we did was we said we gotta be able to put these minerals in the right spot. We’ve got to have them in the right particle size. How do we do that? Well, we realized that the main way to do that is to...it’s kinda like...this is a lot of our research is like very holistic, very kind of...how do I put it...just because something is common, you know, doesn’t mean it’s normal.

So we stop and think outside the box a lot and so we said, “Well, okay, our teeth are made of bone, essentially.” So what we did was we sourced a very clean source from New Zealand of bovine bone powder of a tiny, tiny particle size so that the saliva could take it up into solution and then mixing that with xylitol and other components in OraWellness Shine be taken down into the demineralized region through that supply chain by strep mutans. That’s the novel solution and that’s why it works so well.

So I mean we’ve got...that was the dream of like gosh it should work and there’s actually plenty of research out there that shows that hydroxyapatite is an extremely effective remineralizing agent on our teeth. In fact, some studies even go so far as to say that it works as good or even better than fluoride on the teeth for remineralizing existing decay which is fascinating and huge for us.

So, yeah, I mean anybody who wants to read more literature and research on it they can definitely come over to our site. I'd like to offer your listeners, if you're cool with it, we've created a free e-book just to kind of bring more light to this information. It's called "How to Reverse Tooth Decay and Remineralize Your Teeth" and it essentially lays out in greater detail the various pieces of the puzzle that we found to positively impact our ability to stop and reverse tooth decay.

So it covers dietary factors. It covers lifestyle factors. It covers oral hygiene habits. It just teaches about tooth decay, how it happens. We try to keep it as short as possible and it's like, I don't know, 18, 17 pages long. So it's not huge. It's a book. It's an e-book. And anyone interested, you can have it for free and check it out. We'll definitely provide you with a link for that, Katie.

And, of course, OraWellness Shine is very effective. I mean we've got feedback already from our customers. Some of them very...how do I put it? Very skeptical. We have one customer who's a doctor who wrote us and he said, "Well, you know, our dentist is telling this that, apparently, the cavities are remineralizing in our teenager's mouth." So he didn't want to come out really excitedly and say, "Hey, guys, this is working," because he's a doctor and he's not really sure how this is happening and he's got...but had to admit that, wow, it is working.

Katie: That's awesome.

Will: And it makes sense that it would.

Katie: Yeah, absolutely and I'll make sure to include the link both to the free guide and also to Shine in the show notes for anyone who's listening or wellnessmama.com/go/shine. We'll also take you there if you're just on your phone. Make sure that people can find it. I know our family is really excited about it and even though we don't currently have any cavities, we just found out for sure, thanks to our dentist friend, but I'm happy to have a little more extra insurance to not have any in the future, because as you can imagine with a lot of kids' cavities would also get very expensive very quickly.

Will: No kidding, yeah. And what I find is that as kids age, they start taking on more of their own dietary habits, so we can instill good habits in them at childhood, but eventually the kids are going to go out and experiment. And as they take in, well, let's point the finger at the main culprit, in my opinion, more sugar, then that's going to impact to their oral health. So just to have a little bit more, like you say, a little bit more insurance there to protect them as they explore other dietary choices before they come back home and stick with what we all know works well.

Katie: Absolutely. I think we're not quite there yet. Our oldest is 10 and he's actually really careful about eating healthy and he loves a lot of healthy food, but I have a feeling the teenage years might bring those changes, so I'm glad to have it and I'm, of course, glad to have you guys as a resource as well.

Will: Oh, absolutely. Well, we love you and we've always appreciated working together. And it's just so much fun to...I'm sure you would agree that it's so much fun to be doing your work, your life's calling which you feel you've

been put here to be doing and then look around and be, “Hey, there’s Katie. She’s doing it, too. Let’s join arms and work together and share each other’s messages.” It’s refreshing.

Katie: Yes, so much. Especially, I love that you guys always come from the positive side and that you don’t ever like to speak negatively about anyone and I think you’re in an area where there can be so much controversy and so much anger and different opinions and you guys always approach it from a very positive, respectful way, which is, of course, one of the many reasons I love you guys and love reading your stuff. So I really appreciate that.

Will: You bet.

Katie: And, of course, appreciate your time being here and appreciate Susan. I know she does a lot of work behind the scenes and wasn’t on today, but love her, too.

Will: Yeah, and I think that your point there the reason that we...thank you for acknowledging that. The reason that we choose to not speak poison is it kinda brings us back to kind of a holistic oral health wrap up here.

On a lifestyle basis, we have controls of our mouths. We can let the words out of our mouths that we choose to let out of our mouths. And call me crazy or maybe overly simplistic, but I believe that we’re asking a lot of our diet or our oral health products or whatever to have optimal oral health if we’re going to be spitting poison out into the world with our words. So that’s really why we do what we do.

It’s this kind of selfish, selfless motive. It helps other people. It makes the world a happier, healthier place because, Lord knows, we don’t need any more negativity in the world, right? So let’s just stay on the positive side and speak those words because A, it’s healthier for me and it’s healthier for you and all of us. So when we can create a win-win-win situation like that, we’re all over it.

Katie: Absolutely. I don’t think anyone ever regrets being kind to someone else.

Will: Yeah, well put. Well put.

Katie: Exactly. Well, thank you so much for your time. I want to respect it but I appreciate you sharing your wisdom and I’ll make sure to link to everything we talked about. I know we covered a lot and so I’ll make sure that they can find all of those resources you mentioned.

Will: Awesome, Katie. Thank you so much for having us.

Katie: Thanks for being here. And thanks to all of you for listening and I will see you next time on The Healthy Moms Podcast.

If you're enjoying these interviews, would you please take two minutes to leave a rating or review on iTunes for me? Doing this helps more people to find the podcast, which means even more moms and families could benefit from the information. I really appreciate your time, and thanks as always for listening.