

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 19: The REAL Cause of Tooth Decay

Katie: Hi, and welcome back to the Wellness Mama podcast where I provide simple answers for healthier families. I'm Katie from wellnessmama.com. A few random facts for your day, did you know that if you're listening, there's a 98% chance that you have some form of oral health problem and 75% of U.S. people have gum disease in some form? What's interesting is that, I just thought this was an interesting random fact, the first toothbrushes with bristles were invented in China in 1498. And we're gonna be talking both about oral health and how a toothbrush can make a difference, and it's not what you would think.

With today's guest, Will Revak, who, with his wife Susan, founded a great company called "OraWellness," and I use many of their products personally. They really focus on holistic oral health and treating the mouth as a whole, and how the mouth connects to the entire body, and we're gonna delve into all of that today. He's a wealth of information. And he and his wife, Susan, also put together something called the "HealThy Mouth Summit," which brought together world experts in dental health and that's an amazing resource, and we'll give you some information about that as well. So, Will, thank you so much for being here.

Will: Oh, thanks for having us on, Katie.

Katie: I'm so excited to jump right in. And especially, I know I get a lot of questions about this and we hear a lot about tooth decay and what causes it, and there seems to be a lot of differing opinions. It seems like our culture really has a...they have a firm grasp on the cause of tooth decay, but can you please explain how the understanding our culture isn't quite the whole story, and how this misunderstanding sometimes causes more harm than good and can cost our families more money?

Will: Sure, you bet. As you know, Katie, we really love to dive into the paradigms and the cultural "understandings" we, as a global culture, have regarding the cause of tooth decay and gum disease, it's a fascination for me. What we find, the main barrier is to each of us really grasping what the path to optimal oral health is both the lack of awareness as well as thinking we already know. We find the biggest issue, regarding each of us grasping the full story about how to navigate to optimal oral health, is our thinking that we already know.

There's a German word called Einstellung, that really encapsulates this for me. Einstellung translates into having a block to learning something because we think we already know the answer, we can all relate to that idea. As you know, our background is in the Chinese health arts. For the sake of explaining where we come from, for anyone listening, we've been studying Tai Chi and other arts related to Tai Chi for the past 30 years. There's a story from Asian folklore that I think really brings us home here. You may know this story, it's the idea of thinking we know something which blocks our ability to learn.

This story concerns a Buddhist scholar and a Zen master. The scholar had an extensive background in Buddhist studies and was considered an expert in academic and the field. So he came study with the master, and after making the customary bows, he asked the master to teach him. Then the scholar went on to talk about his extensive background and rambled on and on about everything he had studied, and the master listened patiently and then began to make some tea.

When it was ready, the master poured the tea into the scholar's cup until it began to overflow and run all over the floor. And the scholar gets all flustered and saw what was happening, and shouted, "Stop, stop. The cup is full. You can't get any more in there." And the master stopped pouring and said, "You're like this cup, you are full of ideas. You come and ask for teaching, but your cup is full. I can't put anything in. Before I can teach you, you have to empty your cup," and so that really hits it for me.

This is how we view the understanding our culture has around the cause of tooth decay and how to create optimal oral health. We have to empty our cups, of what we think we know, so we can really see what the research has to teach, only then can we really absorb and grasp truly how to navigate the path to optimal oral health. So, for anyone listening, let's empty our cups of what we think we understand and take a good look at the research together, so we can once and for all get beyond the cultural misunderstandings, and truly grasp

how to navigate to optimal oral health.

Katie: I love that story. Yeah, that really brings on a really profound point.

Will: Isn't it beautiful? I mean it really...you know, I think it's a potent realization that we have to make that we don't know what we don't know. And if we think we know something but we really don't, then we're the fool, we're limiting our ability to actually grasp the truth of whatever circumstance or matter we're studying. The bottom line for me is that our culture...what our culture understands about tooth decay is part of the truth. However, without an understanding of the whole picture, we can be misled to believe that what we are told is the whole truth.

So let me turn this around, let me ask you a question, Katie, if I asked you to quickly recap what our cultural understanding is, regarding how to create and maintain good oral health, what would you say? In other words, what's the story our culture teaches, not what you understand, but what our culture teaches regarding what's involved with good oral health?

Katie: Yeah, that's a good question. Actually, it's easier to answer because that's what I was taught growing up than what I was told until I what I looked at the research like you did. But I think there's the message of if you brush, and floss, and use fluoride, and keep sugar off your teeth, then that should prevent tooth decay.

Will: Exactly, and the cause of tooth decay, from the mindset of our culture, is the sugar that you referred to, right? On the teeth.

Katie: Exactly, on the external side.

Will: Exactly. So if this were all there was to the story about how to have optimal oral health, why is it that 98% of men, women, and children in the U.S. have some active form of oral disease? Why is it that the third most expensive medical bill we have over the course of a lifetime is our dental bills? This is a recent statistic that I found, incidentally, heart disease and cancer are no surprise there at number's one and two. Doesn't it seem to you that if the story we know about oral health were accurate, that these sad statistics would be much lower?

Katie: Yeah, definitely.

Will: It might be a simplistic way to look at it but once anyone stops to take a look, anyone I've shared that with, realizes that there must be more to the story than we are taught in our culture.

Katie: Yeah, absolutely. And I mean, I hear what you're saying that as a culture we really don't grasp the full cause of tooth decay and I know that we both know that there are parts of that that are true and that we do need to understand. But, please, share the real cause of tooth decay, and the whole story, and how you know that.

Will: Yeah, let's dive into this. For clarity, the story our culture knows about tooth decay isn't wrong. It's actually part of the story. However, without the full story, we're left way short from being able to navigate to optimal oral health. Let's see, where should I start with this? I'd like to start by sharing that we are standing on the shoulders of giants here when we share what we've learned regarding how to navigate to greater oral health.

We have the research of Weston Price who clearly shows us that tooth decay fundamentally is a nutritional issue. We also appreciate the research of Dr. Melvin Page that showed us that decay occurs when the minerals in the blood, primarily calcium and phosphorus, are out of balance. We have the work of Drs. Edward and May Mellanby, who I know you've spoken of extensively in your blogs, showed us the importance of vitamin D in preventing tooth decay, and how to make sure that a child has sufficient vitamin D in the diet that they can steer clear of decay.

Following in these footsteps, we have the research of Dr. Ralph Steinman from Loma Linda Dental College. I love Dr. Steinman's work. It was Dr. Steinman that finally proved that teeth are alive and have a flow of fluid through them called "dentinal fluid flow." Now to really grasp the significance of this fact that there is a flow of fluid through our teeth, let's lay down a fact here that teeth aren't solid. They're more like a honeycomb structure with lots and lots of tiny tubules running through them.

Weston Price estimated that the front tooth, and of adult, has three miles of these tiny tubes if they were laid end to end. That's three miles in one tooth. So these tiny tubes are called tubules. So with this in place, let's go back to the work of Dr. Steinman and his discovery in dental fluid flow. I promise this will directly address the primary cause of tooth decay which is your question.

Dr. Steinman found that this flow of fluid naturally flows from within each of our teeth outward. Think of this as the body's natural cleaning ability to flush any of the bacteria in the mouth out of the teeth and naturally resist decay. Now, Dr. Steinman also just covered that under certain circumstances, the fluid flow would reverse and become kind of like a suction. In which case, opportunistic bacteria from within the mouth then are kind of getting a riot on a superhighway into the internal structure of the teeth and thus decay comes on very quickly. So, he proved this. That's a fact.

Dr. Steinman then went about researching the mechanism by which we could control the flow of dentinal fluid. Here's what he found, he found that the flow of dentinal fluid in the teeth is controlled by the parotid gland, which is part of the salivary gland system, and that the parotid gland system is controlled by the hypothalamus part of the brain. You see, Dr. Steinman had the research of Melvin Page to work from. So Steinman already knew the blood chemistry probably played a foundational role in controlling whether the dentinal fluid was flowing from within the teeth outward, thus resulting in the resistance to decay, or whether the flow was reversed causing a great rise in the risk of decay.

So what Dr. Steinman found was that if the balance of blood phosphorus was under a certain threshold, and anyone here who wants the actual number, the number itself really is inconsequential, but the specific number that the Dr. Steinman found is 3.5 milligrams of phosphorus per dekaliter of blood. Okay, this is a very, very common statistic that anybody can find on any blood mineral analysis, any common blood lab is gonna show you a blood phosphorous. And it's kind of interesting to look at that because it's gonna tell you a lot about, not only your oral health but your whole body health.

So what Steinman found is when blood phosphorous was below 3.5, the fluid flow would reverse and become a suction machine and decay occurred very easily. Then he did years of research to identify what caused blood phosphorous to be suppressed and what would support it into the healthy range. Dr. Steinman found, through extensive experimentation, that when he induced a low blood phosphorous level, the whole dental fluid flow system went into self-destruct mode and decay quickly followed. He also proved that when the blood phosphorus was maintained highly enough, dentinal fluid flowed the healthy way, and he found very little, and sometimes zero decay.

So this is a critical piece and I just wanna repeat it here because it can slip by pretty easily. The mechanism that controls whether our teeth are prone to decay or resistant to decay primarily is the balance of phosphorus in the blood. Now, anyone listening to a podcast you are producing, Katie, I'm sure probably already agrees and realizes the fundamental role that diet plays in the creation of optimal health. After all, we've learned to call this whole methodology eating nutrient-dense foods, right?

Katie: Exactly. And so, can you go into that a little bit more and really delve into, like, maybe some of the specific phosphorus rich foods? I know we were gonna move on to some other points but what are some ways to increase phosphorus in the blood because that's a topic that is not talked about very often?

Will: Yeah, I agree, and, you know, it's critical too. You know, what we have to do is look at kind of two sides of the same coin. There are foods that support healthy blood phosphorus level and then there are foods that

undermine the healthy blood phosphorus level. Should we...you wanna dive into that now?

Katie: If you want to, would you rather go into that later.

Will: Oh, we can...let's jump into it.

Katie: Okay.

Will: So how do we support optimal oral health via diet and lifestyle? Now, diet is a pretty easy one to answer. Lifestyle gets a little bit more and more fierce, I'd like to touch on that a little bit, but let's just focus on diet for now because that seems to be more of the hot item right now. Let's start with a few foods not to eat and more importantly why it's best for us to avoid these foods, as well as a few foods to include. We find it's one thing for us to hear a list of foods good for us and foods bad for us, but I found that if people can grasp why each of these foods impacts our health the way it does, we're much more able to own the information and make the changes necessary to navigate the path to greater health. Does that sound like an okay approach for you?

Katie: Yeah, let's go for it.

Will: Cool. So the first food we enjoy thrashing, and I never get tired of this, is sugar. You know, we consider sugar to be most likely many times worse for us than our culture understands, and really not for the same reasons that your dentist will tell you that sugar is bad for you. Not only is sugar terrible for our oral health, and a major contributor to tooth decay, but sugar also directly undermines our ability to live a healthy vital life. I really can't throw sugar under the bus hard enough.

So let's go back to the work of Dr. Steinman. When he went about determining what blood phosphorous levels...excuse me, that blood phosphorous levels caused dentinal fluid to flow healthy or causing decay pathways, he also determined what foods provoked the changes in blood phosphorous level. First of all, let's just categorically state here, sugar lowers blood phosphorous, it directly undermines our blood phosphorous levels. We actually have an article on our blog titled, "Why Do Teeth Decay and How We Can Stop It," that goes into the subject in detail.

On this article, we have an image that really captures the major components that cause blood phosphorous to go down, which promotes decay. If the listeners can kind of visualize this, the image shows a scale, kind of like, you know, a balance scale. It shows a scale of phosphorous on one side and sugar, as well as many other heavy hitters that cause blood phosphorous to go down. In other words, when sugar goes up, blood phosphorous goes down. When calcium goes up, blood phosphorous goes down. When cholesterol goes up, blood phosphorous goes down. All these play a direct role in suppressing blood phosphorus.

So, Steinman actually took his research a step further and proved that tooth decay isn't caused by sugars sitting on the teeth. Now, it's kind of ironic that, you know, here he is at the research for decades, at a dental college, and yet I've heard, from other dentists or from dentist friends of ours that Loma Linda Dental College, I don't mean to name names here. I don't think it's just, you know, one dental college, but the very dental college that he did research at, doesn't teach this material. That's just kind of irony for me.

What he did is he performed experiments feeding animals a sugar-rich diet straight into their stomachs, therefore, bypassing the mouth entirely. What he found is that sugar-rich diet still causes tooth decay, even if the animals mouth never comes into contact with the sugar. The bottom line, sugar directly suppresses blood phosphorus. Now to help put this into perspective, let me share with you what Dr. Steinman found to be the very best way to lower blood phosphorus and make our teeth easy to decay. In other words, this is the worst thing we can do.

Eating or drinking anything sweet between meals, in particular by itself sweet. Okay, this includes snacking on anything sweet, drinking a beverage that is sweetened. As a side note, I don't care if it's a soda or a

kombucha, the body still doesn't distinguish between the quality of the sugar. In other words, blood phosphorous will be imbalanced whether we think we're doing good with the drink or not.

Now, sure, there are some beneficial sides to kombucha but, you know, we've kind of written a couple of scathing emails on kombucha because I really don't like the...I don't know, almost like the sacred cow status that kombucha has taken has been placed up on its pedestal in the real food movement. Yes, it's beneficial for gut bacteria. Yes, it also has a substantial dose of sugar. So we need to mitigate that if we're going to drink kombucha.

This problem is further exacerbated if we eat or drink the sugary substance and it doesn't contain any fat or fiber to slow down absorption of the body. This is why we really disagree with the cultural thinking that giving a child fruit juices is a healthy options. I suppose fruit juice is a healthier option than handing a child the can of soda but offering a child a box of juice is far from a healthy habit in our perspective. Now, I love to throw sugar under the bus, but I better move on here.

Another piece to the puzzle, you know, what not to eat is the amount of grains we consume. You see grains or sugar, you know this, while we normally eat grains with other foods in a meal, the sugar component of the meal will still challenge blood phosphorous levels and make teeth prone to decay. Incidentally, grains and legumes, as well as nuts and seeds to a lesser degree, offer another challenge to our blood phosphorus levels. You see these foods have phytic acid in them, which I know you're aware of, and phytic acid directly imbalances blood chemistry too.

So while we can help mitigate some of the damage of phytic acid in the body, using traditional cooking methods, like soaking grains and seeds before preparing them, we have to be aware that these foods do inhibit the absorption of some minerals into our systems and, yes, phytic acid does directly impact blood phosphorus levels. You know, it's a tricky one, definitely, because we need to make sure that our diets are on point, and to really do so, we have to truly go 180 degrees from what our culture understands to be a healthy diet. I feel like I'm rambling a bit here, should I go on?

Katie: Well, yeah, I was gonna say that is absolutely fascinating, and obviously there is so much more than just the cultural understanding of, we need to brush our teeth with fluoride toothpaste.

Will: Totally.

Katie: So, definitely, I wanna move on to oral hygiene but can we go a little more into, like, a supportive oil heath diet, and also lifestyle factors, because I feel that an issue that's not addressed very often when it comes to oral health.

Will: I agree. I agree, okay. So to really do this justice, as far as the question of what foods support our oral health, we have to go back to the work of Weston Price. Now, most of your listeners know of Dr. Price, so I won't go into his story. What I do wanna bring to light here is, through his travels, Dr. Price found two common threads in the traditional people as he studied, and these are the two that I wanna focus on right now.

Number one, he found that the traditional people's eating their native diets had, on average, four times the minerals in their diet. And then a second point, that really hammers it home for me, is these native peoples had 10 times the fat-soluble vitamins in their diet as Americans in the 1930s. Now, mind you, this was before the low-fat propaganda blitz hit the U.S. So if you wanna support your oral health, eating a diet rich in minerals and healthy fats is foundational.

Incidentally, with one of the villages Dr. Price visited, the villagers allowed Dr. Price the honor to study the skulls from the dead from that village. It may be interesting to note here that Dr. Price found 1 cavity in 100 skulls, that's 1 cavity in 3200 teeth in those skulls. So, please, anyone listening, remember that the next time

you hear anyone pitch the line that eating a low-fat diet is health-giving.

So specific foods to support oral health, organ meats from healthy animals living on their proper feeds, this includes beef liver, chicken liver, beef heart, fish eggs, cod liver oil, quality muscle meats particularly fatty cuts. One of our favorites is chuck roast from pasture raised and finished cattle. I'm a life learner, I just finished reading Dr. Terry Wahls' book, "The Wahls Protocol." Great book, by the way. I completely agree with her. If you're not used to eating organ meats, start with heart. Beef heart is so easy to incorporate into the diet because it's just like a tasty cut of steak.

I know it's kind of, like, you got to get over this cultural thing, "Oh, I'm handling a heart." You know, it really brings it home that you're eating an animal but that's a very healthy and responsible place to be. Liver, on the other hand, takes a bit more coaxing to get to be palatable in our home, I found. Incidentally, heart has the highest concentration of CoQ10 found in nature, which every CoQ10 supplement producer is careful to make sure that we know that CoQ10 is great for heart health. This, again, suggests the accuracy of the traditional idea that eating a certain part of an animal will support the same part of our body.

Another friend of ours, Dr. Cate Shanahan, author of "Deep Nutrition," and "Food Rules," talks about the benefits of eating organ meats, that are cut bone-in, so we can benefit from the minerals, and quality fat's, and the bones themselves. This is another excellent point, I believe. This also brings me to the foundational aspect of healthy foods which is the stocks and broths, truly a crock-pot with bones going on it every day in our kitchen, it's just sitting there.

You know, we have some friends who are our first generation from Italy and we went to their families, their dad's birthday and these folks who were from Italy. And they literally had the pot of minestrone on the back of the stove going 24/7. They've got a simmer on it and it's always going there. So anybody hungry and the family can walk in and get a cup of soup anytime they want, and I really think that this is a very healthy notion if we want to have a simple go-to food for our family because it's gonna be, again, super rich in minerals, super-rich in amino acids, you know, loaded in glycine, loaded in glutamine. These are tremendously important for our gut health. I really can't overdo the importance of bone stocks, in my opinion. We also have a special spot for quality butter as a sacred food for creating optimal oral health. So that's diet, okay?

What I'd like to do, for a moment, is bring to light one other aspect here regarding what we can do from a system-wide immune approach to navigate to greater oral health. This will come as no surprise to anyone listening, I'm sure, even though none of us wants to hear about this research. Among his tens of thousands of experiments, Dr. Steinman did a very interesting bit of research, to me, that I think directly impacts, not only our oral health but our ability to create optimal whole body health and vitality as well.

Here's what he did, he took rats and over time he identified a diet that he could feed them that would sufficiently support their blood phosphorous levels to keep them pretty much free of decay. Then he did a series of experiments where he caused these rats to be fed the healthy diet but to have chronic stress. And guess what happened, they got tooth decay even though they were eating a diet that supported their oral health. It comes back to stress.

Our friends Dallas and Melissa Hartwig from "Whole9" wrote a great book called "It Starts With Food" that we love. And I'd like to joke that Dr. Steinman proved that stress actually plays a more fundamental role whether we live a healthy happy life or experience less than optimal health. Now, that said, we have to eat well or we're hopelessly doomed to decay and ill health. But this brings up a good point that we will definitely deal with...we love to dive into this with our business, and I'm sure you do as well, Katie. We get lots of people reaching out to us, why their oral health is suffering.

They ask us these questions, you know, they lay out their diets, they're eating all the right foods but the level of stress and tension these people live with and create in their lives in order to make sure that their diets are perfect, in itself, causes a system to fall short from its immune potential of vitality. Does that make sense?

Katie: Yeah.

Will: So, do you get people reaching out to you at Wellness Mama with the same tension in the description of their diet regime like we do?

Katie: Yeah. Absolutely, and I think that's one of those times where you can't let the perfect be the enemy of the good. And I think stress is so important and it's definitely a kryptonite for me because I'm so type A, and I love to be busy and operate under a lot of pressure. And it's definitely not good for my oral health or my thyroid or any other aspect of health but, I think, in our culture, it's very easy to fall into that as well.

Will: Yeah, I agree. So really the way we view at the game here is to understand the foundational nuggets that diet plays and be sure to have fun, laugh, play, relax. Do something fun, stop to smell the flowers, whatever it is that helps each of us to feel relaxed and healthy. You know this as well as I do, that we in the real food movement, definitely can overdo it and then that stressful activity it actually undermines our efforts to live optimally vital lives.

Katie: Yeah, definitely. Maybe somebody should the book, "It Starts With Stress," too.

Will: I thought about that.

Katie: Yeah, well, look for it and, like, next year we can release it. So, obviously, I think a good segue here is, let's talk about why do we even need to brush and floss if tooth decay really is about diet and about keeping the flow of fluid in our teeth moving in the right way, then what role is oral hygiene even play?

Will: Totally, and you can definitely...you know, I mean, there's even some bloggers out there that, you know, having access to this information, have thrown the baby out with the bathwater and said, "Okay. Hey, well, we don't need to do any oral hygiene," and, you know, they tend to be the more extreme bloggers, and that's fine. We all can choose to follow, and read, and believe whatever we want, right? Everything that I read is real, right?

Katie: Especially on the internet.

Will: Totally. So my go-to study to emphasize and to kind of put the nail down here, the foundation of why we need to brush and floss is a landmark study that shows how flossing, at least every other day, lowers C-reactive protein. So CRP or C-reactive proteins is a biomarker that medical physicians use to determine a level of inflammation or a level of inflammatory cascade going on in the body. In fact, CRP or the C-reactive protein, they found is a better biomarker in determining a risk of heart disease than cholesterol levels. So they commonly test this in the medical field.

So, here's the study, they took a group of 300. I believe it was only men, it might have been men or women, but they took a group of 300 people who all had elevated C-reactive protein levels. In other words, they were all at risk of heart disease, and they said, "Okay, don't change anything in your life. As far as your eating, your stress levels, if you're smoking, whatever, it doesn't matter. All we want you to do is we want you to floss every other day." So it was a lifestyle modification test or study.

And what they found...they did it for six months and then they tested the C-reactive protein levels of everyone, and every single person had C-reactive protein levels, dropped them down to a not at risk any longer. So this is an important point here, number one, what it brings to light for me is the mouth plays a central foundational role to systemic inflammatory cascade in the body. Okay, these people didn't change anything. They didn't raise or lower their fat consumption. They didn't raise or lower their carbohydrate consumption.

They didn't exercise more or less, all they did was floss at least every other day and every single one of them

dropped their C-reactive protein levels to be not at risk of heart disease according to traditional, you know, modern medical platform that they look at the CRP levels but the researchers did a wonderful thing and an incredible gift for us all of anyone willing to look at this research. What they then did is, they said, "Okay, now stop flossing," and everyone CRP levels went right back up. So, this for me, is critical because, yes, diet is foundational, diet is actually primary, in my opinion.

However, we cannot overlook the importance of oral hygiene. In my opinion, does a bushman in Africa or does a person living traditionally in New Guinea have to brush their teeth to have optimal oral health? No. They're living in a traditional society, their stress levels, they have an intact social network. This is crucial for our stress levels and in this modern day and age, in my opinion. We're so distant, and you know, I mean, we're friends and yet we haven't physically met yet as of the recording of this.

So we have to have an intact social network and social structure to maintain healthy stress levels. So the bushmen in Africa have all these components in place to have low-stress levels and of course, their diets are intact and what their ancestors were raised living on to optimize their health. And they have the traditions passed on to them of how to properly eat and not being misguided by the propaganda blitz that continues to proliferate in our culture, in regards to what is ideal for optimal health.

So, the way we approach this at "OraWellness" it's a two-prong approach: A, we have to address the whole body systemic approach to optimizing our oral health and then we also need to address it in the mouth. You know, coming from both sides, we have found really is the ideal way to support and quickly navigate to greater oral health. The system-wide immune stuff takes a little longer, why should we wait when we can go in there and disrupt and disorganize the bad bugs today if we understand the strategies and tools necessary to do so, just like this test with flossing shows us?

Katie: Yeah, exactly. I love that. That study that was done is so fascinating, and also love that you touched on the importance of a social network that is not just Facebook or Twitter, and I think that something we're losing in our culture. And it makes me really sad for our children's generation because that seems to be how many of them are interacting is largely just through media. And I think that's something we're losing and it is sad.

Will: Yeah. I agree. It's sad for me when I see a child...and I've actually personally witnessed this, a child sitting on their electronic device in the same room with another child sitting on their electronic device and they're texting.

Katie: Oh my goodness.

Will: It's like, "Oh, wow, you know we're really gone that far," and you know, we, humans, are capable of tremendous abstraction, and unfortunately what it does is it makes us more mental and at it further disconnects us from our physical presence here that we're hopelessly dependent upon the earth. And I think this aggravated mental quality further propagates us, not thinking that it's any big deal, that we undermine the ecosystem on the planet that we are hopelessly dependent upon.

Katie: Yeah, absolutely. And to switch gears a little bit, I know in your business with "OraWellness," you teach a lot about brushing and flossing but you talk about how just brushing and flossing in the basic sense isn't enough and that there are specific techniques and strategies that can really amplify the results there. So can you explain how you come to this understanding, and what is that whole picture of oral hygiene, and what we should be doing?

Will: Definitely. This again goes back to the German word that I shared earlier, Einstellung. We, as individuals in our culture, think we know what we need to do to have healthy teeth and gums. But the sad statistic, that we both shared in the beginning, tells us that we're dead wrong. The way we put this subject is like this, when did we learn to brush our teeth? Maybe three or four years old, right? I mean, Katie, you told me you've got young kids at home. When you watch your younger kids brush their teeth, are they really applying what you now

understand as a healthy brushing technique?

Katie: No, and that's something we do work with them on, but I find it interesting that they are doing is what most adults do. Which is just brush hard and brush, like, typically, the tops of the teeth and just scrub and then they like to, like, lick the toothpaste off the toothbrush because it's organic, but yeah, they're definitely not doing the full technique that I've learned from you guys.

Will: Totally, and you know, I mean, I really don't even expect a three-year-old to be able to do it yet because they don't have the fine motor control to be able to apply the bass brushing technique as we both understand to do it. The problem here is most of us never revisit this subject critical to our oral health. If we learn something when we're two, three, four, or five, even six years old, and we never come back and revisit it and say, "Wow, I wonder if there's refinements to this strategy that we can apply," and we're by and large not supported by the institutions that are in place that supposedly are there to help us navigate to optimal oral health, then we just assume that that, "Oh, you know, the way I learned to brush my teeth is sufficient and therefore Einstellung kicks in. We have a block there to learn anything new because we think we already know it.

If, well, I'll go into what we think we know in a moment but here's the bottom line, if we think we understand how to take care of our oral health, we're literally fooling ourselves unless we've reexamined us. How this fooling ourselves like above can be our worst enemy is when it comes to making changes in our oral health and our whole body. You know, it can directly undermine us if we have this Einstellung in place.

We found that it's more about how we brush and floss, it's how, not so much that we do. Now, you know, the C-reactive protein test...the study that was done, you know, they didn't necessarily...I haven't seen anywhere in the abstract that says that they actually taught proper flossing technique and said, "Okay, do it this many times in each pocket," and stuff like that. It was just, "Do what the culture says to do. Do what you understand as a cultural application of flossing," and that alone was enough. But I think we can go a lot further than that.

So it's about how we do it. We have a number of articles on what we term "conscious flossing" as well as our popular bath brushing technique. Do we have time? Do you want me to go into the bath technique or should we leave that for another time?

Katie: I'll include it, if that's okay with you, the video in the show notes so that people can see that?

Will: Perfect. Sounds great.

Katie: Is that all right?

Will: Yeah.

Katie: And yeah, and I would love to keep going because, in your business, you talk a lot about how the health of the mouth is foundational for the whole body and you've even guest posted for me, just about how oral health impacts the entire body. So can you share with us why you put such an emphasis on oral health and on the mouth?

Will: Totally. We've come to understand that our culture has this mental or what we call a mental or a psyche disconnect with our mouths. In other words, we know more about the state of health of our fingernails than our mouths. It's silly when you think about it but part of this disconnect stems from the fact that we never get to physically look at our own mouths without looking into a mirror, which kind of adds to the disconnect because it's kind of surreal anyways. You're looking at mirror...it's just kind of...it separates us from the reality of being able to see what's going on there.

But part of this disconnect also stems from our culture's utter lack of interest of knowing where our food comes

from. Most of us, in the real food movement, are rather counterculture, in this regard, but the vast majority of our culture literally has no clue about where their food comes from, how to grow food themselves, how to prepare health-giving foods or any aspect of connection to what goes into their mouths. Thus, there's mental disconnect our culture has with our mouths is profound and we've made it a part of our mission, actually, to help those interested in healing this disconnect in their own lives.

You see, our background, like I said, is in the Chinese health and longevity arts. In the Chinese thought paradigm, the mouth is literally the center of the body. It's kind of weird when you think about it geographically, like, "How is the mouth the center of the body?" But it makes sense if you think about the simple fact that the mouth is the number one pathway that new stuff is introduced into our systems, right?

So when you take a moment to look at it this way, it's pretty obvious that the mouth plays a foundational role in the health of a whole body. In the name of brevity, I'd like to just bring it home with this quote, this really does it for me. There's a doctor, he's dead now, named Dr. Josef Issels. Dr. Issels was the most notable integrative oncologist of the last century. In other words, he was a holistically minded cancer doc. In fact, as a side note, Bob Marley went to be treated by Dr. Issels but by the time he got there, Bob was already completely wiped out and it was too late to do anything about it.

Dr. Issels is quoted to have said, "97 of all cancers, not just oral cancers, 97 of all cancers have a causal relationship to the teeth, throat, jaw, and tonsils." That's a pretty heavy quote from a famous cancer doc if you stop and think about it. So what he's saying is there's a causal relationship, and you know, we don't have to pick on cancer here but cancer is kind of an end product of sustained imbalance in the body over time.

So 97% of all cancers in the body that Dr. Issels would deal with, in his career as an integrative oncologist, he found the initiating factor was in the mouth, throat, jaw, and tonsils. That's huge, really. I could also...let me just throw in something here as a resource for the listeners. We have a resource on our website called "Meridian Tooth Chart," for anyone interested. That's a fascinating...it's a free resource there that we have for anyone listening.

In the Chinese thought paradigm, which includes acupuncture and Chinese herbalism, there are different pathways that run through the body that relate to different internal organs. You see the Chinese, in their creational phase of creating their medical system, that they've been refining for the past 5,000 years, they had a taboo on cutting open the body. So they had to figure out a way to affect the internal organs from outside the body.

And so what they realized, as a result of this taboo, is that there are meridians running through the system there are these energy pathways that we can positively or negatively influence various internal organs from outside the body. Well, each of the teeth has different organs that relate to it and this chart that we have on our website, that I'm sure you can post a note there that can get listeners to that link, proves very interesting. You know, what you can do is you can go there and say, "Wow, I've got a toothache in this tooth or I always have bleeding around this tooth," and click on that tooth and see what organs it relates to or you can go the other way because the flow is both ways.

You can say, "Okay, blood tests suggests that I've got, you know, an issue and imbalance going on in my liver, or my adrenals," or whatever it is, and then go to that "Meridian Tooth Chat" and look at what teeth relate to that and see if there is a corresponding relationship. There's a direct relationship between ill-health in a tooth and that ill-health undermining and slowly imbalancing, day after day, month after month, the health of internal organs. Does that make sense?

Katie: Yeah. Absolutely. And I think a lot of parents can easily understand when it comes to the relationship of the mouth to the whole body is when their children are teething. The children can have a fever, they can have digestive problems, they can have diaper rash and earache, and skin rashes, and all these things that aren't directly obviously related to just the fact that they're teething. But when you think about teething being an

immune response reaction and the immune systems adjusting through these changes in the mouth, it makes perfect sense. And I think, that for parents, that's an easy way to understand how oral health really can impact the whole body.

Will: Absolutely. Really, well put. I hadn't thought about that, you're right though. I totally agree.

Katie: Yeah, and if it's not too personal...you shared a story with me that's close to your heart regarding the importance of asking educated questions to your dentist before any work that you consent to. And I think, dental work, and just even going to the dentist is a really scary thing for a lot of people. So can you share your story with our listeners and maybe give some advice on that?

Will: Yeah, first of all, it's really unfortunate reality it is what it is that there's actually a psychological phobia, the term is coined already, in clinical psychology odontophobia. It's a fear of going to the dentist, and I think it's prevalent in our culture. It's kind of silly when we think about it but I believe that our culture, in general, feels abandoned. You know, we're not being taught this primary influence and foundation that diet plays. We're only being taught part of the story which, in our opinion, is the most heinous form of a lie is to tell a partial truth.

Now, I'm not suggesting that your dentist is lying to you. What I am suggesting is that most dentists don't understand the full significance that diet and lifestyle play in the navigation to ideal and optimal oral health. So the story that you're referring to here is, we did the "HealThy Mouth World Summit" and, you know, we interviewed 21 experts from 6 countries around the world. These people are top of their class, world-class experts. They've literally written the books on whole body dentistry.

I mean, we interviewed Hal Huggins, who is the modern grandfather of biological dentistry. Hal was talking about the dangers of mercury back in the early '80s. I mean, you know, these people have been out in a long time. And so, after the summit, we were very excited to have all these contacts, and I'm not going to name any names here obviously. We went to the partner of one of the people that we interviewed, and we figured we are in such qualified hands that I dropped my guard, and I said, "I don't need to ask this dentist questions before consenting to any work, because this dentist is a business partner of one of these world-class experts we just interviewed for after all."

And what resulted was me getting way more work done than I would have consented to. Now, I do have to say that...I haven't written about this yet. It's on my list of articles that I wanna write on. It's popular in kind of the, you know, high tech fringe modern dentistry this idea of conscious sedation, and this is what I had done thinking that, "Oh, I'm gonna get the latest and greatest," and unfortunately what happens is, you're not there in order to stand up for yourself and say, "Wait, huh, we didn't agree to do this."

And so, you know, we actually have a resource that...we're in the process of doing a site revision right now. And we're gonna make it a free resource, and I know that you've been aware of this in the past. We have a resource, a handbook, that we wrote that we continue to amend which is called "Questions To Ask Your Dentist." In my opinion, we have to have intelligent questions to ask our dental professionals because, again, we don't know what we don't know. And if we don't have intelligent questions to ask this dentist to discern, whether or not the dentist really has the education, has their mindset in the right spot, in regards to helping us navigate to optimal oral health, it's best to just walk out.

We strongly encourage people who follow our philosophy, and what we have to say, we strongly encourage people to just interview the dentist. And frankly, if the dentist gets up on a pedestal and doesn't wanna be interviewed then go find another one because the dental field will adapt because we have their car payment. They rely on us in order to have their business successful. And the more of us that become aware of quality intelligent questions to ask our dental professionals, to make sure that we're all on page, number one, this helps the dental team to realize, "Oh, this person really cares about their oral health."

They realize that they are the number one person that is responsible for their oral health, "They're not they're

not subjugating the responsibility to us." Unfortunately, a lot of dental teams like to just assume that responsibility because they see so many people who have disempowered themselves through the years and don't have intelligent questions to ask their dental professional. So I can't urge, anyone listening, enough to research questions to ask your dentist.

You know, we share this on our blog and on our site. And like I said, we're gonna have the free resource up on our site once our site revision is done, that you can get for free. It'll be questions that you can ask your dentist just to discern whether or not your dental professional really has the training, the mindset, and really the helpers heart to assist you and your family to optimally navigate your path to a greater oral health.

Katie: Absolutely, and I know I've had to switch dentist a few time but there are good dentist out there who do have that. And it definitely makes a difference when you find one, and especially ones one that are willing to work with you and understand how your nutrition plays a role and to see the changes in your teeth, and to support that. It's really a gift when you find a dentist like that.

Will: Totally, I totally agree. When you have a good dentist, it's like...you know, we have a dentist. We live here in Hawaii. We go to another Island and we are blessed to have the dentist that we have. And now that we found this dentist, we hold on to him like crazy because when you have a person who is educated as whole-body dentist, who knows the toxic nature of dentistry and looks to mitigate that as best as their ability, that is a huge asset to you in maintaining your optimal not only oral health but whole-body health as well.

Katie: Absolutely. Well, I wanna respect your time and we're getting to the end here, but can you share any final gems and maybe a couple practical steps if someone is listening, and maybe has a lot of oral health problems or it just feels like they have so many struggles that they're trying to overcome with oral health? What would be some practical ways they could just start making little changes in their own life?

Will: Sure. So there are lots of things that you can do. Our product are great. Our products are wonderful, you don't have to do that to navigate to the greater oral health though. So, I'd like to answer this in two ways, on the practical side, what I'd suggest is in the in the name of just keeping the podcast at a good length here, go on to our website, maybe you can post a link for the listeners here, we've got a free video series. It's a tutorial. It's a series of steps, we call it the "5 Steps to a Healthy Mouth."

All we ask for is your email. We'll e-mail you the links and you can watch these. And what it is, is a series of videos that are anywhere from 5 to 10 minutes long and it covers a pertinent point, like, okay, what to eat to navigate to create our oral health, what not to eat, and why, and it goes into more detail than we've gone into here. It also covers a lot of different factors of oral hygiene and how to identify whether or not the oral hygiene products that you use are ideally formulated to support you to navigate to great oral health. There's lots of bits there. It's called the "5 Steps to a Healthy Mouth." So that's the practical side.

What I'd like to do is broaden this back out to a more kind of a different angle. In the words of our favorite musical poet and artist, India Arie, if we speak words of beauty then we'll be there. In other words, even when confronted with someone speaking mean or nasty to us, we can choose to speak respectfully. It's our choice. It's really a self-empowerment issue for us. If we choose to speak words of peace and positivity, not only will we be met with love, friendship, success in all walks of life, but we will also be taking a huge step forward toward having truly a healthy mouth.

After all, how can we expect to have a healthy mouth if we allow words of hate, fear, worry, downright, nastiness, come out of our lips? Just like each of us has control over what we put on our folks to support or undermine our health, we also have the power to choose what words we allow out of our mouths. You know, our mothers were right, Katie, sometimes if we don't have something good to say, it's better not to say anything at all, at least then you aren't poisoning your life. I believe that we directly harm ourselves, as well as any other relationship in earshot, when we choose to speak poison. It's just not worth it.

Katie: Yeah, beautifully said and I will definitely put a link to that in the show notes to your five steps videos. And for anybody listening, they can go to wellnessmama.com/go/orawellness, O-R-A-W-E-L-L-N-E-S-S, and there will be links there also on your site to the videos and to all of your products. And then, also, I would love for people to check out the "HealThy Mouth Summit" because I learned so much information from listening to the speakers there and like, you said, it's an amazing resource, and that is at wellnessmama.com/go/healthymouth, and I'll put both of those links in the show notes as well so that everyone can find them. But, Will, thank you so much for your time and being here and for all of your research, and for your interest in oral health and for wanting to share that with others.

Will: Thank you so much for having us, Katie. It's been a real honor.

Katie: Wonderful, thanks, and we'll have to have you back on sometime.

Will: Sounds great.

Katie: And all of you, thanks for listening so much, and I'll see you next time. Have a healthy week. Thank you so much for listening to this episode of the "Wellness Mama" podcast where I provide simple answers for healthier families. If you would like to get my "7 Simple Steps for Healthier Families" guide for free, head on over to wellnessmama.com, and enter your email, and I'll send it over to right away.

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