



LET'S "TALK" ABOUT
ORAL HEALTH!

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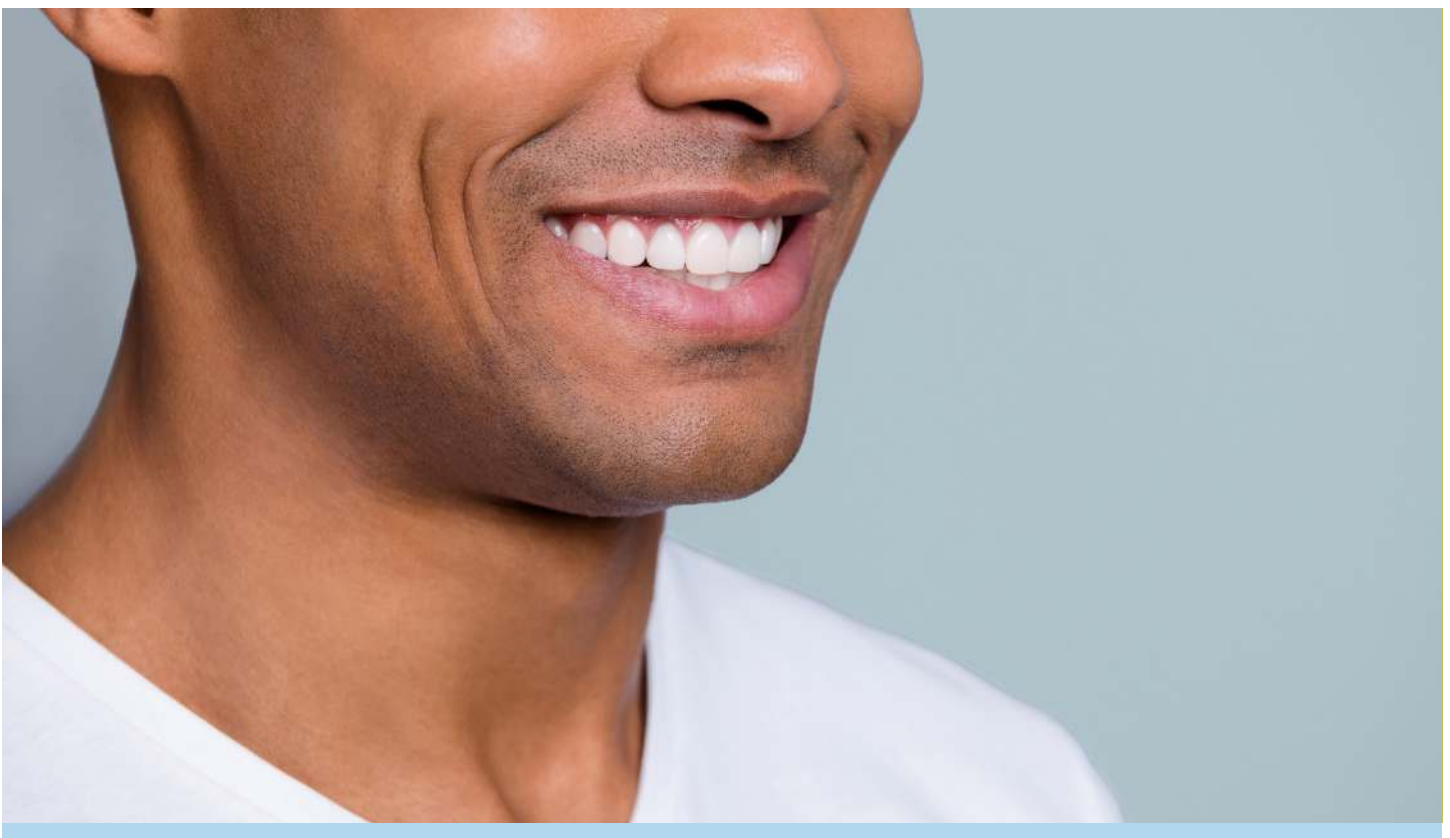
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Raising Cavity-Free Kids

Carla Atherton, MA, FDN, TNC with Will Revak

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Carla: Hello! And welcome to The Children’s & Teen Health Summit. I’m your host, Carla Atherton, founder and director of the Lotus Health Project, LotusHealthProject.com, where we empower people to get healthy and stay healthy in mind, body, and spirit, and on the social, global, and environmental levels. For this session of the summit, I’m excited to be speaking to Will Revak about oral health.

Will and Susan Revak are the founders of OraWellness. They began their journey into real food, real medicine, and real wellness in their early 20’s. Their journey creating greater oral health in their own lives started 17 years ago when Susan was diagnosed with advanced gum disease, which she has since reversed on her own without dental surgery. OraWellness assists others with techniques and tools how to navigate to greater oral health. Their spearhead product is a toxin-free toothpaste alternative made from 100% organic and wild-crafted ingredients. Welcome to the summit, Will!

Will: Right on.

Carla: Well, welcome! So I’m so glad to have you here. When I first learned about what you do, Will, and Susan, as well, I was really intrigued by your story because I guess Susan was having some

issues with her teeth. And so you can just explain that to us maybe. And I want really for you to share with our participants why you sought more than just surgery or surgery at all.

Will: Yeah. Well, thanks for having us Carla. I’m real honored to be able to support anybody listening here. So our story, it’s funny. It’s definitely when life hands you lemons you make lemonade out of it. My wife, Susan—oh, we’re going back now, what, 17, 18 years—was in a dental chair and was having what’s called a periodontal depth probe done. That’s where the dentist goes around. People listening have had this where the dentist is poking around in your gum line and calling out numbers, “two, three, three, three, four, three.” And the dental assistant is writing the numbers down.

And they’re measuring the depth of the gum pockets around all your teeth. And that’s what they were doing with Susan. And then it got really somber. And the dentist said, “Whoa! Ten plus.” In other words, this measurement— this pocket depth—is deeper than my probe will measure.

Now, at the time, Susan was what? Early 30’s, 30, 32 or something like that. And she definitely felt like, “Ooh, something shifted here. What’s going on?” And the dentist more or less handed her a pamphlet and said, “Well, honey, you’ve got advanced gum disease. Here’s a brochure about the surgery

that I need you to schedule to take care of this because this is out of my league.”

Now, I guess I should back up and preface to say that Susan and I met. We’re high school sweethearts. Although, it’s not from high school. We met studying the Chinese longevity arts together. In a Kung Fu school is where we studied. And we met there. And so we’ve been raising ourselves since our late teens in a very alternative paradigm.

So given that, that’s really what gave Susan the gumption or the courage to be able to say, “Well, there’s got to be another option to surgery. That’s ridiculous. I’m not going that route,” rather than just take the prescription, so to speak, which provoked her to look.

And sure enough, she identified a platform that she could utilize to care for her own oral health and her mouth. And now mind you, I should also state since this isn’t just about oral health that your summit is interviewing, that gum disease is super prevalent. It is one of the huge elephants in the living room in our culture.

In general, we’re talking about if you’re over 30 years old, chances are greater that 9 out of 10 that you have some active form of gum disease. Since you’re focusing with children and teens, 65% of 15 year olds have active gum disease. So it gets set in quickly.

And in general, dentistry has dropped the ball on dealing with this effectively because their business model is primarily is on dealing with decay. So arguably, there are some dentists out there who really have gone the path less traveled and focused on gum disease and helping people to treat it effectively. But that's not the norm.

So back to Susan's story. She was diagnosed with advanced gum disease, said, "This is the only option for you." And rather than go with that option, she stopped going to the dentist essentially and for a year focused on her own oral hygiene and, in particular, caring for these deep gum pockets.

And she went back a year later to the same dentist because she knew that she was making progress. She felt way different. Her body was feeling healthier.

She could feel the differences in her mouth. And the dentist said, "Wow! I must have mismeasured because last year you had a ten plus millimeter pocket. And now you only have a three millimeter pocket."

Now, in dental world that's a miracle. That's an impossibility because those gum pockets are not supposed to shrink and re-adhere to the tooth root. But here we are 18 years later with OraWellness. We've got, I don't know, thousands of people out there with their own dental miracles to share at this point, who have used our Healthy Mouth System to achieve very similar results from advanced gum disease.

Carla: Okay, so you developed a system. And so I suppose as we go through our interview here today, Will, we'll get to those steps that she took to actually heal herself of that advanced gum disease. Okay. So let's do that.

So let's start with the kids. And so the reason why I want to talk to you about this is is that we don't really pay attention to oral health all that much and don't really realize how impactful it is for the rest of our bodies, as well, not just our mouths, but other things that are going on in our bodies.

And so I think that it's so important to talk to parents about this because with your system, there's a way to brush. There's certain things to use. There's all kinds of things that we don't really think about. We just grab a tube of toothpaste and fire away. But there's so much more to it than that. So let's start with the children and so the little ones.

So what do you say to that advice when people talk about tooth decay and what causes it in children? And they say that breastfeeding is a way that babies get tooth decay. What do you say about that?

Will: Yeah. This is a real frustration for me because our culture has some very misguided understandings about tooth decay, the nature of tooth decay, the cause of it. And so what the research really says and what our culture understands are really vastly different. And I hope with our discussion here today, with the short amount of time that we'll spend, we'll be able to really cover some ground. And anybody listening whose intrigued by this can dig in deeper and look at other strategies for them.

So babies, breastfeeding, tooth decay issue. Let me just state here for the record that anyone telling a mom to stop breastfeeding her baby because mother's milk is going to cause tooth decay has literally thrown the baby out with the bath water. They've lost sight of the whole-body health and the fact that whole-body health is primary and have an incomplete understanding

of the cause of tooth decay. Now, for anybody listening, I know that I may be speaking about your dentist here. But to have misinformation of this degree circulating is dreadful for the health of our future generations. Really, I'd be curious to hear what the "experts" suggest is the new and improved substitute for breast milk. That's ridiculous. So at this point, I will get off my soapbox about that issue and back to the question here.

So tooth decay is rampant, of course. If you consider the fact that tooth decay, not only undermines our health, but also our wallets, at least here in the U.S.—and I'm sure it's the same thing for you guys in Canada—the three top ways we spend money on medical are number one heart disease, number two cancer, and number three dental bills. So you'd expect cancer and heart disease to be up there. But I was surprised when I first heard this statistic. It's crazy.

So what do we do about it? Is it a good time now to lay down a baseline of information for your listeners that we can build on?

Carla: Yeah, sure. Sure, sure.

Will: So we find one main problem most of us have regarding really understanding the full story. The cause of tooth decay is best summed up in a German word. This German word is *einstellung*. *Einstellung* means, the ability to learn new information because we think we already know it. So let me give you an example, Carla. Now, I know you probably know more about the cause of tooth decay than the average person. But play with me here.

Carla: Okay.

Will: What causes teeth to decay? Can you explain that to me?

Carla: Well, I don't want to be...

Will: Go ahead. What does our culture say?

Carla: Oh, our culture?

Will: Yeah. Yeah. Yeah.

Carla: Okay. Our culture would say sugar and not brushing your teeth and, yeah, just leaving your teeth dirty. That's what causes tooth decay. That's what our culture would say.

Will: Exactly. So we've been taught by our parents and the dental community, and the culture at large that the cause of tooth decay is bad bugs eating fermentable carbohydrates in the mouth. And while I agree that these bad bugs are part of the cause of decay, they're not the whole story.

But, if a person believes that they already know the cause of decay and what to do about it, then they'll be less able to learn the whole story and thus the real cause of decay, which we'll cover today. Does that make sense?

Carla: Yes, it does.

Will: Okay. So I just want to take a moment to shine a light on how silly we can be when we accept this story without fully questioning it. Our culture thinks it understands the cause of tooth decay, yet 98 percent of Americans—and I'll bet it's the same with Canadians—have some active form of oral disease. So help me out here, Carla. Doesn't it seem to you that if we really understood the cause of tooth decay, those numbers would be a lot lower?

Carla: Yeah, we're missing something here.

Will: Yeah. Totally! So to dive into

this, let's all empty our minds of what we think we understand on the cause of tooth decay. And let's dive into this subject together.

So here's how we've come to understand tooth decay, as well as the path to never having another cavity in your life.

The first fact that's put into place is that our teeth are living tissue. They're alive. Teeth have blood circulation going into and out of each one. They're living tissue. This fact alone changes the game, as many people think of teeth as similar to our fingernails. However, teeth are living circulating tissue.

Now, to take this a step further, let's discuss some very helpful research on this subject. The work of Dr. Ralph Steinman has played a crucial role in increasing our understanding regarding the full story about the cause of decay. Now, before we go into this, let me state that when learning from research of folks like Dr. Steinman, we don't endorse testing on animals. Let's please learn from these studies at least, so we don't have to conduct further crazy experimentation like this.

So Dr. Steinman conducted tens of thousands of experiments on lab rats to determine the cause of tooth decay. And what he found is extremely different than what we as a culture understand is the cause of tooth decay today. The first thing he discovered is that our teeth have a flow of fluid through them called dentinal fluid flow. Now, the dentin is the layer of tissue in each of our teeth just between the hard outer enamel surface and the soft tooth pulp.

So Dr. Steinman discovered that this dentinal fluid flow is part of our blood circulation that occurs into and out of each of our teeth. And he discovered that when the

dentinal fluid flow is flowing from the inside of the tooth out, the teeth are extremely resistant to decay. However, when the fluid flow isn't flowing from the inside out and, in fact, reverses and flows from the surface of the tooth to the inner portion, decay sets in very quickly.

Now, if you think about what we generally recognize in our culture as the cause of tooth decay being the bad bugs in our mouth, if the dentinal fluid is flowing the healthy way, this flow keeps the bad bugs from being able to take up residence and decay the teeth. The flow literally washes them out of our teeth. It's like they have to swim upstream to get into the teeth. Now, if on the other hand, the dentinal fluid flow reverses, now it's like the bad bugs get a free pass on the highway right into the inner portions of our teeth.

Carla: So how do we get that fluid to flow properly?

Will: Right. Great question. So Dr. Steinman found that dentinal fluid flow is controlled by the parotid gland, which is part of the salivary system and is located in our lower jaw region. He then discovered that the parotid gland is controlled by a part of our brain called the hypothalamus.

So for the sake of simplicity here, we'll call this system of the relationship between dentinal fluid flow, the parotid gland, and the hypothalamus simply dentinal fluid transport for the sake of simplicity. Then he said, just like you just asked, "I wonder what causes the parotid gland to promote the proper flow of dentinal fluid? And what causes it to go the wrong way?"

So he went about discovering this. And what he found is that the dentinal fluid to flow one way or the other, what caused it

was the balance of the mineral phosphorous in the blood. Now, that's kind of a trip if you think about it. And that's a big gem. So I'm going to repeat it.

What determines whether our teeth are resistant to decay or prone to decay is the balance of the mineral phosphorous in our blood. What Dr. Steinman found through extensive experimentation is that when he induced a low blood phosphorous level, the whole dentinal fluid flow system went into self-destruct mode and decay quickly followed. He also proved that when blood phosphorous was maintained high enough, dentinal fluid flowed in the correct way, the healthy way. And he found very little or sometimes zero decay.

Now, a little knowledge can be dangerous. So before we go grab some phosphorous supplements thinking all we need to do is supplement phosphorous, it's not that simple, unfortunately. So here's the game. Yes, bad bugs in the mouth are part of the issue of decay. However, they are not the primary issue. And diet plays a foundational role in whether we experience resistance to decay or a tendency to decay easily.

So I think it's probably time to answer your direct question of how do we get it to flow the right way. And the good news is conventional wisdom does have it correct in dentistry that sugar is a big issue. Sugar really is the culprit that our culture holds it to be. However, I'd really need to put more flesh on that subject because, despite the fact that conventional wisdom is correct, we are all sugar addicts.

Now, I say that literally because unless a person was raised in a very contrarian way, we're all at one level or another of the same what I call the Twinkie generation. And this is the problem. Okay. We consider

sugar to be most likely many times worse for us than our culture understands. So 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 healthy vital lives.

I really can't throw sugar under the bus hard enough. So let me see, where should we start with this one? Let's start with tooth decay and grasping the full story behind why sugar is so damaging to our teeth. We're told that sugar causes tooth decay because it sits on our teeth, like you already shared with us. But like our friend, Ramiel Nagel, the author of *Cure Tooth Decay* so eloquently points out, processed sugar actually resists bacterial degradation really well. So while sugar in the mouth is part of the issue, there's a more primary way sugar causes tooth decay.

So if we go back to the work of Dr. Steinman, when he went about determining that blood phosphorous levels cause dentinal fluid to flow the disease-causing way, he also determined what foods provoked the changes in blood phosphorous levels. Here it is. Sugar is one of the major culprits that lowers blood phosphorous.

We actually have an article on our blog titled "Why Do Teeth Decay and How We Can Stop It." That goes into this 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 tooth decay. The image shows on one hand of the scale, it's got phosphorous. And on the other hand, it's got sugar, as well as many other heavy hitters that cause blood phosphorous to go down.

So the reason we pick on sugar, in particular, is because almost every person we know is addicted to sugar. And most of us don't know it.

Now, I'm going to be a little bit in your face here, Carla, and listeners. If you are listening to this and don't think you're addicted to sugar, you're kidding yourself. Really. Unfortunately. Unless, you were raised by your parents and did not consume any sugars for the first several years of your life, you have some level of sugar addiction.

So the game, as I see it, is to be aware of sugar's notorious way of creeping into our daily habit. And, in truth, the very fact that to experience the same endorphin enjoyment from a bite of something sweet requires that you consume something a little sweeter today than yesterday clearly shows how sugar slowly creeps more and more into our lives.

So to help put this into perspective, let me share with you the very best way to lower your blood phosphorous and make your teeth easy to decay is this, is eating or drinking anything sweet between meals. This includes snacking on anything sweet between meals, drinking a beverage that's sweetened. As a side note, I don't care if that's a soda or some fancy healthy kombucha or something like that. The body doesn't distinguish between the quality of sugar. In other words, blood phosphorous will be imbalanced, whether we think we're doing good with the drink or not.

Carla: Okay, what about fruit? Kids snack on fruit a lot.

Will: Right. Kids do snack on fruit a lot. And parents think that giving kids fruit is healthy. And it is. And it isn't. Let me just share this with you. One of the biggest issues I think we can change as parents in regards to children and fruit is this. Think about the size of your child.

Now, I know when I was a kid going to school, my mom thinking

she was doing well, would put these little boxes of raisins in my lunchbox. Now, that box of raisins is probably pretty fine, except commercial grapes are sprayed with heavy pesticides, which are highly fluorinated and are not the healthiest thing. But aside from that and the whole commercial/conventional crops versus organic issue and pesticide exposure, just on the basis of how much sugar is in that little box of raisins, you've got to take into consideration the size of the child.

If I sat down when I was 40 or 50 pounds eating a box of raisins, that would be like me eating four or five boxes of raisins now. That's going to spike my blood sugar sure as anything. So we really want to think as parents from the standpoint of portioning the fruit that we're going to give to our children.

Giving a kid an apple is not a wise move, in my opinion. Giving a child a few slices of an apple with some quality almond butter or quality cheese or something like that to help to slow down the absorption of sugar into the bloodstream is fine.

Sure, there are healthy benefits to fruits. Don't get me wrong. I don't want to throw fruits under the bus. But I think we can overdo it. And surely, we can overdo it with fruit juice, which you're then missing a lot of the beneficial antioxidants and polyphenols that are in fruit. And now you're just getting a sugar dose.

Carla: Right. No fiber.

Will: Right. Right.

Carla: Yeah. Okay. So I want to back up a little bit, Will. Okay. So we were talking about what causes tooth decay. So we've got the low phosphorous and the flow through the teeth. And then sugar can be one of those things, as well, that

actually contributes to that loss of phosphorous or the lowering of phosphorous. So what else causes tooth decay? What are the main things that can cause tooth decay, as well?

Will: Well, I think that Dr. Steinman did a really good job identifying this.

And, essentially, what he found is you really owe it to yourself to watch what you're eating. I think that diet is really one of the primary pillars that we're talking about here—diet, stress, lifestyle. What Dr. Steinman found is you can feed a lab rat a diet that would otherwise be really prone to resist decay. In other words, they're keeping their blood phosphorous levels at a good level to where the dentinal fluid flow is flowing the healthy way. And if you put that rat, who's eating well, in a stressful environment, it's still going to get decay.

Now, let me back up. Even though we're about oral health here and oral wellness, we really broaden this out very quickly. We do not over-compartmentalize the body. And we really consider ourselves the canary in a coal mine that if you've got tooth decay issues, if you've got mouth issues, the mouth is just a reflection of what's going on in the rest of the body.

So it's really the most surface level of inside the body that we get to have a view of easily. Every farmer knows that you don't ever buy a horse without looking at its teeth because the teeth are going to tell you the relative health of the rest of that animal.

So that can be a bummer to hear. "Oh, I've got all sorts of cavities and problems." But it can be very sobering and empowering, too, when we stop and say, "Okay, I can stick my head in the mud about this issue and just turn off this podcast and not listen to this anymore, turn

off this interview. I don't like what this guy is saying." Or say, "Okay, let me really wrap my head around this."

And the good news is that the information is out there. A lot of it's on our site. We're not the only ones out there talking about it. But we have a lot of helpful information on our site to assist people along this path to quickly get through this learning curve so that you can establish some really big pieces of the puzzle like lower the amount of sugar you're eating, raise the amount of quality fats that you're eating. Okay. And I don't really know the level of understanding of your community here, Carla. So I apologize if this is going too simple. But...

Carla: They're smart. They're smart.

Will: Okay. And I don't know how much real food you're going into in this summit. But here's the issue. What conventional wisdom understands is healthy fats is 180 degrees from what the research really says, unfortunately.

So we as a culture have been misguided to believe that saturated fats are bad for us and vegetable oils are good for us because why? Because it lowers the risk of heart disease, and blah, blah, blah. But there's a lot of people way smarter and more informed and more educated than I am out there talking on this exact subject and really debunking this myth, this theory, and helping us realize.

Let's really put this into perspective. Okay. Humans have been living on saturated fats, living vital lives for I don't know, tens of thousands of years, at least, hundreds of thousands of years. And then all of the sudden we're introduced to vegetable oils about 60 years ago or so. Or actually, vegetable oils were introduced about 90 years ago. And

about 60 years ago, heart disease really starting ramping up.

And we get sold this bill of goods, essentially, that says the vegetable oils are good for us and saturated fat is bad for us. Now experts think, they are coming around and saying, “Well, well, wait, we threw eggs prematurely under the bus. We threw butter prematurely under the bus. These are actually very good for you.” And the story is changing.

So what we have to keep in mind in regards to tooth decay is that indigenous peoples have eaten for millennia ten times the fat content that Americans, at least North Americans have been eating for the past 100 years. Okay. So that’s a lot of fat, Carla. And they had little to no tooth decay.

So should I go into the story of Weston Price? Do you know who Weston Price is? Should we go into that whole story?

Carla: Yeah, let’s do it. I love Weston Price.

Will: So we’ve really got to do this justice because Weston Price did a lot of work for us. Now, Weston Price was a dentist. He’s actually originally a Canadian that then moved to Ohio back in the 1930s and saw a real increase in tooth decay going on. He was like, “What’s going on?”

So he did our global society a huge favor because you couldn’t do the research now. What he did is he traveled throughout the world. And he went to indigenous cultures that were living in their “primitive ways” still. And he studied their lifestyle, their diets, their dentition—the number of cavities in their heads—and all that.

And what he found is an amazing historical record for us all now. He found that traditional peoples’

eating their native diets had on average, four times the minerals in their diets and ten times the fat-soluble vitamins as North Americans in the 1930s. Now, mind you that was well before the low-fat propaganda blitz hit us all.

So if you want to support your oral health, eating a diet very rich in minerals and healthy fats is foundational. Incidentally, with one of the villages Dr. Price visited, the villagers allowed Dr. Price to study the skulls of the dead from that village. And it may be interesting to note that Dr. Price found one cavity in 100 skulls. Now, that’s one cavity in 3,200 teeth in those skulls. So remember that the next time you hear anyone telling you that eating a low-fat diet is health giving.

So specific foods to support oral health, here we go. Organ meats from healthy animals living on their proper feeds. This includes beef liver, chicken liver, beef heart, fish eggs, cod liver oil. Our grandparents were right. Cod liver oil is great for us. Quality muscle meats, particularly fatty cuts. One of our favorites is a chuck roast from pasture-raised and finished cattle.

Another friend of ours Dr. Cate Shanahan author of the books *Deep Nutrition* and *Food Rules* talks about how the benefits of eating meats that are cut on the bone are very, very good for us because the quality fats in the bones leach into the meats, as well, which brings us to another foundational aspect of healthy foods that our grandparents were right. Bone stocks, and broths are critical. We literally have a crockpot with bones cooking in it on our kitchen counter everyday. We draw from this pot of gold anytime we’re going to make anything that requires a liquid like soups, sauces, stews, anything like that.

So the old Jewish penicillin of grandma’s chicken stew, it’s accurate. There are nutritional components. And we’ll go to the pharmacy or the health food store or wherever and go buy supplements that have been extruded and denatured and dried and stuck in to a capsule and are way lesser in potency than what we could make for pennies on the dollar if we would just use bone stocks at home.

Carla: Yeah. It’s amazing. So this is the internal. This is what we can do internally. And I think that this is so important that we touched on this subject, Will, because I think a lot of people aren’t thinking about that, what we take in and what we eat and nutrition and how that affects the health of our teeth.

But we all brush our teeth. We still need to do that. Right? And you folks, part of your program, or what you’ve developed at OraWellness is you have special brushing products and brushes and techniques and toothpaste. First, can you explain some of those things? And second, are they easy to teach children?

Will: Great. Great, great question! So what I’d like to do is offer your listeners a way to determine if the products they use in their oral hygiene was designed from place that optimally supports oral health or not. That way, I just don’t feel like I’m sounding like I’m selling our products. Is that okay with you, Carla?

Carla: Yeah. Sure.

Will: Great. Okay. So specifically, we want to explore why some oral health products are made with less than ideal ingredients, in our opinion. So here’s how we’ve come to think about this. Some oral hygiene products have ingredients that we personally wouldn’t want to use in our mouths and other

products have ingredients that are just fine. So in order to better explain it, let's discuss an oral health myth in our culture.

So there's a myth that is really common. It's a myth because it's not true. It's been proven false many times in many ways. This myth can best be encapsulated as "What goes in the mouth stays in the mouth." So that's the myth, "What goes in the mouth, stays in the mouth."

In other words, we as a culture believe that we can put something in our mouth and keep that product just in our mouth. We can put something that we don't want to swallow in the mouth. And if we rinse after, we won't get any of this product in our system.

However, it's a myth. It's not true. It's been proven that whatever we put in our mouth is absorbed into the bloodstream through the cheek and gum tissue. In some cases, actually faster than if we swallowed it and took it in through the stomach through the normal digestive tract.

So we see this myth as being related to the mental disconnect our culture has with our mouths that we've discussed. In general, we as a culture think that we can somehow treat the mouth as separate from the rest of the body, put products into the mouth, and keep it from the rest of the body. All this despite the fact that the mouth is the main pathway to introduce new stuff from outside the body into our bodies. So when you think of it this way, it's, wow, you can see how silly the myth really is.

So with this myth debunked, let's look at why the quality of oral hygiene products can vary so much. It all comes from the mindset of the creators of the formula. If the creators of the formula believe that the myth of what goes in the

mouth stays in the mouth is true, then they'll feel comfortable using ingredients in their oral hygiene products that from our perspective don't really belong in living bodies.

If on the other hand, the creators of a formula understand that this myth is not true and realize that whatever we put something in our mouth that's going into the body, then they're going to create a formulation that takes this into consideration. So when you read the ingredients on an oral hygiene product, look to see if you can tell whether the creators of that formula still believe this myth or not. We have found that almost all products on the market have ingredients that really don't belong in the body, unfortunately.

Carla: Okay, so what are some of those ingredients?

Will: Well, without getting either of us in trouble with any regulatory agencies, some obvious ones... Dentistry is full of nightmarish ingredients. When we first got into this we figured, "We're going to help people navigate this path to greater oral health," and started diving in deeper and deeper and realized, "Oh, this rabbit hole is turning into a rat hole." It's not a very pretty picture.

But an easy one to throw under the bus is fluoride. Fluoride is a really hotly argued subject. Now, there's no right or wrong answer here. And everybody listening has an opinion on this based on the level of enculturation that we have accepted to be true.

But let's just state here that if you're going to use fluoride in the mouth that's going to go into the rest of the body...And fluoride toothpaste manufacturers know this. In fact, they've been required to label a tube of toothpaste with something saying that if a child under six

swallows more than a pea-sized amount, call the poison control center. Well, that's because of the fluoride in the toothpaste.

Now, fluoride ostensibly assists in resisting tooth decay. But fluoride has some really big drawbacks systemically, as well. So really, it's a value judgment question for the listener. Am I willing to forego the systemic risks that fluoride plays if I ingest some of this accidentally? Or the fact that it gets absorbed through the cheek and gum tissue is enough for me. Am I willing to absorb that risk for the potential benefit that it's going to do on my teeth?

Now, if fluoride were the only way to assist us to navigate to greater oral health and be free of tooth decay, then I might have to consider it a little bit more carefully. But it's not. So I don't see any reason to put fluoride in the mouth, frankly.

That's kind of our emblematic... You can throw fluoride under the bus really easily. There are a lot of other ingredients out there that are crazy. Here's just a general rule of thumb. If you pick up your tube of toothpaste and you start looking at the ingredients, if you have trouble pronouncing it, it's probably, maybe questionable.

Carla: Yeah. And a lot of those are foaming agents so that it just feels better in your mouth. It feels like it's working. It's just a trick.

Will: Right. You brought up another one. So there's a very common foaming agent in many, many commercial toothpastes. It's acronym is SLS. It's sodium lauryl sulfate. And it's a skin irritant. And our gum tissue—hello!—is skin. And it irritates the gum tissue. It buggers the gum tissue. And that's bad news.

So here's the issue, and call me crazy, Carla, if you need to. But I believe that anything we choose to put in our mouth, 100 percent of the ingredients should be there intentionally to help in some way. It's not just to fill a tube. It's not just to make it foamy because our culture expects toothpaste to foam.

Because the bottom line is this, even if most of the ingredients in a paste are good, if it's got SLS in it, then it's taking away from your bodies innate functional capacity to do the best job it can to keep you from having tooth decay and gum disease. Either one, it doesn't really matter.

Carla: Yeah. So what ingredients do you actually use in your products? Because you've done all the research. Susan is better. Her teeth are better. So what do you use? What do people use in their toothpaste?

Will: So we have a number of products at OraWellness.com. Our spearhead product is an organic toothpaste alternative. It takes a little bit of adjusting to get to because there's no foaming. It's actually not even a paste. It's an oil.

And so you drip a couple of drops of our Healthy Mouth Blend on your toothbrush, and brush with that. If you think about it, the two main flavors of toothpaste that our culture uses are peppermint, spearmint—the mints—and cinnamon.

Well, why are those flavors there? Is it just because, "Oh, we want fresh breath?" No. Actually there's a good reason why they're there. Because these plant botanicals, in their original form, these plant botanicals are very effective in lowering the incident in the bugs implicated with tooth decay and gum disease. Cinnamon, in particular.

Now, there's one main bug called strep mutans. Streptococcus mutans is the official term that is implicated with tooth decay. And cinnamon is the number one heavy hitter to deal with strep mutans. It works really well. But here's the problem. We've lost sight of the fact of why the mints and cinnamon are in these tooth products and to where now the concentrations are not sufficient enough to actually have them be effective. And now, they're just flavor.

Carla: Yeah, so they were originally in there because they had a function.

Will: Right. But profits got ahold of commercial products and they said, "Whoa! Hey, we can make this for cheaper if we just use this artificial cinnamon flavor." And they lost the baby with the bath water with that. They lost the beneficial quality.

Carla: It's almost like you get fruit juice or something like that. And it says "Made with real fruit." And you're thinking, "Hmm. I thought that it really should be real fruit in the first place." And if we have to say things like that, what was it before?

Will: Isn't fruit juice, fruit juice?

Carla: No, it isn't. It's flavored water.

Will: Oh, no, it's water and high-fructose corn syrup and this concentrated stuff.

Carla: Flavor. Yeah, same deal with toothpaste. Okay. So if it doesn't have organic essential oils, maybe it's not peppermint itself. It's the flavor.

Will: Exactly. Yeah. And even if it does have peppermint in it, you've got to see whether it's off a strong enough...The bottom line is this. And I'm speaking to you who are listening here. Do you have tooth

decay? When you brush your teeth, and particularly when you floss, do you find blood on your floss?

Because if you find blood on your floss, that is our go to no brainer question. That's the sign that you've got active infection in that gum pocket. And I shared with you the sad statistic is if you're over 30 years old, chances are greater than 9 out of 10 that you've got some active form of gum disease going on.

So if you've got some gum disease, if you've got some tooth decay, and you're using a product that has peppermint or other herbal botanicals in it, are the botanicals strong enough? Are they really doing their job? And I'm not saying that there's a magic bullet. Our product is not a magic bullet. It's not saying, "Everyone who has tooth decay is going to be cavity-free." It doesn't work that way.

We approach this from two angles, as we've shared with you. We have this in the mouth approach, which is what we're talking about now. And then, we also have the system-wide immune support, which is dealing with sugar and

high quality fats in the diet and just really eating a diet that has the sufficient building blocks and that the body can actually go, "Wow! Hey, we got the nutrition we need here. Let's get the job done."

Carla: Yes. Okay, so let's go to the brushing method. This is another really interesting piece that you folks talk about. And I've actually watched some videos that you've done about this. So there's a brushing method that you talk about—the Bass method. And so how does it support oral health? And one more thing, is it easy to teach our kids?

Will: That's right. I've got to go back to that. You asked me that earlier, too.

Carla: That's okay. I ask 14 questions at once usually. So that's okay.

Will: So shall I tell the story of Dr. Bass here, Carla? Would that work?

Carla: Let's do it!

Will: Okay. So Dr. Bass is another one of these guys like Weston Price. Back in the 30s, Dr. Bass was just a notable figure. Nobody's ever heard of this guy. But he did some really important work. He was a medical doctor. He was a parasitologist, actually. He was the first medical doctor to carry a microscope west of the Mississippi River. So that puts you into a historical timeframe here. And so Mississippi River, sorry you're in Canada. You get the idea. Our water probably comes from you guys.

So the Mississippi River, he crossed that. We're talking 1920s, 1930s roughly, right around the same time as Weston Price. And Dr. Bass was a young medical doctor, went to his dentist, said, "Ooh, you've got periodontal disease. You've got advanced gum disease. You're in trouble. Let's pull all your teeth."

And rather than going that route, because he was an empowered individual, he said, "Well, let's hold off. Let me go do some work on my own." And he went back to his lab. He had a microscope. And he took plaque samples out from along his gum line. He looked at them. And he said, "Whoa! I've got a whole something going on in my mouth here." And he went about designing a toothbrush and a brushing method that through his own microscopic research lowered the presence of bad bugs in his mouth.

Necessity is the mother of invention. He's like, "I want to keep my teeth. I've got to figure out how to do this." Right. So he went through this trial and error.

And what he found is that all the toothbrushes on the market back in his day, as well as today, have way too many bristles in them. They're all just about cleaning the surface of the tooth. And they're not designed to disrupt and disorganize the bad bugs implicated with gum disease.

Now, the bugs with gum disease are not living on the tooth. They're living down in the gum pocket, which is that lip. They're the fold of skin between the gum tissue and the tooth root. And so you need to have a technique and a brush that effectively disrupts and disorganizes the efforts of these bad bugs because they can and do colonize the gum line.

Now, here's the bad news, Carla. The mouth is connected to the whole body. And these bugs, once colonized in the mouth, and if you find that you've got blood on your floss, they can and do have access to your bloodstream. And they swim upstream. You better believe they do. In fact, the same bad bugs implicated with gum disease and laying down plaque in the mouth are the bugs implicated with heart disease and laying down plaque in arteries. So it's the same nasty invasive species, if you will.

And we really consider the mouth to be the gateway, if you will. And this is an enemy inside the gates. It's taking up residence in our body, inside the gum pocket proliferating like crazy. It's kind of outside the reach of the immune system because it's essentially outside the body. But it's in a fold that is protected. And so they're outside the body. But they're in the body, kind of a trippy reality. And then they can colonize, build their numbers up, and then mount attacks on the body. The immune systems goes, "Whoa! We've got a systemic infection here. We've got to throw up systemic inflammation."

Well, chronic systemic inflammation, I'm going to be one to argue, for many years now that gum disease is a major contributor to systemic inflammation in the body, which is autoimmune. And I think that we, as a culture, are just beginning to scrape the surface of realizing that autoimmune diseases are humungous!

So what do you do for kids? The Bass brushing method is really, really simple to teach to kids. What I suggest is that we've got a free video on our site called "How to Brush Your Teeth to Reduce Gum Disease." Parents can learn that. So really it's a two-step thing. Parents need to learn the technique, model the technique, and then have a child watch the video. It's simple. It's not that long. I'm not particularly exciting to listen to or watch. But this is the technique. And you just wiggle it and wiggle it.

And we actually had planned to shoot a series of videos talking about this Bass method and, in particular, shoot it specifically for kids "Okay!" and make it more fun and more uplifting. And I just think it would be powerful because if we can teach kids this, it is so easy to stop gum disease from being able to get a foothold in an individual's body. It's so much easier.

A stitch in time saves nine. If we're able to address this early, it will never take root in the child's system. Whereas, if we're dealing with it like most adults do, like, "Oops! Oh, you've got advanced gum disease now." Well, now there's a little more work involved. But as a child, gosh, it's so simple.

And if I can plug something else here since this is focused for kids, parents and caregivers, the Bass Brush is excellent. And they're super cheap. We give them away pretty darn quickly just to get them out there

into the culture and get people using them to benefit from them.

If you want another tool that really, really helps, get an oral irrigator. It's a Waterpik or a Hydro Floss or something like that. Waterpiks are very, very effective for kids because it consistently disrupts and disorganizes the bad bugs in the mouth. It just keeps them from settling in and being able to

congregate and colonize and start digging in deeper. And if a kid gets on the habit of using an oral irrigator early, they're just not going to have issues.

Carla: Good tip.

Will: Yeah, that's a very useful one, I think.

Carla: So let's get back to those tips. So my final question for you, Will, is going to be what are your best tips for helping parents support the oral health of their families? And I know you mentioned some things. But I just want to put it in a nutshell. This, this, this, this, and this. And especially, too, if you can add maybe some things that you would use on your children's teeth. You mentioned peppermint. But I'm sure there are others that could be really useful for parents.

Will: Sure. You bet. I've got to put a little bit of a warning out there. I don't want to mislead someone listening to say, "Oh, I can brush my teeth with straight peppermint oil or straight cinnamon oil." These are concentrated plant botanicals if you're using essential oils. And you've got to be really careful.

So the game is to have it dilute enough to where it does not challenge the gum tissue, but strong enough to where it disrupts and disorganizes the bugs implicated with tooth decay and gum disease. So that said, learn the whole story

of the cause of tooth decay and gum disease. And much of it, we've covered here with you guys today.

By learning this material yourself, you can share it with your children. We can continue to change the cultural misunderstandings we have around the cause of tooth decay and gum disease. And really, we consider this to be number one because without awareness, nothing really changes.

The work that you're doing here, Carla, to help the parents of teens and kids grasp how to live healthy or more vital lives is critical because we don't know what we don't know. And so that's really where we harp again and again.

We invite any listeners to go to our website to OraWellness.com. We've got a free video tutorial series there to learn from. They're short and engaging videos that will show you how to raise cavity-free kids. They talk about diet: what to eat, what not to eat. It goes into more detail than what we've done here. And it's broken up into little chunks that'll help.

As far as brushing teeth with kids, it's important, of course, especially if the child is already developing a sweet tooth. However, we consider it more important that the child establish a healthy positive association with brushing, than to get the teeth brushed at all costs. We've heard of some parents ask us about pinning the child down to brush.

Carla: Oh, boy!

Will: Yeah. I think this causes more harm in the association that the child will have with oral hygiene than any benefit they'll get from that one brushing. We find it much better to allow younger kids to explore brushing on their own, with adult supervision, of course.

So brushing at the same time as your kids really helps. If you've got younger kids, and they go to bed earlier, then brush your teeth earlier with them, as well, and just brush at the same time. One of the things that we used to do is we would trade brushing, so allowing your child to brush your teeth and then you brush theirs. You've got to be careful.

Carla: Like, "Oh, watch my eye! Watch my eye!"

Will: Yeah. Yeah. Again, but what you want to do is you want to establish a positive relationship with oral hygiene. And that's much more important than getting them scrubbed really clean, especially when you consider that we can scrub all we want and still get cavities if we're not supporting our systems from within.

So that and echoing again the watching the portions of sweets. You really, really got to watch that because it's so easy to...The thing that Dr. Steinman found is if we prop our bodies up on blood sugar, if we wake up and have a sweet breakfast, something sweet in our breakfast, and then mid-morning we have something else sweet...

Let's talk as adults. We have a sweet coffee drink with our breakfast. And then we have another sweet coffee drink. And then with lunch, maybe we'll have after lunch, we maybe have a little bit of a sweet snack, this is the surefire way to establish a life of tooth decay.

So what Steinman found was dripping sugar into the system on a consistent daily basis never gives the blood phosphorous the level that we need to where the dentinal fluid flows the right way and we actually flush bag bugs out of our teeth.

So really watch the number of doses, if you will. And I consider

it a drug. So the number of doses of sugar that you allow your child to take on, and yourself for that matter. And by the way parents, there's no fudging this. What I mean by that is if you really want to make changes in your family's life, you can't have your stash of whatever hidden because it doesn't work.

Carla: It doesn't work. Nope. You've got to walk the talk.

Will: Yeah. So the way to do it really, I feel is make desserts something that happen, but not every meal surely, and not every night. I'm a sugar addict like the rest of them. And I was raised on every night you've got to finish your meal to have dessert. And that's a dangerous slope because that programs the body to upregulate sugar. And it makes us sick and fat and disease-ridden.

And so really what we've got to do is ratchet that back, recalibrate our body's ability, our tongue's ability to taste sweet to where we don't require so much sugar to have that sweet tooth nourished because sweet food is okay for us. It's just it's a slippery slope that's more and more. It's a hungry monster. So we've really got to watch that and watch the number of doses.

And if you're dosing yourself more than a few times a week, then you're not really giving your body a chance to get on top of this whole circulation system in the mouth, as well as the rest of the body to navigate to optimal health and wellness, in my opinion.

Carla: Awesome tips, Will. Thank you so much. That was just an amazing exploration of oral health. And I really appreciate that, though. And thank you so much for being part of the Second Biannual Children's and Teen Health Summit.

And do you have anything else you'd like to share with our summit

participants about stuff you're doing or where to find you again and that kind of thing?

Will: Sure. Yeah. First of all, thank you so much for asking us to be a part of this, Carla. I think that oral health is something that is just so overlooked. It's just so easy to overlook and jump to more sexy subjects. And it's just so critical because we really consider oral health the headwaters to the whole body. So by not addressing the mouth, we're asking for trouble further downstream.

So anybody listening to this presentation, we've got lots of free resources on our website. We've got lots of videos there, obviously lots of articles on the subject of how to stop decay? What foods to eat. What not to eat. We've got free video tutorial series called "The 5 Steps to a Healthy Mouth" that I believe you'll have a link for your listeners to be able to access there. We welcome you to check that out. It's free. And we just create this free resources.

Susan and I literally built this business based on the premise of let's do no harm. Let's really help people. Let's just get out there and share this information that we find so beneficial and helpful. And thankfully, there's enough crazy people like us out there, who say, "Wow! I really want to look into this and take this into my own control and navigate this path to greater optimal oral health." And we've got lots of free resources on our site there to help you do that, if you so choose.

Carla: Okay. And also they have products. They have stuff that can help you to do this with your children.

Will: Sure, of course.

Carla: And we will definitely have a link to "The 5 Steps to a Healthy

Mouth" beside this talk here that you're listening to. So just look on the page there that you're on. And your website, Will, is OraWellness.com. Correct?

Will: Correct. Correct.

Carla: Okay. Awesome! Thanks so much, Will, for being part of the Second Biannual Children's & Teen Health Summit! And you have yourself an awesome afternoon!

Will: Thank you so much, Carla! Aloha!



Functional Dentistry: Recognizing the Signs and Symptoms of Oral Inflammation and Toxicity

Deanna Minich, PhD, CNS, IFMCP with Mary Ellen Chalmers, DMD

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The purpose of this presentation is to convey information. It is not intended to diagnose, treat, or cure your condition or to be a substitute for advice from your physician or other healthcare professional.

Dr. Minich: Hello, everybody This is Deanna Minich. Welcome to The Detox Summit. Today our special guest is Dr. Mary Ellen Chalmers. Dr. Chalmers is a dentist in group practice in Santa Rosa, California. And I know that many of you are going to find her a delight, because this is really what we want to know. One of the sources of toxins that we're exposed to is the toxins in our mouth.

And so Dr. Chalmers has a beautiful background of not just dentistry... And that by itself is a lot. It's a mouthful, right? But very specific form of dentistry and dental medicine, which is functional medicine combined with the art of dentistry. And she also has a background in naturopathic medicine. And that's something a little bit new. I did not know that about you.

We're going to talk about the toxins in the mouth and what you can do. And Dr. Chalmers will guide the way towards a better understanding of amalgams. So welcome, Dr. Chalmers, to The Detox Summit

Dr. Chalmers: Thank you, Deanna. I am absolutely thrilled to be here. And have an opportunity to give what I think is a little bit of a unique perspective on this very controversial topic about silver amalgam.

Dr. Minich: Yes, it is very unique, even this whole idea. And perhaps you can explain for all of the listeners. This might be a new field that not many people know about. But what is functional dental medicine? I'm curious how many people have even heard that before.

Dr. Chalmers: I think probably not many, given that there's a handful of dentists that have been educated through the Institute of Functional Medicine. But functional dental medicine or functional dentistry as I call it, it really originated with Richard Hansen, who was the first dentist to take the applied functional medicine in clinical practice residency I think back in 2006 or 2007. And he kind of developed this concept.

I met Richard in April of 2008 when we were both speaking at a conference together, and did my applied functional medicine and clinical practice residency in December. And at that conference, Dr. John Cline made a statement that standard American dentistry be an antecedent or trigger for chronic disease.

And that simple statement completely turned my thinking around. Up until then, I very much

practiced from the perspective that my job as a dentist was to reduce inflammation in the mouth. I think you remember—was it 2004?—that TIME magazine article, where they talked about inflammation is the secret killer. And I thought about, "Well, how are we contributing to inflammation in the mouth with the fillings that we put in and chronic periodontal disease and things like that?"

But when Dr. Cline made that statement and I started learning the functional medicine model, which is, of course, about antecedents, triggers, and mediators. Antecedents are things that exist in our body, and set the stage for chronic disease. Triggers are things that can trigger a crisis in the way I have patient come in and say, "You know, I was fine until I had that amalgams taken out without precaution," or, "I was fine until I had that root canal replaced." And then mediators are the things that exist that keep things going.

So when I started thinking about the mouth, and about the different conditions that can exist in the mouth from that perspective, everything changed. And the problem is there are really two different camps, I think, in dentistry. There's your evidence-based

dentist, who believes that the way we're practicing dentistry now is really the best root to health. And then you have the biological dentists who do a wonderful job with trying to address some of the toxic issues that we experience in dentistry.

But there is an absoluteness. I do believe mercury is bad. But, "All amalgams need to come out." "All root canals are bad. They all need to come out." "You shouldn't have implants placed." "Every surgery site, cavitations, osteonecrosis, and jaw infections all need to be treated."

And what functional medicine does is that it bridges that gap. It really allows us to determine what's appropriate for that patient because it's patient centered. So when you put functional medicine and have it as the bridge between medicine and dentistry, what the question becomes, "Is the patient a candidate? Is this patient affected by the amalgams that are in their mouth? By the root canals that are in their mouth? Does that periodontal disease have a systemic effect?" So it gives us a very unique perspective.

Dr. Minich: I've heard that phrase—I'm sure you have before—the eyes are the windows to the soul. And I think of the mouth the window into the body in so many ways because we can tell so much about a person's health by looking at the state of the gums, the teeth the tongue even, around the mouth. We can tell so much about nutrient deficiencies. And it's all right there if we know how to read that map.

Dr. Chalmers: It absolutely is. I completely agree with you. And in addition to that, really when we talked about, I think was it Mechnikov, who talked about death begins in the colon or the gut. I used to chuckle. In 2008 when I

first took that first class at IFM, they started talking about the gut. And it stopped at the top of the esophagus. And now, of course, it's all different we talk about the mouth. But really, the gut begins, digestion begins in the mouth.

Dr. Minich: Yes.

Dr. Chalmers: And the pharmaceuticals that have side effects and the patients that are affected by dry mouth, their salivary flow is compromised. And so they're not secreting those digestive proteins that begin the digestive process in the mouth. And how does that affect the gut all the way down?

I think it was Donna Shalala, back in 2000 when she was of President Clinton's Secretary of Health and Human Services, she said you cannot consider yourself healthy—oral health is integral to general health—and a person can't consider themselves healthy lest they have true oral health.

Dr. Minich: So what if you have somebody come into your office and you examine them, and they happen to be the epitome of good oral health and having a great mouth, great teeth, great gums, what would that look like? Just so that we know kind of on the other side of spectrum what we need to aspire to. Or what would a dentist like you be looking for?

Dr. Chalmers: I described this once. When I look at a mouth, I try to look for a mouth that's at peace. And it isn't so much dictated by whether they have amalgam or they don't have amalgam. Obviously, the mercury is a toxin. But it's more. Are the gums red and bleeding? In a healthy mouth, the tissues are firm and pink. When you floss, or when you toothpick in between your teeth, your gum don't bleed. You have a sweet, fresh breath. You're

not concerned about bad breath. When you smile...Because there is a spiritual aspect to the mouth, as well. There's a lovely little poem that I found, published in 1914, "The Value of the Smile." And they talked about what it does for the spirit to just effortlessly be able to smile and know that your smile is pleasing.

Dr. Minich: I like that.

Dr. Chalmers: Yeah. It's really a cute old little book. The filling materials are shaped properly and that they flow with what's appropriate for that patient. That their bite is harmonious. There was a couple of articles written actually in 2010. One was "Mastication and the Mind." The other was "Occlusion in the Brain," translated from Japan and Germany. And it talked about the importance of cognition, that if our occlusion is altered, the way our teeth come together, if that is affected in any way, it can affect our thought processes. Actually, one of the papers stated that when they evaluated patients in nursing homes, the ones that had the highest rate of dementia were the people with the fewest amount of teeth.

Dr. Minich: Now what does that mean exactly? I think that that is a new concept. I don't think that many people realize that their bite in their mouth has anything to do with their brain.

Dr. Chalmers: Well, there are fibers that attach the teeth to the bone. And they're called the proprioceptive fibers. And they send signals back to the brain that affect cognition. It's important for a patient to have a well-balanced bite.

Dr. Minich: So there can be a lot of things that stand in the way of things like a well-balanced bite. And now on the other side of the spectrum if we look at what would an unhealthy, toxic mouth look

like, what should we be looking for there?

Dr. Chalmers: All right, the first thing I do when I do my exam is we palpate the head and neck structures. We look for pain in the neck muscles. We look for fuller lymph nodes. We look inside the mouth. We look at the gingival tissues, the gum tissues. And we look at the oral tissues, the mucosa, the tissues on our cheeks. Sometimes if we see lesions there, they can be related to mixed metals. They can be related to old fillings.

We do oral cancer exams. Do their gums bleed? Is there a lot plaque? Can patients floss easily between their teeth? Sometimes they say, "You know, every time I eat, I get food trapped in a certain area." So that's an area of inflammation. We asked them, "Have you had any root canals?" not that all root canals are bad. Some patients have an immune system that manage the root canals very well. But other times we see patients with there's hidden infections in the jaw bones. And we need to evaluate for that.

We look for black pockmarked and corroded amalgams. There will be a PowerPoint that WILL accompany this presentation. And there's some pictures in there where you can see patients that have three different types of metal crowns, and some silver fillings, the mercury amalgams. And you'll see that the amalgams kind of HAVE a blackened surface area. And that's evidence of corrosion.

What that tells us is that the metals are talking to each other. It's a little battery. And when you have that kind of a battery, metal ions can be shed and absorbed into the mouth, into the soft tissues, and then in some patients can have an autoimmune response to that.

We also consider gluten. And we look for signs of gluten intolerance.

Dr. Minich: Now what would those look like in the mouth? How would you know if somebody had gluten intolerance?

Dr. Chalmers: I like to talk about it as a leaky mouth. When we think that from a cellular point of perspective—the formal term is the histological perspective—the oral tissues are very similar to that of the gut. So the way I have considered it is when we talk of a leaky gut as a result of gluten sensitivity or gluten tolerance, why would we think that that phenomenon is strictly relegated to the small intestine.

Patients with high decay rates. That's been documented in the literature that a high decay rate sometimes can be as a result of gluten sensitivity. What the gluten can do is trigger an inflammatory state. And actually one of the emerging concepts in dental decay is that decay may actually be a result of inflammation.

For years we've consider that decay happens because of bacteria. You eat much sugar the sugar feeds the bacteria. The acids produced by the bacteria break down the teeth. And then you get tooth decay. But I see plenty of patients who eat a lot of sugar, who don't take very good care of their mouth. And yet they don't have any issues with decay at all, where I have others who we can't seem to control of the decay, in spite of impeccable home care. So clearly inflammation is at play here.

There are white spots, certain hypocalcification. Little white spots on teeth can sometimes be an indicator that a patient is gluten sensitive. Lack of salivary flow. There is a strong correlation between Sjögren's syndrome, which

is an autoimmune disease, and gluten intolerance or celiac disease. That's just some of the ways that we keep in the back of our mind when we're evaluating a patient.

It is very interesting. We've started saying to patients who had tremendous issues with decay and in spite of watching their diet and brushing their teeth we can't seem to get the decay to stop, we've actually been testing them for gluten sensitivity or suggesting that they see their medical provider for gluten testing. It's interesting how many that we see come back with gluten issues.

Dr. Minich: Interesting. Any other food triggers that you see a connection with the mouth? Whether dairy or acids that we take in?

Dr. Chalmers: Acids is our big thing. And this is one of the very important things, especially if you have mercury amalgams. An acidic diet goes a long way towards promoting an oral environment that is going to leach corrosion. And it's going to have the interactions between the metals because a lot of us have metal crowns with amalgams right next door. And the different gradient of the metal with an acidic diet makes a big difference in terms of whether they're going to be a problem.

Another thing that's a real problem, frankly, is carbonated sodas, carbonated soft drinks, both in terms of how it affects the pH of the mouth and also what it does to tooth mineralization.

Dr. Minich: Yes.

Dr. Chalmers: So one of the things when you were talking about, what we look for in healthy mouth, we always on every patient we evaluate salivary pH. We have our little pH test strips. And, gosh, if can see

about a 6.8 or a 7 salivary pH we're really encouraging that patient and telling them they're doing a great job.

Likewise, if we see a salivary pH of about 6, 6.2 or even below 6—occasionally we'll see it in the 5s—then we immediately begin to counsel that patient on their diet or refer to a nutritionist to help them do so because it's critically important for their health.

Dr. Minich: So talk with us about one of the biggest offenders in the toxic realm, as it relates to the mouth, amalgams. Give us the skinny. If we have amalgams are we just automatically considered to be toxic? Is that a done deal? Do we get them removed? What do we replace them with? How soon do we do that? How do we do that?

I know that I have so many questions in my mind, which means that probably a lot of the listeners do, too.

Dr. Chalmers: Well, amalgam is a long-standing controversy within the dental profession. The American Dental Association has always maintained, for years that amalgam is a long-lasting safe material that when placed in the mouth is inert. And I think there certain parts of the statement that are absolutely true. Amalgams are very inexpensive to place. They do last a long time. But I think that the science is now pretty clear that the amalgams once placed in our mouths are not inert.

And this is where functional medicine makes such a difference. The real issue is do we have a patient that can manage the mercury that is being discharged by these amalgams. And how much mercury is being discharged is going to be affected by their diet. It's going to be affected by are there other metals in the mouth that

can contribute to an accelerated breakdown? What's their salivary pH?

There's a lot of factors. Stress. Stress affects salivary flow. Are they taking any pharmaceutical medications? If we have a decrease salivary flow then that's also going to have an effect on how sticky the plaque becomes and whether plaque is going to stick. And again that speaks to the pH and the whole oral environment.

For example, Dr. Oz did a great presentation on amalgam a year ago. And I would encourage if anybody can also take a look at that. I believe he has it online. But at the end of the day they showed that they used a Jerome vapor meter to show that these amalgams are not inert and that, in fact, mercury vapor is released.

And if you go and you take a look at my presentation you'll see a short video there produced by Dr. Tom Maguire, where he used that same thing. And he used the Jerome mercury vapor. And took it and scrubbed the top of an amalgam with a toothbrush, something we all do, right? We all brush our teeth. And showed the release of mercury vapor. One of the most important things to recognize is that these materials are not inert.

So then the overriding question becomes well how hazardous are they for me? And you know at the end of Dr. Oz's presentation, the two dentists there who did a great job explaining what some of the health hazards are. They said, "At the end of the day, we just don't know."

And I think this is where those of us trained in functional medicine and those who view whether it's the mouth or the rest of the body through the functional medicine lens can really say quite differently,

"Well, I think we do know."

What has helped so many of my patients in my practices that I work very closely with other functional medicine providers. I do the dentistry and I maintain their oral health. But I have providers that I refer to who can assess whether that patient has a heavy metal toxicity level, whether their levels of heavy metals are high. If we look at whether they have a large number of amalgams. That's something that we need to consider carefully, whether we need to remove those amalgams or not.

Dr. Minich: And can you tell us, too, what are the times we are getting the most out gassing of mercury from amalgams in the mouth? You mentioned brushing the teeth. What about chewing?

Dr. Chalmers: People who grind. People who grind, because again you're putting that friction. The friction is being placed on those amalgams. That's when you're going to have a high level of outgassing. People who consume a high level of acidic foods or carbonated soda, as I said, those amalgams are going to off gas.

And the other really important thing to consider is whether you've got cardiovascular disease. When they say, "Well, we really don't know whether they're a problem or not," one of the fundamental things that has changed I think in the conversation is that we're beginning to recognize, number one, Dr. Mark Houston published a phenomenal paper on the link between mercury and hypertension.

And in this paper he brilliantly outlined the pathways as to how mercury contributes to endothelial dysfunction in our blood cells that contributes to coronary heart disease, irregular heartbeat, and stroke. And so I think any patient

with hypertension, cerebrovascular disease, stroke, coronary heart disease, and if they have amalgams, they really need to be evaluated for mercury toxicity.

Another thing we've come to understand is it's the compounding of different toxins, where maybe a little bit of mercury wasn't an issue if that was the only toxin we're being exposed to. When we compound that with all the other toxins we're now exposed to in everyday life, that little bit of mercury all of a sudden becomes more significant.

And I will often say to patients, "I think this is why for years, for good reason, the ADA was able to say, 'We really don't think the problem,' because they weren't seeing the classic symptoms of mercury toxicity." And amalgam was developed in 1850. Life was simpler then. The amount of toxins that people were exposed to, it isn't the same as what we're exposed to today. So that's another very big shift.

And then finally I think the other thing that allows us to view mercury differently is that we're really beginning to understand what the physiological effects are. As we look at patients' genetics, we now know that we all have different genes that allow us to eliminate toxins. And people who present with certain kinds of limitations in their ability to detoxify as evidenced by different gene tests, we begin to think well that's someone that maybe should really consider not having this burden in their mouth and affecting the rest of their body.

Dr. Minich: So what are the first steps that somebody would go through in order to evaluate the amalgams in their mouth? Will they make an appointment with a functional dental expert such as yourself? And then would blood

tests be run? Or would there just be kind of a straightaway pathway into removing the amalgams? What would be the scenario?

Dr. Chalmers: The first step, I think, is to find a good dentist. And I've done a lot of work as I do this, as I educate. And as I looked at this issue, the biological dentists have really been at the forefront of saying, "Oh, we need to get all their amalgams out." However, there's so many patients with amalgams. And this is such a large issue that from a demographic perspective only one percent of the United States would consider themselves biological dentists. On the other hand, only fifty percent of the dentists—and I've heard statistics between forty-seven and fifty percent—of the dentists still place amalgams. So there are plenty of really great dentists out there that are no longer placing amalgam.

On top of that, the dental schools have really made a shift. I was talking to a recent grad from USC, University of Southern California. She did not have a requirement in dental school to place any amalgams, which is big shift in terms of the education of our new dentists coming out of school. And I was talking to one of my former professors from Tufts University School of Dental Medicine in Boston. And he mentioned that Tufts has implemented the same policy, as well. So the profession is changing.

But one of the critical things that a patient needs to concern themselves with are these fillings being taken out with what the International Academy of Oral Medicine and Toxicology has called precaution, meaning the patient needs to have an outside air source. In our office we have our patients on oxygen. The tooth that's being treated needs to be isolated with something called the rubber dam.

We're a latex-free office. So it's a piece of nitrile that isolates the tooth from the rest of the oral cavity. It prevents patients from swallowing any of the particles and helps to ensure that the environment is going to remain dry. And we're able to better contain the filling as it's being taken out.

One of the most important part of this whole process is the HEPA filter. It's has a large funnel and rests right under the patient's chin. A patient today, as I treated patient this morning, called it a vacuum cleaner. "Are going to turn that vacuum cleaner on?" Because it basically, as we're removing it, the mercury vapor is sucked down in right into the HEPA filter and caught. The vapor is trapped in the filters. We have a couple of HEPA filters in the office, actually, with mercury-specific containers to address the vapor.

I also want to make the point that it's not only important for the patients. It's critically important for the dentist and their staff because of the chronic toxic exposure to mercury. Our HEPA filter runs... We have a great big one blasts the office out. And we run it every night at full power just make sure that we're taking care of the vapor that it is released when fillings are being taken out.

Dr. Minich: Thank you for walking us through that process. That's really helpful. And it shows the degree of conscientiousness that a dentist has to take, as well as the staff in taking a patient through this. It's no easy feat, it sounds like.

So I'm curious too, Dr. Chalmers, about not just mercury and the amalgam material, but what about the other materials that we might bring into the mouth like toothpastes? Are there things that we need to be watching for in personal care products that come

into contact with the mouth that are concerning?

Dr. Chalmers: Absolutely. One of the biggest problems that we see is we see patient tissue reactions to sodium lauryl sulfate. It's the sudsing agent.

Dr. Minich: So that's SLS that you're mentioning?

Dr. Chalmers: SLS. We see patients that have aphthous ulcers...SLS and then there are also a few products that have triclosan and the tartar-reducing products. We see a lot of oral tissue issues. Chronic irritation. Chronic oral irritation. And we find that when we get them on a sodium lauryl sulfate free, chemical-free product...And there are some good ones out there. Jason's. Burt's Bees used to be a good one, but unfortunately they were purchased by Clorox. And they're not making that toothpaste any more, which is a shame.

Dr. Minich: Oh, I didn't know that.

Dr. Chalmers: They had a whitening toothpaste that my daughter swore by. Several of the local supermarkets would carry it for me because that's where we would always send our patients to get it.

But there's a few good brands out there. But you have to read the labels. Some of the brands, for a long time that have been thought of as more—"organic" isn't the right word—but more natural... Tom's, for instance, you need to be very careful. Some of the Tom's toothpaste do have SLS. Some do not. It's something that you have to take the time and look at the label. But SLS is the big thing.

Whitening and in whitening materials. The sodium and a lot of the teeth bleaching material address sensitivity because

sensitivity is often an issue with whitening by adding nitrites. I don't know about you but I'm very careful to buy my meat without nitrites. To have these trays with potassium nitrite, intuitively it doesn't make sense to me. Again, we had a product that we were using that had amorphous calcium phosphate and was nitrite free. But it was bought by one of the larger manufactures and the formulation was changed. So we're on the hunt now for a new bleaching product that doesn't have nitrites.

Dr. Minich: Wow. I'd better start looking at my products a little bit closer. What about just good old-fashioned hydrogen peroxide? I know that some people use that is there form of bleaching, and you find that anyway in a number this bleaching products. Is that safe for the mouth?

Dr. Chalmers: Hydrogen peroxide. Actually it was Paul Keyes. It was the Keyes technique back in the 80s. Mixing the hydrogen peroxide and baking soda was a great way to take care of periodontal disease. And we do recommend that for patients. Diluted, it's a great anti-inflammatory agent.

I can't speak to whether it actually whitens teeth. But in terms of brushing with good old plain baking soda for people who are chemically sensitive, you can't go wrong with that.

Dr. Minich: It's a good fall back then?

Dr. Chalmers: It's a good fall back. Yep. Absolutely.

Dr. Minich: This is such great information. I love the idea of talking about brands and talking about these things to be watching for on the label of these products. You've given us a wealth of information.

So I'm just curious if we had to solidify and have three takeaways from today based on our discussion, what would you want to leave all of the listeners with as it relates to this whole area of dentistry and detox?

Dr. Chalmers: Well, recognize that the mouth is a critically important area to have healthy, that you're not going to be healthy in the rest of your body unless your mouth is healthy. If you have heavy metals in your mouth, consider whether you might be a candidate to have them removed. If you have any sort of cardiovascular disease, I think that that's something that you should consider.

If you have any type of autoimmune disease, I think that's something that you should consider. If you seem to suffer from a lot of oxidative stress, which is like rusting, meaning if you have chronic fatigue, fibromyalgia, it's certainly something that you could consider. One of the most important things that I can say to you is make sure that your amalgams are removed with precautions. And there are several sites on the website on the

PowerPoint presentation that will go along with this, that will tell you. There's a picture that illustrates what safe removal precautions look like. There are websites to go to get more information. There's actually a video that shows the release of the mercury amalgam, and for dentists, how to educate themselves in these procedures, and for patients, where you can direct your dentist.

For example, I had patient a couple weeks ago the traveled a few hours to see me. She had an infected root canal that her dentist hadn't picked up. And we were able to do that and get her to the surgeon to get it taken care of. The work that was done in her mouth with beautiful. He did gorgeous fillings and had

taken the amalgam out—not with the precautions—but had done a beautiful job. And so if you've got a dentist that does beautiful work, educate them about how to take these amalgams out and how to take out safely, because not only is it going to benefit you, it's going to benefit them and your staff.

And remember, that in addition to amalgam, that there are other areas. There are jawbone infections and hidden root canals. There can be infections of the jawbone the sometimes special x-rays will show whether they're putting a toxic burden on the body or not.

Finally, the best thing you can do is diet. It's fundamental to your oral health. Your B vitamins are critically important. CoQ10, your antioxidants. Your toxic burden, from at least from the oral cavity, resolves to a great degree if we eat a good healthy diet.

Dr. Minich: And just a tag onto what you just said there, are there certain nutrients— you just mentioned the B vitamins, antioxidants and CoQ10—if you were to put together your own special vitamin, or mineral, or product for the mouth what will be must haves?

Dr. Chalmers: Must has to be activated B vitamins because what we're seeing as we're evaluating patients here, especially because so many of our patients have chronic disease—we're seeing a lot of methylation issues, meaning the ability to utilize inactive forms of B vitamin. So B vitamins number one.

CoQ10 number two. And this is critically important for our patients who are on statins. We actually see changes in periodontal tissue. I've had patients that been completely healthy periodontally, meaning their gums are healthy. And all of a sudden we'll see a change. And

when we quiz them as to what's different, they'll say, "Oh, you know, my doctor put on a statin a while ago." And we've seen pocketing in periodontal breakdown. So CoQ10.

Vitamin C is critically important because vitamin C addresses free radicals. It's highly important. Vitamin D the links between vitamin D and periodontal disease is a dramatic link. Years ago when patients would come in with periodontal disease, I would send them back to their physicians asking for inflammatory marker HSCR and vitamin D levels. And invariably in periodontal patients we were seeing vitamin D levels well below thirty.

And then the final thing, of course, is probiotics. We have a great probiotic toothpaste that we use here. And we've actually had patients brush with probiotics. Xymogen has a product, Strep Salivarius, that actually we use here the office quite a bit for decay patients. So probiotics. And then fish oils.

There's actually a study showed that when a substance named resolvins was manufactured from fish oil, by relieving the inflammation it completely changed the bacterial flora. They didn't alter the bacterial flora with treatment. It was actually by removing the inflammation with fish oils that they were able to fundamentally change that patient's periodontal health.

Dr. Minich: I love it. So much knowledge here. And again your background, your experience. It's just overflowing with all kinds of goodies for us. Dr. Chalmers, how do we get more information about you or other websites. Can you direct us to any informational links?

Dr. Chalmers: Well, my website www.MESChalmers.com is my practice website. And it tells you

just things we do in the office, things that we look at, things that we consider important when you're going to be thoroughly examining, treating, and caring for a patient.

There is the website of the International Academy of Oral Medicine and Toxicology, www.IAOMT.org. It's a wealth of information on mercury, safe amalgam removal practices. There is a New Directions Dentistry. And again these links are all in that PowerPoint presentation that accompanies this talk. The new directions dentistry has the training videos to train dentists in how to implement these safe amalgam removal techniques.

And I just need to say it's not a large financial outlay for the dentist. It's a nominal expense. And the potential to not only change your patients' health, but benefit the health of dentists and their staff, it's really significant.

Dr. Minich: It is, truly. Thank you again, Dr. Chalmers. This has been quite a gift to all of us. And we really appreciate, again, your sharing of all that information. And of course you have so much more. But we only have so much time. So we do thank you very much for being part of this.

Dr. Chalmers: Deanna, it was an honor and privilege. Thank you so much.



Cure Tooth Decay: Remineralize Cavities and Repair Your Teeth Naturally With Good Food

Sean Croxton with Ramiel Nagel

[Click here to watch this interview!](#)

The purpose of this presentation is to convey information. It is not intended to diagnose, treat, or cure your condition or to be a substitute for advice from your physician or other healthcare professional.

Sean: Coming up next is Ramiel Nagel. The title of his presentation is *Cure Tooth Decay: Remineralize Cavities and Repair Your Teeth Naturally with Good Food*. Ramiel is an internationally published author whose tooth decay research has been featured in NEXUS Magazine and the Townsend Letter for Doctors and Patients.

Nagel has a B.A. from the University of California and has ten years of training in emotional health care. He is a member of the Price-Pottenger Nutrition Foundation and the Weston A. Price Foundation. He lives in Oregon with his spouse as well as his two daughters.

You guys can check out his website at www.curetoothdecay.com.

And Ramiel has elected to give his presentation without questions, and so here's Ramiel!

Ramiel: Thank you for having me on The Real Food Summit. And I am here to help teach people how to use real food to stop tooth decay and remineralize cavities. Today, I'm going to teach you one thing that's going to be the most effective dietary change that you can make starting today to help you have healthier teeth and bones.

But before we begin with that, I want to tell you briefly how I got into healing teeth and cavities naturally. When my daughter was approximately a year-and-a-half old, one of her teeth developed a cavity. Then that tooth eventually started crumbling apart and she got more cavities. And we didn't know what to do as parents. And to us, the dental treatments that are offered for children are kind of primitive and barbaric. So, I thought there was another way. And I've been researching tooth decay and diet for about 7 years. And all the information on how to heal cavities I've put together in my book and website *Cure Tooth Decay*.

So in order for us to be healthy, we need to reconnect to a way of being and a way of living on the planet that is more harmonious. What has happened in the modern world is that we have become disconnected with a healthy way of eating. And instead we've started eating modern denatured foods. But all of us, in the past, have come from a lineage of people that have been healthy. Otherwise, we wouldn't be here today.

So, why do we need to change our diets and heal our teeth? Why can't we just go to the dentist?

Well, most people are afraid of going to the dentist. And there's a good reason why. It's because they don't like having their teeth drilled. When you go to a dentist, they drill a hole in your tooth to prevent bacteria from drilling holes in your teeth. And what happens is the dentist takes a tiny hole and drills into your tooth and makes that hole much bigger, and then places a synthetic material in that hole. Most of the synthetic materials used are toxic to people. So for example, the most popular composite filling reacts negatively to 90% of people's immune systems.

So, another problem with filling teeth from the dentist is that the average filling lasts five to twelve years. When you drill holes in your teeth, it leaves your teeth weak and traumatized. And fillings create the need for future dental work. So they don't really cure the problem. Many experienced dentists will tell you that if mercury filling is placed in a tooth, that tooth will become weak and then later need a crown and root canal. If we didn't have mercury fillings, then people would need much less of those expensive and potentially toxic or painful crowns and root canal procedures.

What happens after drilling and filling the tooth comes many of our least favorite parts -- billing.

What we have with modern dentistry is not a treatment protocol for healing cavities, but a business model for making a profit while our bodies degenerate from a poor diet.

Part of this thinking that diet doesn't have to do with our teeth has to do with pointing the finger about tooth decay towards bacteria and not towards nutrition. So, if you talk to the government or a dentist about what causes tooth decay, they point the finger at bacteria. They say you've got to brush your teeth to remove bacteria. You've got to cleanse the inside of your mouth with mouthwash to remove bacteria. They drill your tooth to remove bacteria. And when that fails, they do a root canal. And the idea is that there's bacteria stuck in your mouth that you can't get rid of. And so the dentist has to get rid of it for you. And eventually they put in a fake tooth when you lose the war against bacteria.

The bacteria that's said to be the cause of our problems is streptococcus mutans. And it's just these tiny little spheres. The problem is that, for example, a recent study I found showed that our body actually needs the streptococcus mutans bacteria to inhibit the growth of yeast. So, what happens is, dentistry points their finger at a bacteria as if it's the cause of tooth decay rather than pointing out when this streptococcus mutans bacteria are more prevalent, that's when there's more tooth decay, not that the bacteria's actually causing tooth decay.

So, the American Dental Association tells you that "when you eat or drink foods containing sugars or starches, the bacteria and plaque produce acids that attack tooth enamel. And after many such attacks, cavities form."

The problem with this theory is that they left out an important piece of information, that the originator of this theory, W.D. Miller discovered in 1882, which said, "the perfect tooth would resist indefinitely acid."

So, when we're thinking about real food and what to eat, the American Dental Association says... "Don't eat sugars and starches because it produces plaque in your mouth, and that that's what causes tooth decay."

What they don't tell us that either way, if your teeth are strong, they resist acid. If your teeth are strong, they resist bacteria. If the American Dental Association dentists shared with us what dentist W.D. Miller, who discovered the cavity theory discovered, we would naturally start thinking [about] how to make our teeth strong.

So, before we get to what I think is the key to making our teeth strong, I want to briefly mention how teeth get strong. What happens is our brain and the hypothalamus analyzes our blood chemistry. And, of course, the blood chemistry is going to be a factor of primarily what you're eating, but also what medications or toxins that you've been exposed to. The hypothalamus sends a message to the parotid gland, which is the gland in your jaw. And that gland in your jaw tells your teeth to remineralize or demineralize.

So, each tooth has a nerve and a blood supply. And the reason is because a tooth is a living organism that changes based on what you're eating. When you eat good food, your body will tell your teeth to remineralize. And this is proven by the life work of dentist Ralph Steinman. It's not something I just make up.

According to the U.S. government studies, the older we get, the more

and more cavities we have.

According to the U.S. government studies, the older we get, the more and more teeth we have that we lose. So, is the problem that people don't brush and floss enough? Or is the problem that we are eating a poor kind of diet, that our bodies are degenerating for some reason. And then dentistry comes in. They blame bacteria on the problem, they make a profit trying to repair our teeth, and then our teeth continue to degenerate with time. And by the time the average person is over the age of sixty, they're missing at least 8 teeth.

So, all of us, as we age, face statistically, the problem of losing our teeth. And modern dentistry doesn't seem to know why. In my quest to cure tooth decay, I found the work of dentist Weston Price. And probably many people in The Real Food Summit are going to share the work of Weston Price. And the reason why I want to share with you briefly a little bit about his work is because he was a dentist and he learned how to heal cavities. And he was the chair of the National Dental Association which today what we know as the American Dental Association. And he spoke and wrote frequently about healing tooth cavities.

And what I do in my book *Cure Tooth Decay* and a little bit on this presentation is I want to briefly go over one field study from Weston Price. And that field study really illustrates an important example of what's wrong with our modern diet and also the secret to healing cavities. And the field study is taken from the book *Nutrition and Physical Degeneration*. So rather than looking at bacteria as the problem of tooth cavities, Weston Price wanted to go and study people that were healthy and see what they did that made them healthy and immune to cavities.

So what he did is he traveled in 1931 and 1932 to the isolated Swiss Alps. And the reason why he went there is because there was just a new road placed into the town. So the town previously did not have access to the foods of commerce and industry.

And I want to share with you guys some of my favorite quotes from Weston Price based on this one field study. Here's what he wrote about people living in the isolated valleys: "They have neither physician nor dentist because they have so little need for them; they have neither policemen nor jail because they have no need for them."

So just consider that. No dentist. These people lived without a dentist. Why? Well, Weston Price writes that "Reverend John Siegen gathers the people together to thank the kind Father for evidence of his being in the life-giving qualities of butter and cheese when the cows eat the grass near the snow line. And the natives of the valley are able to recognize the superior quality of their June butter, and, without knowing exactly why, pay it due homage."

Weston Price continues, "One immediately wonders if there is not something in the life-giving vitamins and minerals of the food that builds not only great physical structures within which their souls reside, but build minds and hearts capable of a higher type of manhood in which material values of life are made secondary to individual character."

So, what Weston Price is so interested about and what also interests me is that the reason why the people of the Swiss Alps were immune to tooth cavities was because they ate food that was natural. They honored the animal food. They honored the dairy of the cow. They lived in a certain degree

of harmony where they honored each other. And because of that, they were healthy.

So what did they eat exactly? What did the traditional Swiss people eat in the mountains? They ate sourdough rye. And in this presentation we're not going to have time to talk about grains. But that's why I'm going to mention here. They ate a rye bread that had the bran and the germ of the bread removed. And what they did is they took the fresh-ground rye, and they sifted it, and removed 25% of the bran of the grain by weight. And I have a reference to that from ancient people that lived in the French Alps and a woman who studied them.

They ate summer cheese and butter, and in particular that's cheese from cows that are eating grass near the snow line. They had raw goat and cow milk. And they had broth and meat, generally from goats. And in some of the isolated valleys, 0.3% of teeth had cavities. So, one in three people had evidence of one cavity.

Now, a lot of people have been misled to think that tooth decay is a genetic condition. So, Weston Price went and studied modern Swiss people who had the same genetic heritage. And he found that the modern Swiss -- he generally studied children -- modern Swiss children had 25% of their teeth affected with cavities. So, that's on average eighty to seventy-five times more cavities than the primitive Swiss. And he found that the modern Swiss children were eating a different diet. Instead of sourdough rye, they had white flour. Instead of lots of cheese and butter, they had jams and sweets and pastries -- foods of commerce. They had fruit. They didn't eat that much of their special dairy butter and eggs that had been their traditions. And as a result, they had tooth decays.

But the modern authorities in some of the Swiss towns didn't know that tooth decay was linked to nutrition. They gave the children access to modern toothbrushing. They gave the children exercise. They made sure the children had plenty of sun. And yet these children were plagued with tooth cavities. In one of the examples, Weston Price noted that there's a child that didn't have tooth cavities but he lived in a modern town. And he found that this modern child was eating a different kind of diet -- the traditional diet.

So, Weston Price's case study helps illustrate an example of what might be wrong with our modern industrialized diet. He then went on to study people in outer Hebrides. He went on to do field studies in Africa. And in 1936 he went to do field studies with the Australian Aborigines. And I reviewed these field studies in my book. And I just want to share with you briefly -- because this is a shorter presentation -- what Weston Price found in Australia. And this sort of really summarizes what happens when primitive people, who are living healthy, switch to a modern diet. And it illustrates what happens to us in our modern day world when we eat a modern diet.

He explains that the Aborigines that lived for thousands of years -- generation after generation of perfect health with no cavities -- all of a sudden their bodies broke down rapidly with the introduction of Modern food. And, Weston Price says, "This has occurred on the very best of the land that these primitives formerly occupied and becomes at once a monument to the wisdom of the primitive Aborigines and a signboard of warning to the modern civilization that has supplanted them. It should not be a matter only of concern but deep alarm that human beings can degenerate physically so rapidly

by the use of a certain type of nutrition, particularly the dietary products used so generally by modern civilization.”

So, what’s happened to us and why we need The Real Food Summit and why we need all these people teaching us about real food is that with industrial food came industrial advertising. And the advertising and the passing of laws and infiltration in the government has led us away from traditional foods that we used to eat and replaced those foods with foods of commerce. They’ve told our doctors, they’ve told the medical industry, they’ve told the news that industrial foods are now healthier than primitive foods. And because of that we’ve started eating the industrial foods and have suffered the same tooth decay that these indigenous people that Weston Price studied have suffered.

So, what Weston Price did is he took the indigenous diets that created the immunity to tooth decay and he analyzed them in his laboratory. And he also took the modern diets that caused tooth decay and he analyzed them in his laboratory. And he found that the indigenous diet had ten times or more fat-soluble vitamins than the modern diet that caused tooth decay. And he found that the indigenous diet had two to four times the minerals than the diet that caused tooth decay.

So, it makes perfect sense why in the modern world we’d have tooth decay and bone loss. It’s just as simple as our bodies are not getting enough nutrients. And to prove that this theory worked Weston Price asked his fellow dentists to give him their seventeen worst patients, patients with severe cavities. He corrected their diet and restored lost minerals based on the indigenous wisdom. And over a two-year period, only one individual had new cavities. The other

sixteen patients all had their cavities stopped and their teeth remineralized. So this was a 250 times reduction in the rate of cavities.

So, how did Weston Price do this? What is the secret?

The secret to healing cavities is fat-soluble vitamins from healthy animal fats. So, in the industrial world, animal fats are demonized. They’re not as profitable. And we are told to avoid butter, lard, beef fat, and replace those fats with vegetable oils. But what Weston Price found is the groups that ate the most [animal fats] and ate from different kinds of animal fats were the healthiest. Now that doesn’t mean you need to gorge yourself on animal fats but that we need to honor animal fats in our diet, and that we need to incorporate them into our diet based on your own personal needs and level of exercise and health.

So the groups that Weston Price studied that had the most immunity to cavities ate from two of the three special animal fat-soluble vitamin food categories: grass-fed dairy--so this is butter, cheese, cream, fermented dairy from animals eating grass; organs and land animals that are wild or grass-fed, such as the adrenal glands, the liver, animal blood, bone marrow, the brains, the kidneys, the intestines...they ate the whole animal. And seafood, the fat from the sea, such as the organs and the mustard and tamale from crab and lobsters, shellfish, sea urchin, eating fish head.

When groups ate from two of those three food categories, they had the highest immunity to tooth cavities. There is, of course, a fourth category of fat-soluble vitamins that we don’t consume too often in our modern culture, and that’s insects. So, I think I’ll probably be the only

speaker in The Real Food Summit that says, “Go eat some insects!” [Laughs] But you don’t have to eat insects to remineralize your teeth.

So, again, I want to emphasize that the fat that prevents cavities comes from animals, it doesn’t come from plants. There are healthy plant fats such as olive oil or palm or coconut oil or avocado. But those plant fats, I have found, aren’t the secret to giving your body what it needs to stop cavities.

So let’s look at what are some of those key attributes of the animal fats, of why it makes them healthy. And I’ll give you some specific foods you can eat, starting today, that are concentrated in those animal fats.

So, Edward Mellanby -- most people haven’t heard of him -- he was a famous researcher and professor from England, and he discovered vitamin D. And he did decades of experiments with people and animals on what makes healthy teeth and bones. And here’s what he said: “By far the most important factor producing well calcified bones and teeth is vitamin D.” Vitamin D gives our body the instructions it needs to use minerals in our diet, particularly the minerals we need to build healthy teeth and bones, like calcium and phosphorus.

So, where do you get vitamin D in your diet? The number one source of vitamin D is going to be fermented cod liver oil. That’s cod liver oil by Green Pastures. The second highest source of vitamin D is oily fish. Third, duck eggs. Fourth, animal blood. And to a much lesser degree grass-fed beef fat from humanely raised animals.

An important distinction that most people don’t really realize is even though cod liver and fish liver has a lot of vitamin D, most land animal livers that we eat -- like a beef liver

or a chicken liver -- aren't very high in vitamin D. So, a primary failure of the modern diet is that we're not getting enough vitamin D. Yet, vitamin D is probably the most important factor in remineralizing teeth.

And the vitamin, as illustrated in the Swiss Alps example...getting sunlight was not enough for the children to remineralize their teeth. The vitamin D from the sun is excellent, but we also need the vitamin D from food. And, because we no longer, in the Western world, no longer use animal blood and we don't eat too much oily fish, most people are deficient in vitamin D, even people who are eating a healthy, real food diet.

The next fat-soluble vitamin that we're going to look at for healthy teeth and to remineralize teeth is fat-soluble vitamin A. Fat-soluble vitamin A is good for vision, bone growth, reproduction, cell division, prenatal development, and it increases growth factors. So it helps our body grow and regenerate. And the most concentrated source of vitamin A is, of course, many people's favorite food, which is liver. The second most concentrated source is animal eyes.

Now, a special note for vegetarians -- goat cheese, eggs, and butter does have some vitamin A. But it has much less vitamin A than the animal foods. So, when people are exclusively vegetarian--and I have a vegetarian protocol in my book *Cure Tooth Decay*. But I don't advocate vegetarianism because it's much more difficult to get the fat-soluble vitamin A and many of the other fat soluble vitamins from animal fats because the vegetarian sources of animal foods of eggs, cheese, and butter, are lower in some of these fat-soluble vitamins, particularly A and D.

So, because liver is high in fat-soluble vitamin A, and because liver is high in vitamin B and the B vitamin complex, and very high in minerals, particularly iron, minerals that our body needs, eating liver with some regularity is going to really help you stop cavities. I would recommend eating liver at least once a week. A good way to have liver is liver and onions. And you don't need to eat a lot of liver. But just have some liver. We're not honoring our food if we just eat the flesh of the cow. We should also eat some of the organs.

It's because we don't eat the organ meat because we find it distasteful or I don't know why, that's part of why we have cavities, because the organ meats in the animals are the source of the fat-soluble vitamins. And it's because we don't have the fat-soluble vitamins that our body does not function properly.

How much vitamin A is in cod liver oil? This slide that I have here shows that one teaspoonful of cod liver oil has as much vitamin A as five-and-a-half quarts of milk, one pound of the best creamery butter, or nine eggs. So, if we wanted to remineralize teeth, then maybe there's an easy way to add fat-soluble vitamins A and D to our diet. And that's fermented cod liver oil.

And I want to give you a study that illustrates how effective cod liver oil is at stopping cavities. And the reason why it's effective is because it's a fat soluble vitamin concentrate.

So, Weston Price talks about a study in which school girls were divided into two categories. There was a group of school girls that were more immune to cavities and another group of school girls who were more prone to cavities. The group of school girls that were more prone to cavities were given two teaspoons of cod liver oil per

day. After a six-month period, the group that was originally more prone to cavities had 41.75% less cavities than the group that was previously more immune.

So, from this study we can make an assumption that the regular consumption of cod liver oil or foods containing high amounts of fat-soluble vitamins A and D will result in at least a 40% reduction on tooth decay.

So, what I would recommend, for people who want to live off real food and get their nutrients from real food, is to take cod liver oil almost every day or daily. And you want to take approximately 1 to 3 teaspoons per day of fermented cod liver oil. The dosage really differs for each individual based on their weight and level of activity.

Now, there's a problem with commercial cod liver oils that you can buy in the store. And the problem is that they filter out or destroy the fat-soluble vitamin D and replace it with a synthetic fat-soluble vitamin D from sheep's wool. It's the fat-soluble vitamin D that stops cavities, so having the fat-soluble vitamin D in its natural form is going to be the best way for you as a listener to remineralize your teeth. So, I encourage and promote Green Pastures Cod Liver Oil. And an easy way to purchase those products, if you want, is to go to the website www.codliveroilshop.com.

Now, I briefly touched upon the business of dentistry, the hundred billion dollar per year business. If dentists wanted you to heal your cavities and not come back year after year with problems and not see you lose your teeth as you get older, they would recommend you take cod liver oil. And if you came to the dentist with a small cavity, which most people have that they can't feel and can't even see, the dentist would say, "You know what?

Let's watch this cavity, take some cod liver oil, reduce your refined sugar intake, and come back in a week or two and let's see how this cavity is doing."

It's a normal experience for people who follow the dietary guidelines recommended in my book *Cure Tooth Decay* for them to have their cavities stop, even cavities that have been consistent. And that's because they return their fat-soluble vitamins to their diet.

Now, Weston Price also talked about another fat-soluble vitamin. And some people are calling this vitamin K2. I like to stick with Weston Price's term of the vitamin, which is Activator X.

And he thought that there must be some kind of food substance that's not adequately provided in modern nutrition. And he called this substance Activator X. It's concentrated in spring and summer grass-fed butter. It's concentrated in fish eggs. And it's likely in the organs and glands of both seafood and land animals at certain seasonal times of the year.

What Activator X does in our diet is it balances the ratio of calcium and phosphorus. And having this ratio balance is important to remineralizing your teeth and making your teeth really strong and firm. So the way you're going to balance calcium and phosphorus in your blood and tell your teeth to remineralize through the dentin fluid transport mechanism through your hormonal system is by eating at least a tablespoon of grass-fed butter per day, or approximately a half a teaspoon of Green Pastures butter oil concentrate. Of course, ghee from grass-fed butter is perfectly acceptable.

And what happens is when you take that grass-fed butter, preferably raw, but it doesn't have to be

raw because Activator X survives pasteurization to some degree... when you take that grass fed butter and you mix it with the cod liver oil, you get a synergistic effect. And it really helps your body use and balance all the minerals in your blood. And as a result, your cavities and tooth pain will stop or decrease, or you'll prevent cavities and be immune to cavities.

For example, I don't even remember how many years it was ago... Six years ago I went into the dentist and they said, "You have 4 new cavities." Today, those teeth are fine. Those cavities never became worse. They never became noticeable. They never became anything because they remineralized.

So, with the Industrial Revolution came marketing. They told us to avoid these animal fats. They told us to replace these animal fats with toxic vegetable oils that modern humans weren't eating before. Vegetable oils that required chemicals and machines to create, such as cottonseed oil and soybean oil and corn oil and canola oil. These oils are toxic to our body and cause a breakdown in our system that can lead to cancer and free radicals.

And in the case of this presentation, it's the modern industrial oils that kicked out the traditional fats from our diet. And so, when you have a candy bar, when you go to a fast food restaurant, when you go to most restaurants, even restaurants that seem pretty good, they still cook with vegetable oil. And because of that, we don't get enough fat-soluble vitamins. So, avoid industrial oils and eat the traditional animal fats, which again are butter, cheese, lard, beef fat.

I'm just going to touch briefly upon increasing your mineral intake. The secret to increasing your mineral

intake was shared with us by dentist George Heard. And he was a dentist in Deaf Smith County Texas in a town called Hereford. And I'm going to read you what he discovered.

He said, "After a newcomer has lived in Hereford a few years, provided he has drunk lots of whole, raw milk, he develops resistance to tooth decay. Even the tooth cavities which he brings with him when he comes to Hereford will be glazed over, if he has drunk raw milk."

So, the people in Hereford, Texas got a high amount of minerals in their diet from drinking raw milk. And I recommend the easiest way to get the minerals calcium and phosphorus, which according to the U.S. government statistics the average person does not get enough, or people following a Paleo-type diet may not get enough calcium compared to all the phosphorus they eat from meat, is to have some raw grass-fed dairy in your diet. And there's many ways to do this.

You can drink about 2 to 4 cups of milk per day. And the minimum calcium intake I think we need to be balanced and not lose calcium is about one gram per day. So, 2 to 4 cups of raw milk, or 3 to 6 ounces of raw grass-fed cheese. If you live somewhere where raw milk is hard to obtain, usually you can find some raw cheese. Grass-fed is best.

Also, I recommend having dairy products that are cultured or fermented. So, I gave you two key methods to remineralize your teeth naturally. One is to increase the fat-soluble vitamins by eating animal fats. And the other is to increase your minerals intake in your diet by having one of the most concentrated sources of minerals for our teeth and bones that is in existence, whole raw milk.

If you want to become a tooth decay expert to really understand how to eat healthy, to feel motivated to eat healthy, to understand the perils of modern dentistry and how to avoid them, and to help your children have healthy teeth, and to remineralize your children's teeth, I really recommend you get my book *Cure Tooth Decay*. In the 230 pages, I teach you step-by-step on how to use real food to heal your cavities. And after you read the book, you will not have any more questions. Most of your questions will be answered. You will feel confident in your knowledge of real food, and you'll have a lens to look through when you're faced with your food challenges. And you'll really know what to eat and what to do to stop cavities.

So Weston Price said, "Tooth decay is not only unnecessary, but an indication of our divergence from nature's fundamental laws of life and health."

The choice that many of us have today to face is to continue to let a dentist or doctor "fix" or problems for us, and continue on a path of physical decay and degeneration. Or, the choice, I think, that you've already made and want to feel supported in, is to let go of the industrial foods -- the toxic foods with all the chemicals and preservatives and the lack of vitamins, and to replace those toxic foods with traditional foods that, for generation after generation, humans have eaten. If you do that and incorporate the principles I talked about today, you will become one of the many people who have stopped their cavities and who have made their teeth and bones stronger, harder, and healthier.

I believe that we're not here on our planet to suffer from disease, but that we are here to live in peace, to live in health, and to live free of

disease, and to really be creators of a positive life and a positive world. And I encourage you to go out today and make a change with how you eat and how you live. Thank you.

Sean: Rami Nagel, great information! Fantastic presentation! I love the fact that you spend so much time talking about Weston Price. More of our attendees need to know about Weston Price and read *Nutrition and Physical Degeneration*.

You talked a little bit about your book. You have another book. I believe it's called *Healing our Children*. Would you like to talk about that a little bit?

Rami: Yeah, I really appreciate you mentioning it. I actually left it out to be more focused on tooth decay. But Weston Price, in his important research, had a message for our children. And this message is captured from indigenous wisdom of people all over the planet. And the message is that there's certain foods and nutrition that men and women need to eat to conceive healthy children. In order for a child not to have cavities or in order for a child to be healthy and immune to disease, the parents need to eat healthy food. And the most important time to influence the life of our future children is before conception and in the womb.

So, children who are fed real food and especially the fat-soluble vitamins...whose parents eat that during pregnancy and before pregnancy, these children are so healthy. They don't almost ever get sick. My youngest daughter was raised that way, and I can probably count two or three times that she's ever been sick. And it took two or three years before she was even sick one time. She was just always healthy.

So, Weston Price and many other people, the Weston Price Foundation, you and I, we want people to be healthy. And we want people to have healthy children. So, I took this very complex and sort of hard-to-tease-out message from Weston Price, and I captured it in my book *Healing Our Children*. And I licensed the images from Price-Pottenger Foundation so you can see how modern food actually causes disease. It's not that we don't know what causes birth defects. I'll show you how Weston Price teaches us that poor nutrition causes birth defects. And I'll show you how we don't know what cause miscarriage, because it's modern nutrition that causes miscarriage. And I'll show people what kinds of food to eat to prevent that. And it's really a paradigm shift in taking the parent to a level of personal responsibility for their children's health. Because in *Healing Our Children* I show people how we are responsible for disease. It's not some bacteria. It's not some fate. It's us. And when we are able to reclaim our responsibility for health and disease, then we can live feeling safe in the world. And we can have children who live and have them be healthy and happy and free of disease. So that's why I wrote the book. I wanted to pass that message along.

And, of course, as part of the process of having healthy children, I don't just want to promote real food, I want to promote how indigenous people raised their children. How do you create emotionally happy children? And I teach people how indigenous cultures do that. And I help break through the modern cultural myths that encourage us to be separated from our children, that encourage us to push our children away, to put them into daycares, to not be close to them, to not hold them in our arms as humans have done for thousands and thousands of years.

And, of course, I tackle myths of fluoride, vaccines, and also talk about the harms of the modern school system, which among all the other problems, it teaches children false information about food. And I remember even in 8th grade science [they told us], "Okay, low-fat! Low-fat's good!" And I went home and told my parents to buy low-fat food, and then grew up not healthy."

Sean: I did the exact same thing. Your website is CureToothDecay.com. I'm sure you get lots of questions. You have a forum there. Please tell our attendees about that.

Rami: The forum is www.community.curetoothdecay.com. If you go to the website www.curetoothdecay.com, there's a FAQ button. And that will take you to the forum. I encourage you, though, to sign up on my email list, to read answers. We have, I think, over 500 questions at least answered in the forum. So you can just browse the forum. You can browse my website.

That'll answer a lot of questions. And of course, most people have questions because they haven't read the book. So, I would encourage you to make that small investment to get the book. But if, for some reason you can't or just need a little help, then I have the free forum.

Sean: Rami Nagel, thanks so much for being part of The Real Food Summit! I really appreciate it!

Rami: Thank you.



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