



Episode 177: Why (Almost) Everything You Know About Dental Health is Wrong With Periodontist Dr. Al Danenberg

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This episode is brought to you by Four Sigmatic. My kitchen is always stocked with their coffee mushroom blends, their Matcha mix, and their straight mushroom drinks. Four Sigmatic has figured out how to get the benefits of mushrooms like chaga, lions mane, cordyceps and reishi into delicious instant drinks. My current favorite is their adaptogen coffee blend that has torsi and astragalus. But I love all of their products. They have options with or without caffeine so if you're not a caffeine person you can find products that you will love. And I find that even their coffee blends that do contain caffeine have less than a normal cup of coffee. But don't let this fool you. I have found that I get so much more focus and mental clarity from these mushroom blends than I do from regular coffee, and without the jitters. The addition of the mushrooms, which are considered nootropics, meaning that they are good for the brain makes these super food blends more effective and much healthier than just regular old coffee. I love them with a dash of macadamia milk personally. I also love that many of their drink mixes are instant and packaged into individual servings so they are perfect for travel or on the go. If you're listening to this, then you can get a special offer just for listeners of this podcast by going to [wellnessmama.com/go/four-sigmatic](https://wellnessmama.com/go/four-sigmatic).

Katie: Hello, and welcome to, "The Healthy Mom's Podcast." I'm Katie from [wellnessmama.com](https://wellnessmama.com). And this episode today is going to be so fascinating, I cannot wait to share today's guest with you. Dr. Alvin Danenberg is a Periodontist who has been treating patients with gum disease for over 44 years. He incorporates aspects of nutrition and lifestyle change as part of his cutting-edge laser protocol which treats periodontal disease. And we're gonna delve into that today.

In 2015, he was appointed to the faculty of the College of Integrative Medicine, and he created the college's integrative periodontal teaching module. So he's a world-renowned expert in this topic. He has certifications in functional medicine as well as the ADAPT training from the Kresser Institute. And he's the author of, "Crazy Good Living." He's incredibly qualified and incredibly kind, and I can't wait to chat. Dr. Al, welcome, and thanks for being here.

Dr. Alvin: You are so sweet. That is a great introduction. Thank you so much, it's great to be here.

Katie: Oh my gosh, of course. Like I said, I love researching oral health, it's one of the first things I really started researching when I got into natural health. And just, I'm so fascinated by so many of the ways... It really is

interconnected to the whole body, but it seems, like, there's so much misinformation out there. When I started researching it I was, kind of, blown away how what everything we think we're taught a lot of it is really, kind of, the opposite of what we should do.

And you are a world expert in this, so I can't wait for you to debunk some of that today. But I'd love to start at the beginning, such a fascinating topic. And when you look at the research, historical cultures and our primal ancestors they didn't have these problems that we had today, and I'm guessing they weren't even brushing their teeth with high tech toothpaste. So I'd love if we could start with there, like why did our more primal ancestors not have gum disease and tooth decay, and why are we seeing it today?

Dr. Alvin: Well, certainly I wasn't on the phone with these guys and gals to ask what the obvious question is, why don't you have gum disease or tooth decay? But what we can find are skeletal remains, so there are skeletal remains that are in existence from 10,000 to 20,000 years ago, that we could look at the jaw and see relatively healthy teeth, and relatively healthy jaw bone. And what is even more interesting we see what's called calculus or tartar around the necks of the teeth next to this jaw bone.

Well, this is the soft plaque that you and I know very well about, and if you go to your dentist he'll tell you gotta get rid of it. Well, this soft dental plaque calcifies over a period of time, and the skeletal remains show this calcified plaque or tartar, and they can do...the scientists can do DNA testing. And they can identify all the different bugs that are...or were in this at one point living bacterial biofilm around the teeth. And it turns out that some of these bacteria individually could have been considered pathogenic, and others more friendly.

But in its homeostatic or balanced state around the tooth, it was not unhealthy, as a matter of fact it created health. And there is no jaw bone disruption, therefore, there's no gum disease. And there are no areas of tooth decay or very rarely do you see tooth decay. And what's the reason for that? And I have an idea, the reason basically is they ate the foods that were available where they lived, no matter if it was the equator or near the North or South Pole. And these foods were not contaminated with all the chemicals that we're dealing with today, and they weren't exposed to dirty electromagnetic fields that disturb the gut microbiome, and the gut was healthy.

And when the gut is healthy the mouth is healthy, and the bacteria that is in the biofilm, of dental plaque is extremely healthy, and it's supposed to be around the tooth, it's not supposed to be removed. Interestingly enough we'll get into that a little bit later if you want. So basically these ancestors did not have to brush or floss because they didn't need to remove the healthy bacteria. You can look at for example animals in the wild today, if you look at animals in the wild hardly ever will you see gum disease or tooth decay.

Now, take a look at our domesticated cats and dogs, they have rampant gum disease and tooth decay. Veterinarians are telling you to have their teeth cleaned, and have all these types of procedures on their mouths. Animals don't brush their teeth or floss their teeth, yet they don't have tooth decay or gum disease in the wild. The reason is they're eating healthy foods, they're not eating grains, they're not eating sugars, they are not eating the chemicals that are put in these dog and cat foods today, in the wild for example. And their bodies take care of the bacteria in a very natural way.

The reason we have tooth decay and gum disease today is because of all these bad things that are in our diets. The prevalence of gum disease today, which is amazing, is 94%. A study was published I think in 2010 or something like that, that showed that... They extrapolated that the U.S. adult population has some form of

gum infection or gum inflammation to the likes of 94% of society. That is huge. 91% of all U.S. adults have had some form of tooth decay. That is huge. That's an epidemic.

Katie: Yeah, that truly is an epidemic and everything you're saying to me is so logical especially about the fact like the animal comparison, because certainly like wild tigers and bears are not brushing their teeth. And if they lost their teeth they wouldn't be able to eat, and so yeah, they maintain their teeth and they don't have this tooth decay and gum disease like you mentioned. And the fact that domesticated pets do, I find that very, very telling. But I think this is a hard paradigm for people to consider, because we're definitely raised with the idea of you must brush and floss, like, at least twice a day and keep your mouth clean, and get rid of bacteria, and bacteria is bad.

And I see this across the board, like, that's, kind of, obviously the same thing with people want their houses completely clean, and sanitized, and disinfected. And we're now learning that using too many anti-bacterial products is actually disrupting our home environment. In fact, I've been using something called Homebiotic, probiotics to put actually back into your environment because we're meant to interact with our environment in a bacterial way since we're bacterial. But I just find it's a really interesting comparison because it seems, like, along the way somewhere we got too concerned with getting rid of, "Germs or bacteria," and we, kind of, threw the baby out with the bathwater.

But I find that so fascinating, so I wanna make sure I'm getting it correctly. As a dentist and a periodontist, you're saying we probably actually don't need to be focused just so much on the brushing, and flossing, and the oral health side externally, but we need to be at least as focused on the internal side as well, am I getting it right?

Dr. Alvin: I would say you're getting it right, but I don't wanna come off and say, "Don't brush or floss," for example. I totally agree with you, our society is so educated to be anti-microbial. We wash our skin with anti-microbial soaps. We put on all kinds of products that will kill bacteria. Certainly, I take a shower every day, but I don't wash with anti-bacterial soap. So I wanna remove the dead skin and some excess bugs that are on my body when I take a shower, but I'm not sterilizing my body.

So you want to brush and floss to remove excess bacteria because we're not living in a perfect world, we're not eating a perfect diet. We're dealing with stresses that damage the gut microbiome that actually affects the mouth. So there are a variety of influences that are beyond our control to some extent, so we need to just clean our mouth, but we're not sterilizing our mouth. We should not be emphasizing removing all dental plaque. We should not certainly be emphasizing the use of anti-microbial mouthwashes on a daily basis.

Go to the dentist and he or she will tell you probably need to brush or floss better, and make sure you use this...whatever brand mouthwash they're talking about that's going to kill all the bugs. Well, that's not a healthy thing to do. Removing all the dental plaque is not healthy, and removing the bacteria in the mouth is not healthy. Because many of the bacteria in the mouth serve a significant biological function, I'll give you an example.

The bacteria on the top of the tongue towards your throat are made up of quite a number of varieties of anaerobic bacteria. These are bacteria that don't use oxygen to live. And these anaerobic bacteria actually produce a biological process that is significant for the entire body. When you eat foods like leafy green vegetables and you're eating natural nitrates, you chew them up, you swallow them, and they start to get

through your stomach, and into the small intestine. Quite a number of these nitrates are absorbed into the bloodstream, and in its biological state there are actually...25% is actually absorbed into the saliva glands.

The saliva glands, the salivary glands then creates saliva, and this biologically active nitrates from the food you are eating get into your mouth, 24 hours a day, 7 days a week as your saliva pours out. These anaerobic bacteria on the top of your tongue actually create a chemical reaction on the nitrates in the saliva that produces another substance called nitrite. When the nitrites are produced you swallow them, normal swallowing you wouldn't even think about it. The nitrites get into your system, your gut, and in a variety of areas of your body.

And a large number of these nitrites are creating nitric oxide, which is critical for cardiovascular health, blood pressure control, and even gum tissue health. So when you use an anti-microbial mouthwash every day...and this study was published a few years back, it will kill the good bacteria and the bad bacteria. It will kill these anaerobic bacteria on the top of your tongue. It will destroy the biological nitrate-nitrite-nitric oxide pathway. And you could actually develop a decrease in your natural nitric oxide by about 25%, increasing your blood pressure, and giving you more risk for cardiovascular disease, pretty interesting.

Katie: That is dramatic and we recently met at a conference, Paleo f(x). And it reminds me there are all these really high tech biohacking type equipment that we're all designed to help increase that in the body. And so you're saying just by, like, disrupting this balance in the mouth you can actually decrease it that drastically. And there's these, like, \$20,000, \$30,000 devices that are designed to fix that, but really, like, our oral health is that important to that balance in the body?

Dr. Alvin: Correct. Well, the food too, obviously you have to eat the foods that have the natural nitrates, and the anaerobic bacteria in your tongue are critical. It's a biological function, it's there. It's not like you make it happen, it is there. Your body has this process and there are other processes, but this process in the mouth that reduces the nitrates eventually to nitric oxide. And it's interesting how we as a medical profession want to kill all these bacteria.

One of the papers that was published in one of the medical journals just last year, 2017, was from a group of cardiologists, and it was very interesting. They said that... And they're talking to physicians. They're talking to physicians and saying, "If you have patients that you're prescribing blood pressure medication for, and their blood pressures are not actually getting normalized based on your regimen of medication, you need to look at the patient and see if they're using an antimicrobial mouthwash. Because that mouthwash, if they're using it it's increasing their blood pressure because of the damage to the nitric oxide."

That's a pretty interesting study and a statement that this group of cardiologists made. So people are slowly getting aware of it, but the far majority of the medical profession and dental profession, still think that you need to use anti-microbial mouthwashes every day, and you need to scrub the tooth so that it is literally stripped completely of the dental plaque. And then they want you to use chemicals that prevent the dental plaque from forming naturally and normally.

Katie: That makes so much sense to me. And you have obviously the research side. I've always had an instinctive sense of this. Like for instance my in-laws when I married into their family, I noticed they all brush their teeth very hard, like, they have some German blood so they're definitely, like, very routine and consistent, I have to give it to them on that. But they all brush so hard. And as they've gotten older some of

them have receding gums and all kinds of problems. And it just never seemed right to me to brush that hard and that harshly, and I couldn't ever pinpoint why.

But as you're saying this, all this, kind of, just comes together and the puzzle pieces start to make sense. And I'm really curious too like so essentially from what you're saying we have an oral microbiome. I think most people are familiar with the gut microbiome, that's been widely talked about in recent years. But from what you're saying like our mouth has a microbiome as well, and that balance is equally important to our health. Is that right, and does it interact with our gut and our skin microbiomes as well?

Dr. Alvin: You're absolutely correct. And actually what I believe and the research suggests is that the microbiome in the gut, absolutely directly affects the microbiome in the mouth. And if you think about it, of course, the mouth is the beginning of this track from the tip of your lips to the other end. So all this mucosa from your mouth all the way to the other end has an interrelationship and the bacteria literally talk to one another. And the bacteria throughout the body talk to one another.

I have heard some fascinating studies that mention that the bacteria actually talk in two major ways. One, they create chemicals that they can release that other bacteria and other immune system cells of our body can sense to know who's who in their environment. But they also create a frequency, an electrical frequency that, kind of, sings to these other bacteria as well as the immune system. And when that frequency is not the frequency that other cells recognize as normal and healthy, that's one of the triggers where the immune system can attack a bacteria that is not healthy, because its frequency is not the normal frequency of the bacteria for the mouth.

It's pretty fascinating stuff. But, you know, dental plaque has several biological functions. Dental plaque is made up of maybe up to 750 different types of bacteria, there are a lot of people have different numbers, but whatever it is it's quite a large number of various types of bacteria. And they're all in the state of homeostasis, meaning they're balanced, they do good for one another. So they actually produce in total some degree of hydrogen peroxide. And this peroxide that the normal dental biofilm called dental plaque is producing, literally kills other potential pathogenic bacteria that might wanna try to invade the area.

The dental plaque also creates an acid level that is basically neutral so it doesn't allow for demineralization, or damage, or decay of the root surface. And the other thing that it does is it's kind of the conduit for mineralization of the root if necessary. So the saliva produces...or is the transport system for all these minerals that are necessary, in the mouth, and the minerals, kind of, get absorbed into the dental plaque. And the dental plaque in its gateway tending properties allows these minerals to go to the surface of the root as necessary to remineralize the tooth 24/7.

So, you know, if you had early decay for a variety of reasons, but you had a healthy diet, and you had minerals in your saliva, your body knows how to remineralize or eliminate the early stages of decay, which I know you know that. So dental plaque has three primary reasons, and if you remove that it's like taking all your clothes off and walking outside, you're totally exposed. I mean the root surface of the tooth and the gum margin is supposed to be protected by this natural, healthy biofilm. It's one of the healthy biofilms in the body until it gets unhealthy.

Katie: Right, like everything in life so much is about that balance. I'm glad you mentioned remineralization as well, because of all the things that I've written about probably with the exception of why I don't bring down

fevers in my kids, that is one of the more controversial things I've ever posted about, the ability of teeth to remineralize. And I've had this experience personally where after researching this, and getting into more natural lifestyle, and switching my diet really drastically, I had cavities that were very small they weren't like drastic cavities. But I had them rest and then start to remineralize.

And people are adamant, even dental hygienists that comment are absolutely adamant that this process cannot happen in the body, and that teeth are not capable of remineralizing. So I love if you could go a little deeper and explain like... I mean, you kind of covered it pretty well but explain, like, what that process is, and how we can support it? Because from what I researched it's the role of saliva like you said having the minerals there for the tooth, but also the internal and what we eat is so drastically important, but I'd love if you could expound on that.

Dr. Alvin: Sure. So one of the things that you need or your listeners need to be aware of, and anybody needs to be aware of, is that the enamel on the surface of the tooth, that's the white color of the tooth when you smile. That hard enamel surface does not grow new enamel, so you're not going to grow new enamel if you have decay. But if you did have some decay in that enamel surface or the root surface, there are minerals, calcium, and phosphorus and a variety of other minerals, that are associated in the saliva that can actually rebuild, redeposit, and strengthen the surface where it's been demineralized.

The reason that a surface becomes demineralized is because the acid level drops below a pH of 5.5. And like I said, the biologically healthy dental plaque helps to maintain that pH in a more neutral acid environment rather than a very acid environment of 5.5. Now, if you're eating foods that are unhealthy like sugars, for example, and grains, for example, and I'll give you some reasons why. So the sugars are gonna feed the pathogenic bacteria. So you have these bacteria in the mouth that is basically normal but individuals could become pathogenic if they were to be overgrown.

So if you're eating the foods that encourage the bad bacteria to overgrow like sugars, then these sugars as they ferment the sugar... I mean the bacteria that ferments the sugar creates a tremendous amount of acid well below 5.5. Meaning it gets very, very acidic, and that acid literally melts away the minerals on the surface of the tooth. As the minerals dissolve away, then these bacteria can start to penetrate the surface and now it becomes a snowball effect.

So in the beginning, if you have minerals that are healthy and the acid level is more neutral, these minerals can be dedicated to get rid of this softer tooth structure, which is the decay. And the natural dental plaque actually because of the peroxide in it can maybe kill off some of the bad bacteria and overwhelm them with the healthier bacteria and you get remineralization.

Katie: Got it, okay, so that makes perfect sense. And I feel like it really also explains in better detail why...like, a really compelling case for avoiding sugar. I mean, I know most dentists are on board with that, that sugar is not good for the teeth, but until I started researching and getting into the natural side, I had only heard it mainly from the perspective of sugar is bad because if it sits on the teeth it can lead to tooth decay. But from the way you're explaining it, it also can affect like obviously gut bacteria, and that balance in the mouth, and it can create the problem in so many more ways than just that it sat on your teeth.

And I feel like that is maybe a key. And I'd love to hear you speak to this, what your opinion is. But I get emails from moms who are exclusively breastfeeding their babies for instance, and the baby will have...like a two-

year-old will have tooth decay. And the dentist will tell them you need to stop nursing your child because the breast milk is what's causing tooth decay. And were like, you know, nursing at night or any of that is bad for the baby's teeth. And I'm really curious if you have any input or insight on that because from what you're saying with the sugar and the bacterial balance, I would think something like breast milk, for instance, would actually be supportive of the bacterial balance in the mouth and not problematic. But I wonder if you've researched this at all?

Dr. Alvin: Breastfeeding is critical. Breast milk has loads of friendly bacteria and it's critical not just for the mouth, it's critical for the baby to develop its immune system. So the baby during birth develops an immune system from the mom and after birth and the baby is nursing, it improves its immune system from the bacteria in the breast milk, which is normal and healthy. In the breast milk, there is also many, many...what's called oligosaccharide polysaccharides which actually are fibers that feed the good bacteria in the gut, breast milk is critical. But breastfeeding is even more critical for the development of the jaw. Do you want me to get into that at all or no?

Katie: Yeah, absolutely I'd love to hear your explanation.

Dr. Alvin: So there are so many people that have malformed jaws today, and a lot of it goes back to the nutrients that mom ate and the children as they grow up to be adults are eating. But a lot of the development of the jaw also is related to breastfeeding or improper breastfeeding. So, when a child breastfeeds, the nipple is placed in the mouth and it pushes onto the soft palate...or the hard palate which is the bone around the upper teeth. And the pressure of the sucking as well as the pressure of the nipple, and the breast on the hard palate, helps the hard palate to slowly expand naturally as it grows.

And as children breastfeed the breast conforms to the growth or the growing potential of the hard palate. And it makes way for the room for the natural teeth to erupt completely, and then the lower jaw accommodates the size of the upper jaw so it grows properly. When parents, moms don't breastfeed or only breastfeed for a short period of time, the baby does not have the natural stimulation to grow the upper jaw bone correctly. And that's why there is frequently crowding of the teeth.

If you were to buy this different orthodontically designed nipples for bottle feeding, at any point in time maybe that orthodontically designed nipple will fit the palate of the baby correctly. But the plastic of the nipple isn't growing as the baby is growing, so it will only accommodate for a short period of time and then all of a sudden the pressure is not there, or it's not expanding like the jaw is going to expand. So breastfeeding is very critical, not only for the nutrients, not only for the bacteria but also for the development of the proper shape of the jaw. You know, there are some primal societies that breastfeed their children between two to four years old.

Katie: Yeah, I'm so glad you brought that up because I'm sure you're familiar with the work of Dr. Weston A. Price, which was one of the first resources I found on this in his book, "Nutrition and Physical Degeneration." And it really struck me the jaw structure even...I mean, the teeth were beautiful, but the jaw structure of some of these native populations they had these amazing wide jaws, and like beautiful face structure because of that.

And at least from what I've read that something else that we're seeing a lot in modern society is that children especially are being born with much more narrow dental arches. And I think like a more narrow maxilla which

is that top bone as well as like that...and because of that, like they have a more narrow airway from what I've read as far as...because that bone is critical to the nasal space, and the throat space, and how much air a child can get.

So from what you're talking about this is not just critical even for just oral health this is critical for lifelong development. And I'm so, so glad that you touched on that and brought that up. I know one thing that we've done with our kids in the hopes of avoiding braces, my husband and I both had braces and all of our kids are on track it looks like to not need them. But I did breastfeed them until they were almost two, and exclusively until they were about eight months, and they had that start in life, and also the nutrient-dense diet.

But also we've been using these mouth guards with them that do that, they kind of apply that gentle pressure at night just to kinda keep training the top of the mouth, the palate. Are you familiar with those or what is your take on those? Wasn't even planning to ask you that but I'm glad we brought it up.

Dr. Alvin: That actually is correct. These are functional appliances that are very light wire, meaning that they only create very, very light pressure but enough to expand slowly the upper jaw. And when the upper jaw gets expanded, the tongue learns to create its proper position which is actually to touch the upper jaw, the hard palate just behind the upper front teeth, the upper incisors. And that's where the tip of the tongue actually should lie. And that encourages the lower jaw to grow forward and create more space for the airway. So it's a very complicated process, but nature has its way to make it happen unless we break the cycle and stop the natural progression. So the natural progression is actually to eat healthier nutrients, a nutrient-dense diet.

Grains, I mentioned earlier, grains have one negative potential in the mouth and that it has quite a number...especially wheat has quite a number of phytates that actually can absorb minerals that are necessary for the jaw and the saliva for the tooth. And it binds them so that you don't get that activity of the minerals in the body.

And then the grains do irritate the gut, certainly creates holes in the gut lining on a repeated basis because people are eating grains not just once a week they're eating grains five times a day. And it's constantly irritating the gut, irritating the membrane of the gut, and you're getting leakage into the bloodstream, and this is where chronic inflammation starts. Decreasing the host resistance and then the bacteria in the mouth are affected. Then the bad bacteria feed the mouth bacteria. And all of a sudden this is a vicious cycle, so you have active gum disease and tooth decay.

If I can just make one more point about that, and that is, I believe this disease starts in the gut. I do believe it gets to the mouth. And once the disease especially gum disease gets into the mouth and gets under the gum, you develop a new nities of infection under the gum tissue. So people will have a leaky gut and you don't have to have gut symptoms, you don't have to have bloating, or gas, or diarrhea, or constipation to have gut problems. Because 90% of the people or at least 80% of the people have no symptoms in the gut, but they have this leaky gut or increased intestinal permeability where you're developing a chronic inflammatory state in the blood system.

And this affects the mouth, and it affects the mouth in so many negative ways. The mouth then gets infected and now you have a leaky gum pocket as well as a leaky gut situation. So if you were to only treat the leaky gut, which functional medicine knows how to do well, and they don't...or anyone doesn't recognize there's a gum issue, you still have a unique infection area in the mouth that will pour into the bloodstream.

If you're a biological dentist and you're really understanding the disease in the mouth and you're really treating the disease in the mouth very biologically, but you don't understand the gut dysbiosis or the leaky gut. And you're only treating the mouth like I said, and not the gut, you will still have a source of chronic inflammation from the gut. You have to treat the gut, and you have to treat the mouth, and that's a connection that very few functional medicine practitioners get right now.

Katie: Yeah, I'm so glad that you are spreading the word on that. And I'm curious too because it seems like in the medical world there is at least a passing understanding that the body...like oral health can affect other parts of the body. For instance, I have a friend who has a heart condition, and every time she goes in to get her teeth cleaned her doctor wants her to take antibiotics. Which to me means that there he realizes there's some connection there. So we talked a lot about how, like, the leaky gut can impact the teeth, but is there also the aspect of, like, can just gum disease and oral health problems also negatively, like, flow down and affect the body in other ways, and if so, how?

Dr. Alvin: Absolutely, and what I was just mentioning that the problem is a leaky gut creates all this chronic disease, and cardiovascular disease, and a host of other potential diseases based on the genetic weaknesses of that individual. When you have infection under the gum, the infection leaks through the little capillary beds into the bloodstream, just like the infection in the gut leaks into the bloodstream through the gut lining. So, if you have active gum disease, it definitely can create a cardiovascular situation as well as other chronic diseases, because the bacteria and the endotoxins, the infectious and inflammatory result of this bacterial infection, get systemic and can affect every organ system.

So you have to treat the mouth. Now, you mentioned that the dentist wants to put them on antibiotics. I question that because antibiotics are going to decrease your immune system's reaction, it's going to damage and kill many, many healthy bacteria that could fight an infection. And if you have an infection in your mouth, every time you brush your teeth, every time you eat, you're pushing the infection into the gum space. Even if you're not doing that, the infection is right there where the capillaries are. The gums that are bleeding...you don't even have to touch for them to be bleeding, that's the infection already in the blood system.

So what you need to do is get that infection out, but you also need to understand what's feeding this infection. And it's not just the sugar that's in your mouth, it's the gut bacteria that is being damaged from the foods that you're eating leaking into the gut, and creating the dysbiosis in the mouth.

Katie: That's so fascinating. Okay, so I wanna make sure we touch on, like, specifically the kind of what to do and a couple of different situations. One, of course, being like tooth decay or gum disease, but also since we ended up talking about like palate, narrow palate, and in children the factors that affect that. I'd love if we could just before we move on, kind of, if you could give us a rundown of...for all the moms listening, what things we can do to help our kids develop their palates properly both pre-conception for those who are looking at getting pregnant, during pregnancy, and then also as we have young children.

Dr. Alvin: Well, certainly diet is critical and I would recommend a paleo diet, and I'm not gonna go into all the foods that are recommended and required for a paleo diet. But basically, a paleo diet meaning nuts, and seeds, and vegetables, and fruits, and all of these are organic by the way of course. And animal products that are either wild caught living in their natural environment, eating their natural foods that are not damaged or, like, GMO type products, and/or wild caught fish that are not farmed, and again, they're eating their natural

diet. Those foods have the proper amount of nutrients, proper amount of fats, and healthy fats, certainly they have the elements that create a healthy body that will create a healthy dentition.

Moms need to be able to breathe healthy because the oxygen they are breathing that gets into the baby is critical, and oxygen is a nutrient. And oxygen is critical for the development of all of the baby's organs as well as the jaw. Once the baby is born; absolutely, breastfeeding if possible, as long as possible. And you want to introduce real foods that babies can chew on and not mush as soon as possible to help the muscles of the jaw exercise. And the strength of the muscles exercising to chew more crunchy foods actually strengthens the density of the jaw bone. So you want to have the baby start to eat and chew food as soon as some teeth are there, rather than eating mushy baby food for several years. That would be important.

And of course feed the child a paleo type of diet, so you're not going to feed them cakes and cookies and sugary products, and practically no fiber. I mean, you need to make the diet for the child representative of the diet for the adult and all of that needs to be basically an ancestral diet.

Katie: Agreed. And another interesting fact that came up when I was researching and I'd love your take on it, is that like really our ability to eat foods that are, like, soft as adults is a pretty new thing. Like for years and years if you were foraging or, like, cooking things over a campfire and you didn't have, like, Sous-vide or instant pots, like, a lot of the food you encountered were, kind of, tough and you had to chew hard. They weren't, like, bad for your teeth tough like taffy or something that's gonna get really stuck in your tooth, but you had to chew hard to eat some meat and your jaw probably got tired.

And I know, like, for a lot of people listening maybe if you aren't familiar with those foods and then you just chew, like, beef jerky, for instance, you might realize that your jaw is actually sore. But one of the things I found was that we actually need that muscle movement of chewing harder like tougher things, hard is probably the wrong word, but tough things to stimulate the action, and the muscles of the mouth. Have you found that as well, like, is it good to, like, kind of have to work to chew on things sometimes?

Dr. Alvin: Absolutely, and I wouldn't say sometimes I would say it should be the rule rather than the exception. And there are some interesting studies that have also been published in the last four or five years that demonstrate that. They've actually had some control studies that showed that if the jaw is not exercised properly from firm chewy type of foods, then the jaw muscles are weakened and the bone density is weakened. And the development of the jaw is compromised.

And the other aspect if the child is eating harder foods, chewing more, getting the muscles to be activated, then the bone gets more dense, the jaw bone grows in a more natural way, and that overall jaw joint is a healthier jaw joint. So absolutely, I would say that you want to have more foods that are tougher and require chewing than foods that are soft.

Katie: That's so logical. And just like anything we know that we have to exercise muscles to keep them, and it makes perfect sense that it would apply to the mouth as well. And that, like, exercise keeps our bones strong, it would make perfect sense. It keeps our teeth strong to do it correctly as well.

This episode is brought to you by Four Sigmatic. My kitchen is always stocked with their coffee mushroom blends, their Matcha mix, and their straight mushroom drinks. Four Sigmatic has figured out how to get the

benefits of mushrooms like chaga, lions mane, cordyceps and reishi into delicious instant drinks. My current favorite is their adaptogen coffee blend that has torsi and astragalus. But I love all of their products. They have options with or without caffeine so if you're not a caffeine person you can find products that you will love. And I find that even their coffee blends that do contain caffeine have less than a normal cup of coffee. But don't let this fool you. I have found that I get so much more focus and mental clarity from these mushroom blends than I do from regular coffee, and without the jitters. The addition of the mushrooms, which are considered nootropics, meaning that they are good for the brain makes these super food blends more effective and much healthier than just regular old coffee. I love them with a dash of macadamia milk personally. I also love that many of their drink mixes are instant and packaged into individual servings so they are perfect for travel or on the go. If you're listening to this, then you can get a special offer just for listeners of this podcast by going to [wellnessmama.com/go/four-sigmatic](https://wellnessmama.com/go/four-sigmatic).

This podcast is brought to you by Kettle and Fire. You may already know, that this is my go-to bone broth because it is shelf stable, it's easy to use and it's delicious. But you may not know that Kettle and Fire just released brand new bone-broth based soups, which make it even more convenient to eat healthy on the go plus they save a lot of time when you're trying to feed the whole family on a busy night and they are delicious. They have miso, tomato and butternut and they are all really, really good. Plus, they have a 20-hour slow simmer process for their broth that extracts insane amounts of protein, 10g per serving. And this creates a collagen-rich broth that is great for hair, skin, and nails. My favorite part is that it only takes a minute to heat up any of these broths or soups on the stove and I can keep a case in my pantry so it's there any time I need it. Right now, you can save 10% by going to [kettleandfire.com/mama](https://kettleandfire.com/mama) and the discount is already built in. So just remember that link - [kettleandfire.com/mama](https://kettleandfire.com/mama)

Katie: You've also touched on it but I'd love a little more detail on fat-soluble vitamins because that was one of the things certainly that Dr. Price spoke about at detail was that he noticed that traditional cultures eating what we would now call a paleo diet were naturally eating enough fat-soluble vitamins. And from my background in nutrition that's something that's lacking in a lot of American diets, is enough of those fat-soluble vitamins A, D, E and K as well as the minerals that are important to balance them.

So I'm sure that's a factor that you talk about as well, but I'd love if you could go a little deeper on the specific ones especially for children. We need to make sure they're getting either through diet or if there's a time for supplements.

Dr. Alvin: You know, I'm not big on individual supplements for individual minerals or individual fats. I believe that it is best to eat these in its natural environment. Some studies have shown for example fish oil is really important, when they study supplements of fish oils they don't get the clinical results and even have some harm clinically when it's compared to wild caught salmon or sardines. Even though theoretically, these are going to have the same fish oils. So fish oil is very, very critical, but fish oil works in a symbiotic state with all the other minerals and products of the fish that we don't even know about that our body requires for it to function properly.

So certainly I would recommend...Green Pasture has a great product that I even take myself. I don't call it a

supplement because I think it's just real food, it's basically from in a cod liver oil with butter that I know that I'm getting vitamin A, and D, and K2, and a variety of other things that are critical for the development of the jaw bone. For the development of healthy blood vessels without calcium deposits, I think that these are foods that are critical. So we need to be eating organ meats, we need to be eating bone broth, we need to be eating sardines with the skin and bone in, and not skinless and boneless. We need to eat chicken skin and not just white skinless breasts. We need to eat the thighs. We need to eat the skin. We need to eat the chicken wings. We need to get these organ systems in our body from animal products, not just the meat itself.

There are certain minerals that we may be devoid of certainly, magnesium is always a problem, but if you can get adequate magnesium from vegetables as well as some seeds like pumpkin seeds I think are high in magnesium. Certainly dark chocolate is high in magnesium, which is a great food even though it's kind of a treat and a snack, it is a great food. So these foods are very important, I'm not...like I said, not big on just buying a bottle of magnesium, or a bottle of selenium, or a bottle of vitamin A. I believe that we should be getting this from real food.

Katie: I'm 100% with you on that, my only exception would be I guess if people live in northern climates and can't get vitamin D from the sun and they've tested and they know they're low and they're working with a practitioner, I can see certainly a time and a place for that. But I am 100% with you on get everything from food when you can. And at our house, for instance, we make sure to eat wild Sardines a few times a week, and a tip for moms listening. And I know even for adults that can be like a scary food to try but they're actually delicious when you get used to them.

But we make like tuna salad type thing out of them with avocado oil Mayo from Primal kitchen and some Bubbies fermented pickle relish, you're getting probiotics, you're getting avocado oil, and also some pieces of avocado. And it really just tastes like tuna salad, and the kids will eat it. I feel like that's a great way just to start off with kids to get those things in their diet and it's cheaper than supplements because they have to eat anyway. But I'm 100% with you on that like we can stick to food whenever possible for sure.

Dr. Alvin: I totally agree. As a matter of fact in my book I have a section of original paleo recipes, when I say original I created them, maybe 45 or so. And one of those is sardines for sardine haters, so it's basically a can of sardines but we add a variety of things that disguise it and actually make it taste better. Like blueberries, some Dijon mustard, some sunflower seeds, maybe some cultured sauerkraut, mix it all together, it's really tasty and it's very healthy.

Katie: Yeah. I found that the more and more I've just adapted to real food the more I crave things, like, I'll have days where I crave sardines and anchovies, and just, like, will eat those for lunch. And it reminded me actually of something else interesting I'd love to run by you because you talked about the dental plaques and biofilms and how those are important to the body. And I wonder if there's a connection. So what I've...I've been experimenting with longer-term fasting like five to seven days a few times a year. And the idea there is that you are kicking your body into autophagy at some point, and it's killing off damaged tissues and, like, basically regenerating itself.

And there's a lot of benefits to fasting separate of oral health, but I'm curious because a lot of people seem to when they fast the first few times their teeth and gums get sore. And actually, it made me wonder if the body is like trying to balance out the mouth or to kill off any of the bad things and to rebalance the mouth bacteria. And there's probably not much research on that because both of those are, kind of, new and maybe not

connected. But I'm curious if you have an opinion on that.

Dr. Alvin: That's a good question about the mouth and I have not had that experience. But I will tell you I think that at least intermittent fasting and multi-day fasting is critical for health. If we wanna go back to our ancestors certainly they did not have breakfast, lunch, dinner, and two snacks, they sometimes went for a day or several days without eating. What fasting does is, like you said, it kills off some bad cells, but it also improves the mitochondria of cells. And this is a really critical subject, you know, the microbiome, the gut bacteria have been the highest and hottest research area probably in the last five years in medicine.

But I do believe that the mitochondria is becoming even more researched today, for its anti-aging and health-producing benefits. Every cell in the body with the exclusion of red blood cells have mitochondria. So mitochondria are basically the battery of the cell. If you had a flashlight and you didn't put batteries in, you know you couldn't get the light to flash on. If you put healthy batteries you have a bright light. If you continued to keep the light on slowly it would dim and it will still work as the batteries weaken until the batteries are completely dead, and then there is no light.

So the mitochondria in the cells are the batteries to the cell, and some cells have maybe 100 mitochondria and other cells, individual cells that produce a lot of work like muscle cells, they may have up to 2500 mitochondria for each muscle cell. So these mitochondria are critical for the life of the cell, and function of the cell, and fasting basically improves the efficiency of the mitochondria. It kind of recharges the battery. And to do that actually means that you can help prevent or even cure chronic disease because all chronic disease is a disease of mitochondrial dysfunction, meaning that the mitochondria are not properly functioning for that cell, so the cell cannot do what it's supposed to do for that organ.

Gum disease is a disease of mitochondrial dysfunction, if you can fast for at least 24 hours occasionally and maybe longer like you suggested that you're doing occasionally, you can improve the health of your mitochondria. And help to, I believe, prevent and maybe even cure other areas of chronic disease that you may not even know that's existing in your body and take care of it.

Katie: Wow, so glad I brought that up and that it seems like a very logical thing now that you've explained it. And I can't believe we're getting somewhat close to the end of our interview, I could talk to you for literally eight hours, but I wanna make sure we end with some really practical stuff. So I'd love to know when someone comes into you with gum disease, or advanced tooth decay, or these problems, like, what are the first things that you tell them? How do you approach it? And then a follow-up to that question would also be, like, how can we clean our mouth efficiently but safely? Like you mentioned you don't shower with anti-bacterial anti-microbial soaps, so what is the corollary of that for the mouth? What can we do that's safe?

Dr. Alvin: Sure. So for your first question, what do I tell my patients? I tell all my patients my little spiel, my shtick. I would say maybe 1% to 3% really believe what I'm saying because I have a traditional practice. But I talk about the gut, I talk about their health, I really wanna know how they're doing overall. I tell them we're going to get into their mouth, but I tell them that there are sources in their body that are creating this gum disease that they have. As a periodontist, I treat gum disease and we need to understand what's causing it.

If I only were another periodontist telling them to brush harder, and floss better, and use an anti-microbial mouthwash to kill all these bacteria, I would not provide any benefit for my patients. I will tell them to do those things if we need to do them therapeutically to get the disease under control, but I always emphasize

we need to make that gut healthy. And I am a big proponent of spore-based probiotics and Vitamin K2 either in natural sources or in a supplement. And this would be a supplement that I would recommend if necessary because they are critical for a variety of healthy gut bacteria that relates to the mouth as well as the rest of the body.

And I do only emphasize spore-based probiotics because those are the only probiotics that have been proven to go through the acid of the stomach untouched, and through the acids in the bile salts untouched, so that they can repopulate the small and large intestines. All other biotics generally are destroyed by the stomach acid, or the bile acids, and although they're producing lots of healthy metabolites that are beneficial for the gut, they will not reproduce because they're dead. And that's important, so I emphasize that as well as K2.

And K2 is an important nutrient because some recent studies have shown that K2 can actually revive weakened mitochondria, which is quite fascinating. So I can tell you some stories about that but we're not gonna get into that yet.

As far as cleaning the mouth, here's what I recommend. I recommend brushing your teeth with a soft bristle toothbrush or an electric brush. I like electric brushes because I'm lazy and they're just more efficient, but make sure the bristles are angled at a 45-degree angle between the tooth and the gum. Think about the way the tooth and the gum comes together like the wall...in your kitchen where the wall and the floor come together. That little crevice where the wall and the floor come together is where all the dust wants to accumulate. So you might take a scrub brush at a 45-degree angle and scrub it horizontally to clean it.

So that crevice is where the tooth and the gum come together, so that little crevice is where the unhealthy bacteria may accumulate. And if you take a soft brush and just gently brush horizontally, not hard, just gently, the soft bacteria just kind of peel away, then you'll be cleaning your mouth. You do not have to use toothpaste. Toothpaste is totally not necessary, but if you wanted to use something I would dip the toothbrush in a little bit of coconut oil and a little bit of baking soda and brush. I would clean between the teeth, floss is good between the contacts, but floss doesn't clean where the tooth meets the gum between the teeth very well.

But there is a little bit device by a company called TePe, and it's spelled T-E-P-E, and it's available online. They make these little brushes that go between the teeth. They're all silicon, there's no metal or latex involved, and they're called EasyPicks from TePe. And you go back and forth between the teeth at the gum line just scrubbing, kind of, like a baby bottle brush, but tiny, tiny, tiny. And it cleans the bacteria at the base of the tooth and the gum between the teeth, tooth brushing will not get to that area.

So those are the two ways to remove unhealthy bacteria from around tooth. And to remove excess unhealthy bacteria on the top of the tongue, which by the way is where 90% of the odor comes from, if you have odor in the mouth, you can get odor from active gum disease. But 90% of mouth odor if it's not from the gut and the foods that you've been eating, comes from the top of the back of the tongue. So you wanna clean that, and the easiest way to clean that is take a teaspoon, invert it, put it back on the top of your tongue towards your throat just before you want to gag. And then press down on the tongue and pull it forward, and do it several times. You'll see a kind of a little milky fluid accumulating in the curvature of the spoon, that milky fluid is a combination of overgrown bad bacteria as well as decaying food and other products.

If you wanted to prove that this would be odorous, not pleasant, I'm just gonna suggest this you could take it

and either put it on the wrist of your hand or put it in a paper towel, let it dry a little bit and then take a whiff of it and that's what your breath smells like. How does that sound?

Katie: So are you a fan at all of any of the like tongue cleaner devices that work similarly?

Dr. Alvin: Yeah, tongue cleaning devices are okay, you just have to buy them. Why not take a teaspoon that you have in your kitchen, invert it and use it. Actually, I like a teaspoon because it's easier to use I think, and because of the cupping effect of the teaspoon it collects this liquid, this milky fluid that you just wash away in your sink. So it's very easy to use, but you can use tongue scrapers that's fine.

Katie: Interesting, and back to the like the earlier part of the discussion, I know that's another commonality in people when they fast especially for a few days, is that they'll get an excess of that white buildup on the tongue which they think is largely purge of the body, like removing things and working through things. But I thought that's really fascinating and a good tip especially for anyone who tries fasting and ends up with extra buildup on their tongue during that time. And I know that you have an amazing book which is on my Kindle and I've been reading it, it will be linked in the show notes but can you talk about your book, and your website a little bit?

Dr. Alvin: Sure. So, "Crazy Good Living" my publisher released the print edition I think October of last year. It's based on an ancestral nutrition from a periodontist, my perspective, so I'm starting in the mouth. Most people talk about nutrition but they only talk about the food that we're eating and they immediately get to the gut. Somewhere along the line it has to get to the gut, and the way to do that you have to chew it, and eat it, and how it's starting to get digested in the mouth. So I talk about the mouth, I talk about how this food is getting into your body. It's basically a paleo ancestral approach, as far as eating is concerned, anti-inflammatory nutrient-dense foods.

But I also talk about my four pillars of health, which is the nutrient-dense foods, as well as stress reduction, efficient exercise, and restorative sleep. All of this is critical. If you had a stool that had four legs, any one leg if it were broken would destabilize the stool. So if you were eating extremely healthy, but you had a lot of stress in your life, you could literally destroy your microbiome and create all the problems that poor eating would create, but you didn't have poor eating you just had too much stress in your life.

Every one of these four legs of the stool has to be as ideal as you can make it, obviously, we're not going to be perfect people, but if you can make it more ideal then you'll be a healthier person. And that's what the book is all about. In the end of the book, I talk about some paleo recipes that I've created and, like I said on my website I have quite a number of other original paleo recipes. So my website is drdanenberg.com which is D-R-D-A-N-E-N-B-E-R-G.com. I have lots of blogs, I usually write once a week on Mondays with subjects that are related to the gut, and the mouth, and overall health. Sometimes I go off on tangents that have nothing to do with dentistry, which is kind of fun. And I even do some Skype consultations for individuals that wanna talk about their mouth and their gut, and they can't see me so I talk to them through Skype like we're talking right now.

Katie: Perfect. And all of those links will be in the show notes as well for anyone listening who can't write them down. And those are at wellnessmama.fm. And a couple, like, rapid fire things I love to end with, if you have a couple more minutes. The first is I'd love to know a book that's had a major impact on your life besides your own, which I think will have a major impact on many people's lives. But curious if off the top of your head

there's a book that's really influenced you.

Dr. Alvin: Absolutely, Terry Wahls the physician who had multiple sclerosis and literally cured herself from a healthy diet and lifestyle wrote a book called, "The Wahls Protocol." And when I read it years ago, I mean, it's not that many years ago, but years ago, four or five years ago I guess it would be now. I really became involved with the concept that started to influence me to where I am now. I'm 71-years-old, I didn't understand healthy diet until I was 66. I had a stroke at the age of 59. So I didn't get into what I'm doing until when I was 66, and now I'm 71, for the last 5 years I've really reengineered myself.

I've reengineered the way I practice dentistry or periodontics, and that's what I promote to my patients, that's what I speak about when I speak at seminars and a variety of conventions that I go to. This is the way humans should live. And one thing I can mention to you is that you are never ever, ever too old to make a change. Because I did, and I am healthier today than I've ever been in my 71 years.

Katie: That's awesome. And lastly, I can probably guess what it might be along the lines of, but I'd love to know one piece of advice that you wish you could give to everyone as we part ways today?

Dr. Alvin: Make sure you have a healthy gut, that's critical.

Katie: I love it. And like I said, I literally could talk to you for eight hours and I think we will have to do a round two one day because this has been so much fun. But Dr. Al, I appreciate your time so much and for you sharing your wisdom today and for joining me.

Dr. Alvin: Thanks Katie, it's been a pleasure. Thank you so much for asking.

Katie: You're so welcome. And thanks to all of you for listening, and I hope to see you next time on, "The Healthy Mom's Podcast."

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