

Healthy Mouth World Summit

Guest: Sarah Pope

Practical Real World Advice for Using Diet to Heal Cavities in Children and Adults

Will: The next expert to share their experience with us here at the Healthy Mouth World Summit is Sarah Pope. Sarah is best known as the Healthy Home Economist for her popular blog, which is devoted to debunking nutritional myths and teaching traditional cooking principles. The Healthy Home Economist blog is ranked in the top 50,000 websites in the world, and serves over 20,000 daily visitors.

Sarah graduated with highest honors from Furman University with a degree in economics. She also holds a Master's in government administration with a major in financial management from the University of Pennsylvania. After earning her postgraduate degree, Sarah worked for over ten years in the field of information technology designing financial systems for corporate and government clients, first with the global consultancy Accenture, and then with the associate vice president with Raymond James Financial.

Sarah has been the Weston A. Price Foundation chapter leader for the Tampa/St. Petersburg, Florida area since 2002. She joined the Weston A. Price Foundation board of directors in the summer of 2011.

Sarah recently completed development of the twelve-part Wise Traditions beginner video series covering all aspects of traditional cooking for the Weston A.

Price Foundation. The title of Sarah's presentation today is "Practical Real World Advice for using Diet to Heal Cavities in Children and Adults."

Sarah Pope, welcome to the Healthy Mouth World Summit!

Sarah: Will, it is really great to be here!

Will: Yes, thank you for joining us and sharing with our listeners your unique experience here. I know a lot of folks are excited about hearing your, if you will, in-the-trenches, hands-on account of applying diet to creating greater oral health, especially when it comes to your children.

So, before we get into the details of your experience addressing oral health through diet and your family, how did you first become interested in oral health and the role that nutrition plays in keeping teeth and gums disease-free?

Sarah: Well, you know, about twelve years ago is when it all started for me. My husband and I had been doing a lot of research. And through this research and talking to some of the holistic healthcare providers that we were interacting with at the time, we realized that his health issues, which included a lot of joint pain -- and given that he was in his early thirties, didn't really make sense for him to have that much joint pain at that point in his life -- we realized that joint pain could be caused by potentially the root canals that he had put in when he was a child.

At eight years old, he had been in a car wreck and had several of his front teeth knocked out. And those had been put back in by a root canal. And the research that we did on the subject brought us to the work of Dr. Weston A. Price and his

amazing book *Nutrition and Physical Degeneration*, which has been enjoying a lot of renewed interest in the last decade or so.

For those of you who haven't heard of Dr. Price, he was a dentist -- a very well-known and renowned dentist, I might add -- who traveled the world in the early part of the 1900s. And he was interested in studying the teeth of healthy ancestral cultures around the world and the role that the nutrition of these peoples played in maintaining their oral health.

And what he found was that these people suffered little to no tooth decay. And through researching the fresh, unprocessed and primarily local foods that these cultures consumed, he realized that it was the nutrient-dense foods that they regarded as sacred that were in large part responsible for their excellent oral health.

These sacred foods, which he studied in his lab, I might add -- he examined them for their nutrient content. He was a very precise and detailed man -- he found that these foods were very high in the fat-soluble vitamins A, D, and K2. And the amounts that these cultures were consuming was many, many times higher than even the Americans of Dr. Price's day.

And, you can imagine, they didn't have McDonald's back then. They didn't have Big Gulp sodas or anything like that. So, the people back then were eating a much more unprocessed diet than Americans even do today.

So, if you compare the modern American diet with what Dr. Price found from these traditional peoples, the nutrient-dense, poor calorie-dense diet that

Americans consume today was a complete opposite of what these traditional cultures were consuming.

Will: Excellent, excellent point. I commonly ponder on that when I see Dr. Price's work about the traditional cultures that he studied eating four to ten times the nutritive value, mind you, like you just pointed out, of the American families back in the 1920s. As well, how much loss have we had as far as our diets since the twenties in this nation?

Sarah: That's right.

Will: So, as a mom with young children, what did you first think about Dr. Price's assertion that cavities can heal and that crooked teeth are the result of nutritional deficiency?

Sarah: When I first read that Dr. Price had healed cavities with nutrition in *Nutrition and Physical Degeneration*, something inside of me just clicked. It was like this makes total sense. I mean, why wouldn't the body be able to heal a cavity, which is essentially just a wound in the tooth, in much the same way as a broken arm heals when you break it? It made total sense. I'd never thought of it that way. But it just clicked with me.

And it didn't seem to make sense that nature would not provide for a way for the teeth to heal given the enormous importance that teeth play in our health and our everyday survival. I mean, I just can't imagine that nature wouldn't provide for a way for those to heal.

And regarding Dr. Price's evidence, crooked teeth result from nutritional deficiencies and not genetics or soft foods eaten during childhood or thumb sucking, as is popularly believed. That made sense to me, as well. My own father, who went through medical school in the late forties and early fifties, he was taught in medical school that it was genetics that caused crooked teeth, that it was the mixing of the races. And, he and I have had conversations about Dr. Price's work since then. He said, "You know what Dr. Price discovered makes perfect sense. And at the time, I was going through medical school, I kind of wondered about that myself."

But, if you just look around, you notice that so many more children today need braces than they did even ten or twenty years ago. My own parents both have naturally straight teeth. And I'm one of seven children. And yet five of their seven children needed braces. And a couple of my siblings had severe overbites, not just slightly crooked, but really severe overbites that required a lot of orthodontic intervention.

And, I find it interesting that the ones in my family who didn't need braces were the same kids who ate a lot of seafood during their adolescent years. And, in my case, I loved liver. And I would go down to my grandparents house down the street and eat it at least once a week. So, liver was identified by Dr. Price as one of those key sacred foods for maintaining oral health and providing straight teeth in growing children.

Will: What a blessing for you, huh? [Laughs]

Sarah: Yeah, thank goodness for my grandparents down the street!

Will: No kidding! So, how long have you been following the dietary guidelines outlined as a traditional eating blueprint from Dr. Price's book?

Sarah: Well, it made so much sense to me. There's a lot of aspects to traditional diet. And I did the best I could. I implemented all aspects as quickly as I was realistically able to. It's been over eleven years now since I've actively made pretty much all the changes identified as part of the traditional diet in Dr. Price's work.

A book that was instrumental, by the way, in the practical implementation of Dr. Price's research is the cookbook *Nourishing Traditions* by Sally Morrell. It was invaluable to me in taking this very data-, research-heavy book written by Dr. Price and making it practical to a mother and a parent in the kitchen who's actually trying to improve her family's diet.

This book provided recipes, strategies, cooking tips, and techniques that I could use to make the changes I needed with minimal disruption to my ordinary kitchen routine. And I think it's important to point out, Will, that I was a zero in the cooking department at that time. My idea of homemade brownies was a box of Duncan Hines emptied into a bowl with an egg mixed in. I was not very savvy at all in the cooking area.

And, just to give some encouragement to your listeners, cooking is something -- I'm okay with it -- but, it's not like the great love of my life or anything like that. There's a lot of things I would rather do than cooking. But, the key is that cooking the way that I needed to for the health of my children was not an option. It was

something that I had to do to get the results that I wanted. And, therefore, I was willing to do that.

So, you don't have to be a chef. You don't have to love to cook to implement what's necessary for great oral health in your children. And you can be like me and basically not know how to do much, and you can still be successful.

Will: Yeah. For a number of years -- not nearly as long as you have, obviously -- but, for a number of years regarded *Nourishing Traditions* as really the go-to book for when we hear that a niece is getting married or something. "Oh, let's send them a copy of Sally's book!"

Sarah: Exactly.

Will: Yeah. So, have any of your children experienced any dental problems that you were able to resolve with traditional diet in your own home?

Sarah: All three of my children have experienced minor cavities at some point in their childhood. None of these I have had filled at the dentist, I might add. I've either completely reversed the decay...completely reversed, where the tooth, you couldn't even tell there was a cavity at all there upon the reversing. Or, I halted the decay with the nutrition alone. In other words, I wasn't able to turn the tooth completely back to white. There was still maybe a black spot there. But the decay was halted. The tooth hardened up and was fine and did not require treatment.

I think it's important to point out that parents need to really be aware that fillings present a health challenge for their growing children. And that's why nutrition

really needs to be the first line of defense when there is a problem with decay in a tooth.

First of all, you've got the silver fillings. And most people are becoming aware now that those have mercury in them. Mercury is a potent neurotoxin, and certainly not something you should be putting in a child's mouth. On the other hand, a lot of people don't realize that even the white composite fillings present a problem. These fillings very frequently contain endocrine disruptor BPA. And, the BPA-free fillings are really no better because they contain the endocrine disruptor BPS, which is a cousin chemical to BPA and is just as messing up to your hormones, if you will.

But, a recent study published in the *Journal of Pediatrics* found that children with these BPA-containing composites had a higher incidence of behavior problems and issues like depression and anxiety than children who did not have any composite filling.

And I should also add that sealant for your children's teeth to try to prevent cavities, these should be avoided, as well, because these frequently contain BPA or the cousin chemical BPS in the so-called BPA-free sealants. And it is very wise for a parent to implement nutritional strategies to preserve the health of their children's teeth and not to rely on filling.

And I'm not saying never get a filling. Sometimes a filling is necessary. My child had an accident once, and part of his tooth was chipped off. And there was nothing that could be done about that. It was just an accident. And, of course, we went to the dentist and we had a filling there to resolve the chipped tooth

situation. So, sometimes you really do need to have a filling. I'm not saying that. I'm just saying that you really need to try to avoid having these chemicals put in your children's mouths as much as possible.

And let me briefly tell you the story of the very first time I was able to reverse a cavity in my child, Will. It was a few years ago. It's my oldest son. And he was about 11 or 12 years old at the time, much too old to have mom or dad brush his teeth anymore. And, so we let him brush his own teeth. But, every few nights, either my husband or myself would check in his mouth and make sure that he was doing a good job.

And one night my husband was giving him the old oral check, if you will, and he found a hole -- and it was not a small hole -- in the top right incisor in my son's mouth. It was right along the gum line. It was in the back. And my husband called me over and said, "Hey, look at this, honey. There's a hole in his tooth."

And I looked. And I took a rubber-tipped probe and I did a flash light. We had a little dental mirror, the whole nine yards. We were looking in there, the two of us peering into his mouth, going, "Oh, my goodness, look at this hole!" And it really gave us great cause for concern.

And the next morning I called the dentist and made an appointment to have it filled because you don't want to mess with those front teeth. I didn't want to give that hole a chance to dig any further toward the root of the tooth and cause any sort of a problem. So, I did make that appointment right away. The best appointment they could give me was two weeks out. They were very busy at the time.

And, so, I was a little concerned that you had to wait two weeks for this appointment. I started my son right away on high-vitamin butter oil, which is talked about by Dr. Price in his book *Nutrition and Physical Degeneration*. I've always been very good about giving my children their fermented cod liver oil on a daily basis. But, at that time, I had got a little bit slack on the high-vitamin butter oil. And, he hadn't been taking it. And, so, I said, "Look. You need to start taking this right away. I don't want this thing to get any worse in two weeks."

So, he started taking his butter oil along with his fermented cod liver oil on a daily basis. And I also changed his breakfast so that it included a very thick slab of raw butter on his toast every morning. He had kind of gotten away from that. He loves raw butter. But he'd gotten away from that. You know how we go through phases with our breakfast sometimes. He had gone and was eating tahini on his toast instead of his raw butter. So, I got him back on the raw butter.

And that's pretty much all I did. Those were the only two changes I made. And, two weeks later, right before our appointment, I got a call from the receptionist who said that the dentist had to go out of town unexpectedly for a family emergency, and we needed to push the appointment back another two weeks. So, we continued with the changes that we made with the butter oil and the raw butter on his toast for another two weeks.

And, just a day or two before his appointment, I decided, you know, I just want to check and make sure this thing hasn't gotten any worse before we go to the dentist. And I looked in his mouth, and, would you believe, Will, the hole was

gone. It completely filled in. There was no trace of a hole at all. I called my husband over. I said, "Look at this." It was gone. He verified that.

We went to the dentist -- not that particular dentist. We went to a different dentist at the time because I figured we don't need to go. There's no cavity, so we cancelled the appointment. But at his next scheduled cleaning, which was not too far off from then, the dentist did verify there was not cavity there. There was no cavity anywhere in his mouth.

So, that has been verified by a dentist. But, I just want to add here, quickly, that I've had people email me who have read this story on my blog and have said, "Is that all we have to do? Fermented cod liver oil and butter oil?" And I'm like, "No! You really need to understand that the rest of the diet needs to be excellent." In my son's case, his diet was excellent. So making these two small changes was all that was necessary to kind of fill the gap, so to speak.

But you cannot be eating a standard American diet and rely just on the high-vitamin butter oil and fermented cod liver oil to resolve cavities. While they will improve the situation -- no doubt, they would be a beneficial addition to the diet -- you would likely not get the spectacular results that I experienced just by doing that.

Will: Yeah, really, really well put. And thank you for clarifying that because I know that to be true. But, at the same time, I wanted the clarity. And I was going to bring it up, as well, that we still need a nutrient-dense diet. We still need the minerals in the diet. And then having the daily access to the quality fats and the

fat-soluble vitamins in the high-vitamin butter oil and cod liver oil are what, kind of, nudged it for your son, huh?

Sarah: That's correct. And it's every important to know that the rest of the diet needs to be right, as well. You can't just use the fermented cod liver oil and the butter oil as a crutch.

Will: Right, right. Wow, that's excellent. And in a preteen, as well.

Sarah: That's right, that's right. His diet is excellent at home. But, when he's away from home, I can't, obviously, completely control it.

Will: Right. So, obviously, we just covered it. It's not as simple as just adding those two. But obviously, those are crucial pieces of the puzzle, for sure.

Sarah: Absolutely. And the reason for that, Will, is because most people are not going to eat the organ meats and the other -- in the case of the Australian aborigines, they ate a lot of insects. Those are not part of our culture typically. And because of that, the high-vitamin butter oil and the fermented cod liver oil written about by Dr. Price in *Nutrition and Physical Degeneration* provides a good stop gap. It fills the gaps for people if you're just not able to implement frequent consumption of organ meats in the diet, which is not currently very popular in our culture.

Will: Right, right. Well put. So, from your perspective, will any cod liver oil do the trick? Or are there specific types that should be avoided?

Sarah: Well, that's important. That's something people need to be aware of, that not all cod liver oil is created equal. Most cod liver oil, unfortunately, on the market is not going to be helpful for resolving tooth decay. And the reason for that is that the cod liver oils, for example, all of them at the health food store that I know of, they are processed at very, very high temperatures to the point where the processing of the cod liver oil destroys the vitamin A and the D.

And what cod liver oil manufacturers do in those instances -- because they know the A and the D is destroyed, but they want to still put that there's A and D in the cod liver oil on the label -- they add it back in. And, unfortunately, in the majority of cases, they add back in synthetic vitamin A and D.

And in the cases where the manufacturers do add in natural vitamin A and D, it's not in the same quantity and proportion of the A and the D that was in the cod liver oil before the processing took place, if that makes sense.

So, you really need to stick with the brands of cod liver oil that are gently processed without heat. And in the case of what I use, I use the fermented cod liver oil. It contains all the nutritional co-factors, all of the vitamin A and D. There's nothing added in. There's nothing taken out.

It is purified in a very traditional way. And it's purified like the people that made fermented fish oils in *Nutrition and Physical Degeneration*. The South Sea islanders, for example, they would hunt sharks. They would take the liver of the shark and put it inside the stomach of the shark and hang it on a tree. And they would leave it there for a period of time until the oil came out of the liver. And it was a fermented oil. And then they would consume that. So, that's really the type

of cod liver oil that you want to consume, not the modern cod liver oils that are processed with very, very high heat.

Will: Thank you for clarifying that, Sarah. It's huge. I love the fact, in a sense, that what we in the Real Food movement here are helping to champion forward and to help people become aware of again is we are hopelessly connected to the animal kingdom for our nutritional needs. And there is no escaping that. And, if you don't like the idea of having liver on your plate, then get on the medical treadmill. Really.

Sarah: That's right.

Will: So, how about your other children? Have they experienced any cavity issues that were resolved with diet?

Sarah: Yes. My two younger children have only experienced cavities in their baby teeth, none in their adult teeth. And, in my experience, baby teeth are a little different when it comes to reversing decay. The root of a baby tooth, if you've ever looked at it on a dental x-ray, you will notice that it's very, very shallow compared with the root of an adult tooth. And, you know, it's because baby teeth are not designed to last forever. They're not designed to last a lifetime like adult teeth are.

And that shallow, shallow root, very likely, causes the baby teeth to perhaps not be able to receive nutrition in the quantity that the adult teeth are able to because the roots are bigger and they're much deeper. That's just a supposition on my

part. But, I think it's probably true if you examined it because, again, the baby teeth are designed to fall out. Most of them will all fall out by age 12.

But, let me give you an example of how I approached decay in a baby tooth. A few years ago, a dentist at a routine checkup told me that one of my children had two cavities in two different baby molars. I was told that these needed to be filled right away as these particular baby teeth would not fall out for a number of years.

And the decay was such that the teeth wouldn't make it long enough to where they fell out naturally. He thought the decay would continue and that the teeth wouldn't last the 3 to 4 years until my son was 12 years old. And he just thought that they needed to be filled.

But, I felt very confident that I could reverse the decay. This occurred after I had already resolved the decay in my oldest son. This was my second child, my second son that this happened. And, I was feeling pretty cocky, Will! [Laughs] I was feeling pretty cocky. I was like, "I can fix this! No problem!"

So, instead of following the dentist's advice, I went home. And I made a few changes to my son's diet, as well. Again, his diet was excellent. It was very traditionally-based, very nutrient dense. But I made a few changes anyway. I examined it in detail to see where I could improve it.

And, number one, he was a peanut butter junkie. My second son loves peanut butter, as many children do. And if you have read the book *Cure Tooth Decay* by Ramiel Nagel, you know that peanut butter is very high in phytic acid. I was buying organic roasted peanut butter. It was very high-quality peanut butter. But,

nonetheless, he was eating peanut butter every single day. And phytic acid blocks mineral absorption. If you get too much of it, you don't want that because it can affect the uptake of minerals by the body. So, we cut way back on the peanut butter. That was the first thing we did.

And the second thing I did was I started to give him more organ meats. And my second son is my pickiest eater. He's not so picky. I think compared to most kids, he would be pretty good. But, in my family, he's the pickiest eater. And he doesn't like organ meats. It's very hard for me to get organ meats into him.

But what I did, my trick for doing that was I would freeze raw grass-fed liver and beef heart for 14 days as recommended by the USDA to make sure it's safe to consume in its raw state if you have frozen it for 14 days or longer. And then I would take it and I would cut it up into tiny little frozen pieces. And then my son would swallow these pieces whole. He'd swallow 5 to 6 of them every day after breakfast. And he'd get, probably, I don't know, a quarter to a half of an ounce of organ meats every morning after breakfast. And over the span of a week, you get, you know, a few ounces of organ meats over the span of a week if you do that every day.

So, those are the two changes I made. And the happy ending to this is that the decay was immediately halted. And no further erosion of the teeth occurred. And those teeth are fine today. And with no treatment, no fillings.

Now, the black spots have not gone away completely, as I mentioned earlier. They didn't turn back white like it happened in my older son's adult tooth. But, they never have gotten any larger. The tooth is fine, never caused any pain. The area

of the tooth where the decay occurred has hardened up. And, I don't see any reason why these teeth can't make it until they fall out naturally.

Will: Sure. And that's really it. If the quality of the tooth structure, if the tooth tissue is hard, then that's the game. You reversed it.

Sarah: That's right. That's right. Cosmetically, it was not reversed. Again, you can still visually see the black spots. But, functionally, they're fine.

Will: Right, right. Beautiful. We know that this has worked for your children. And we have plenty of testaments in history that show that, as well. How about for you and your husband? Have either of you experienced cavity issues that have been resolved with diet? And does it work for adults, as well, from your perspective?

Sarah: Yes, it does. I've actually healed a cavity myself. And let me tell you the story about that. This was 3 years ago. I had a very severe infection in my left knee. And the doctors don't really understand how it started. I never had a break in the skin. There was never an injury to the knee. One day I had to go down on my left knee on a fairly hard surface to pick something up, and I hit it a little hard. But, I didn't hurt it. I didn't bruise it or anything. But, the next day, the knee got very hot and swelled up. And I obviously had a serious infection in the knee.

What the doctors think happened is there was a small cyst maybe behind the kneecap that I didn't even know I had, and probably had been there for years. And it just spontaneously ruptured and started this infection. So, I had a high fever with this infection, which I never brought down, by the way. I am a big fan of

fevers. I don't bring fevers down as my father, who's an M.D., never brought fevers down either when we were growing up, all my siblings and I.

And I ran a fever of 103 to 105 for several days, which is extremely high for an adult, by the way. Adults don't usually run fevers that high. But, I ran that high of a fever. I never got disoriented or delusional or anything like that. I was weak and tired, but I was lucid. I was fine. Of course, I was eating, doing all the things you need to do to feed a fever and maintain so you don't have any problems.

But, the fact of the matter is that infection was not getting any better. So, after a few days I realized that this was just not going to happen on my own and I needed some help. So, I went on a very strong antibiotic, which I didn't want to do. But it was the first time I had gone on antibiotics in many, many years. But, you know, sometimes you need them. Sometimes you need antibiotics. And this was one of the times when I did.

So, I got over the infection with the antibiotics. And there's no doubt that my gut was compromised because of that antibiotic. And my vitamin A status was depleted very rapidly because of that extremely high fever that I ran for several days. It's known that high fevers do deplete vitamin A very rapidly.

And I developed a very severe cavity almost overnight in one of my teeth, a very bad cavity that resulted from this infection. I have no doubt it was from this infection. And interestingly enough, it was in a baby tooth. I have a baby tooth that never had a permanent tooth under it. And it started in this little baby tooth that I've had for my whole life. Can you believe it?

And I went to the dentist. I didn't even realize the cavity had happened. That's how fast it started up, and just ravaged my tooth in a matter of weeks. So, when I went in for a dental cleaning, I was shocked to learn that I had this severe cavity. I didn't even realize it. And I let them take a single x-ray of that tooth. I don't do x-rays very often, but I let them x-ray that one tooth. And you could see that the cavity was right into the nerve. It was very bad. They told me that the tooth needed to come out immediately. They could try to fill it. But they did not feel confident they would be able to save the tooth even if they tried to fill it right then and there. They thought that it should just come out. It was that bad.

And, I sat in the chair. I was stunned. You can imagine. I was shocked. I knew immediately it was that infection that caused the cavity. And I was trying to figure out what to do about it. I had a very out-of-the-box thought. I thought, "Well, you know, this tooth is gone. It's a baby tooth. It wasn't designed to last my whole life, anyway. It's basically gone because this infection has claimed the vitality right out of this tooth. You know what? I've got nothing to lose! I'm just going to go home and try to fix it!" [Laughs]

Why not? Why am I going to have it pulled? I'll let it fall out on its own. If it's going to die and fall out, I'll let it die and fall out. But I'm going to see what I can do about it.

And, so, I went home. I said, no, don't fill it. Don't pull it." And, of course, they were shocked. They were looking at me like I was crazy. But, I went home. And, boy did I dive into those organ meats! I dove into those organ meats. I doubled my dose of fermented cod liver oil and high-vitamin cod liver oil. I doubled it, and I took half in the morning and half at night.

And, this will be three years in December...almost three years. That tooth is still in my mouth. It is fine. And it has never given me a day of pain. And, I don't know how much longer it's going to last. I mean, again, it's a baby tooth. It has a very shallow root. It may fall out. I don't know when it's going to fall out. But you know what? It's going to fall out because it's time to come out and not because somebody pulls it out.

Will: Right. Wow. That's a huge testament right there, Sarah. That's big. So, clearly it applies for adults even like with your description earlier about the shallow roots for children's teeth. Even with a children's tooth in an adult's mouth that really isn't supposed to be there any longer. That's amazing.

Sarah: To me, that was the biggest thing that I've ever done with reversing tooth decay. And, again, the hole in my tooth is still there, Will. It's not like it grew back. I still have a gap in that tooth. But, obviously the decay has halted. I've never had any pain. That decay was into the root. I don't know. It's amazing to me how the body is able to heal itself when you give it...I obviously needed to get the vitamin A back quickly because I was so depleted from that infection. And, doing that alone was enough to just stop the tooth from falling apart any more than it already had.

Will: Yeah. And I think that your story here is a really excellent description of how our bodies function all the time if we give the body what it needs. And, obviously, diet is crucial to that. It's not the only rule, but it truly is a huge fundamental piece to the puzzle. If we give our bodies what they need to be able to run at -- how

shall we say it? -- an immunologically high octane level, then we can keep these diseases or degradation forces from breaking down the body.

But, as soon as we find ourselves in a weakened state -- in other words, your immunity slipped during that infection -- and so then, where was the weak link? Oh, the baby tooth.

Sarah: That's right. It's amazing it went right to the baby tooth. None of my other teeth were affected. That's true. That's a very good point. And you know what? Even when the dentists tell you there is no hope, you can still fix it! That's the amazing part of that story to me.

Will: Right, yeah. And, another crucial point, I think, is that the cavity is still there. However, the active decay, it sounds like the decay has been arrested and stopped.

Sarah: Completely. Yeah.

Will: Yeah. That's an excellent, excellent story. Thank you. So, any tips for parents out there struggling with tooth decay issues with their children, and perhaps can't afford fermented cod liver oil and butter oil? Any ideas for them?

Sarah: Yes. Well, first of all, I would say, "Try to find a way to afford it. Do the best you can." You know, everybody has their ups and downs in this economy. Certainly, our family is no different. We have always found a way to afford our fermented cod liver oil and high-vitamin butter oil. So, do whatever you can to afford it because I do feel that it just fills those gaps like nothing else can.

But, if you've searched your budget and you find you absolutely cannot afford it, for whatever reason, given your current circumstances, I would say that you absolutely must get into the organ meats. There's just no other way. Obviously, you can do some of the other sacred foods that Dr. Price wrote about, which includes fish eggs and raw butter, pastured egg yolks, and all of those wonderful things. But, you really are going to need to get into the liver and the organ meats, as well.

And, fortunately, the good thing is that not very many people want these types of cuts. So, if you find a good grass-based farmer in your area, you can get them for a very, very good price.

And, you can always do what I did if you just can't get them down. You can try hiding them in meatloaf. You know, ground up beef heart in meat loaf. You can try various things like that. And I do have a number of recipes for organ meats on my blog if you want to go check that out.

But, if you just can't seem to get it down, you can always freeze them for 14 days, chop them up into little pieces, and take 5 or 6 pieces every morning. And over the span of a week, you will get about a serving of organ meats. And that's really what you have to do.

Will: That's a tremendous suggestion. By the way, parents, please make sure your children are out of the room when they listen to this part of the interview about hiding it in the meatloaf and stuff like that. [Laughs] Definitely make sure that our children are out of the room.

What about the straightness of your children's teeth? Any braces needed? I know that Weston Price addressed this, as well. What have you found in your family's mouths?

Sarah: Well, you know, my oldest son, he will turn 14 here in just a couple of weeks. And his teeth are perfectly straight. They're beautiful, beautiful teeth. My second son, he's looking good so far. He doesn't have enough teeth in really to know the final verdict yet. But, everything's looking good so far. And my daughter, she is only 7 years old, so it's hard to tell with her yet, but she does have a perfect bite. And she has very nice-looking teeth so far. So, I'm very hopeful.

And, certainly my oldest doesn't need braces. But, if my other two children need any braces, it would be very minor. It would be a very minor adjustment. It certainly wouldn't involve any pulling of the teeth or adjusting of the jaw or some of the dramatic orthodontic interventions that a lot of children need today. It would be on a very minor basis.

Will: Right, right. So, off the cuff here, three foods that you throw under the bus and tell us all, "Look, if you include these in your diet, you're asking for trouble." And, on the flip side, three foods -- I mean, you've touched on a lot of them here: organ meats and raw butter -- three foods that you hold up high and say, "These are really tough to do without."

Sarah: Okay, first of all I'd say you've got to get rid of the soda. And that includes the healthy sodas that are made with sugar and not high fructose corn syrup, and includes the diet sodas, because even the diet sodas -- of course, I don't like

aspartame -- but even beyond the aspartame, there's a lot of acid in these sodas. And that will challenge the enamel of your teeth. And you don't need that. You know? If you want a soda once in a while at a party or whatever, fine. But just don't have it in your house. Don't have it available in your house.

Secondly, I would say you need to go cold turkey and get off the fast food. And the reason I say that is some people say, "Well, I just eat it in moderation." You know what? I've never met anyone who eats fast food in moderation. I just haven't! You either eat it at least once a week, which, to me, is not in moderation. Moderation to me would be like fast food once a month or something. And I don't know anyone who eats fast food like that.

Fast food is just a bad habit. It's very addictive with the very high levels of MSG in the fast food. It makes it very, very addictive. If you find that fast food is part of your routine, it's going to be a problem. It's just so nutrient-depleting. It's so hard on your body to digest that stuff. And it sucks so much nutrition out of your body to try to deal with it. I just don't feel you can have it part of your life.

And, the third thing, Will, would be the refined, snack-y type foods from the grocery store: the goldfish crackers, the Ritz crackers, the chips, the cookies. All of those little snack-y foods in the little 100-calorie packs that people are so excited about, all those little snack-y foods are really terrible for your teeth.

They're high in sugar. They're high in grains. They're high-calorie, low-nutrient value foods. And they're very addictive. And you need to just get those out of your house. Even the organic versions. They don't contain the toxic ingredients, they still are very addictive. And I would recommend that if you want a treat --

and we all need a treat once in a while, I'm okay with that -- make it yourself. And, the inconvenience of having to make it yourself almost guarantees that you won't overindulge. So, if you want a cookie, fine. Make it yourself. If you want some crackers, fine. Sprout the grain. Make it yourself. It's not that hard to do.

And the inconvenience factor will ensure that you don't overindulge. It's just too easy to run out to the store and get a bag of organic cookies and eat the whole thing because you're stressed out. You had a bad day and it's sitting in your pantry.

Will: That's a tremendous point. Before we get into your three positive side foods, I want to point out something here that I think you really highlighted very well.

When you're talking about fast food or processed foods, it's really two issues. Number one is obviously it's depleted of any type of nutrition that's beneficial. There's literally nothing there or very little there for us. But, that's only half of the issue. The other half of the issue is it's actually robbing the body of what it does need. Like you were referring to phytic acid earlier, that it's blocking our nutritional uptake ability.

Sarah: That's right. It actually takes nutrition to deal with this stuff. And it doesn't put the nutrition back into your body what it takes out. It's a negative nutrition balance that's happening every time you eat these kinds of foods. They're sucking it out of you, and that's another reason why they're so bad. Yeah.

Will: Yeah. So, how about three foods that you hold up high?

Sarah: Raw grass-fed butter. That would be the big one. And it used to be really hard to find ten years ago, eleven years ago. And now it's just really a lot easier to find. And you want to buy it when the grass is rapidly growing and freeze up a bunch of it so you have it the rest of the year. And that is a wonderful food.

The Swiss culture written about by Dr. Price revered the butter that came from the cows when they first went out to pasture in the spring, so much so that they would put wicks in bowls of this butter and burn it in their churches because they just had such a high opinion of this butter. They knew that that was the butter that kept them healthy. So, I would say find a local farmer that has their wonderful cows out on grass. And get yourself some raw butter.

Second would be fish eggs. If you like sushi and they're sprinkled with fish eggs, that's great. You've already got that as part of your routine. One tablespoon of fish eggs has many thousands and thousands of units of vitamin D. So, it's a great way to get your vitamin D status improved quickly.

We talked about liver and organ meats. Obviously, those are important. I've already mentioned those. But, three additional ones would be the raw butter, the fish eggs, and I would say pastured eggs are very important. And the grocery store eggs just don't have the nutrition. You want eggs from chickens that are eating bugs. Okay?

Remember the Australian aborigines I talked about earlier. They got a lot of their fat-soluble activators that maintained their good oral health through eating bugs.

Well, if you don't want to eat bugs, eat eggs from chickens that eat bugs. That's your second best option.

Will: Right. Very, very well put. So, any closing thoughts or suggestions, words of advice you have for our listeners?

Sarah: I would just say that these changes are so important to make in your home. And having healthy children is the greatest blessing I think a parent can ever have in this life. And, the health of your children's teeth is a mirror to their overall health.

So, if your children are having a decay issue, it needs to be resolved. Don't just cover it up and go get it filled at the dentist. Look at their diet and see where some little gaps are and what needs to be filled and what needs to be fixed. And resolve that decay with nutrition because if there's an issue in the mouth, there's going to be issues somewhere else. And you want to fix it before it gets chronic, before it becomes something that's more serious.

Will: Wow. Thank you, Sarah. Where can folks learn more about you and your work?

Sarah: Well, my blog is TheHealthyHomeEconomist.com. I have many, many videos on all aspects of traditional diet on my blog. I just put up a new one today. We've got 73 videos now. So, please go there if all of this is new to you and you're like, "Wow, I've got to learn how to cook this way." Please go and check out my videos.

And also I would recommend Dr. Price's book *Nutrition and Physical Degeneration*, the cookbook *Nourishing Traditions* by Sally Morrell, and of course the WestonAPrice.org website is an invaluable resource for a lot of research on oral health.

Will: Absolutely. I mean, truly, your comment earlier about, "Yeah, eleven years ago, it was tough to get raw butter. And now, it's much easier." Well, I think that any of us who know why that is have our humble gratitude to the Weston A. Price Foundation for doing the work that they've done over the past decade.

Sarah: Absolutely! The resurgence of raw dairy in North America is, in large part, to the efforts of the Weston A. Price Foundation. I absolutely agree with that. Yes!

Will: Yeah, so hats off and many thanks to Sally, as well.

Hey, Sarah, thank you so much for your time and for sharing your personal account here and your experience of your children's oral health. I really appreciate it.

Sarah: I hope there's a parent out there that can really benefit from this information.

Will: Yeah. Thank you so much!

Sarah: Thank you, Will! Bye-bye.