Straight Teeth – Crooked Face
Building a Foundation, So Braces Can Do Their Job
Speaker: William Hang, DDS, MSD

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Scott: Welcome back to Functional Oral Health Summit, folks! I am Dr. Scott Saunders, Co-founder of Healthy Mouth Media. Today it is my privilege to be talking with Dr. William Hang, Founder of Face Focused Orthodontics located in Agoura Hills, California. Dr. Hang has committed his career to advancing the paradigm of thinking in orthodontics that rejects traditional retractive techniques in patients of all ages. He does not believe that one size fits all. He is focused on airway, orthotropics approach, reopening extraction sights and managing of critical airway issues, including obstructive sleep apnea. Bill has been doing this a long time, and he is a face focused, airway focused orthodontist. It is a pleasure to have him with us here on the Functional Oral Health Summit. Welcome, Bill!

William: Happy to be here and be a part of what you’re doing.

Scott: Good to have you here. Maybe to start off with, you’ve made quite a sweeping statement in that you’ve expressed the belief that dentistry is or should be the absolute center of health care. I just liketo allow you to give our audience members an overview of what led you to that conclusion and maybe summarize that, and we can revisit later as we wrap up?

William: Well, I’m a traditionally trained orthodontist and for many years all I did was straightening teeth. More than 30 years ago, I started the journey that helped me learn a lot of different things that I didn’t know before, and I realized that the position of the jaws in the face had a lot to do with a person’s health. When I understood the absolute importance of breathing and the epidemic of sleep apnea (people not being able to breathe), and realized that it were really related to their jaws being too far back, I realized we in dentistry are in a position to control the growth of the face. We can with what we do correctly, have it come more forward or if we do things incorrectly, more down and back, which essentially reduces the airway. If you then realize that sleep apnea is associated with all chronic diseases, and we’re seeing a huge increase in that, it’s pretty
obvious that if we were able to have the faces grow forward more, we will be a healthier group of people with less sleep apnea, people breathing better and sleeping better and overall, more healthy.

Many of the things that are done in traditional orthodontics actually decrease the airway and decrease the tongue space, and my position is that those things ought to end. We've seen that the face has changed over the centuries—our faces are down and back. You have people like John Remmers, who is a very well-known name in sleep, basically say that sleep apnea wouldn't exist if the jaws were more forward in the face. So my goal is to help people understand that the more forward the jaws are in the face: (a) the more attractive the face is; and (b) the airway is bigger and better. Therefore, we're helping people be healthier by breathing better.

Scott: And dentistry is in a unique position to coordinate that from a central standpoint?

William: I believe so. Ideally, we're seeing children at a very young age. Pediatric dentists want to see kids really early. The pediatric dentist has an opportunity to counsel the mother in proper things like breastfeeding for an extended period of time, much more than the usual six months that some kids get; and when the transition goes from breastfeeding to eating food, to stay away from the prepared food and eat solid food. There's a book that people should be reading by Gill Rapley from the UK called, *Baby-led weaning* where babies literally are weaned to solid food where they have to chew.

Other thing that the pediatric dentist can be doing is helping the parent know that pacifiers are not okay. I don't care of the form of the pacifier or what kind it is because what's really happening is the child is exercising no matter what it is and it's essentially pulling the face back and retarding the forward growth of the face. When I have lectures, I'll have a picture of earplugs and say, "Instead of having a pacifier, have earplugs for the parent. It’s more important." The child gets used to what they're given and if they don’t have the pacifier, then they will adapt. But all these things, very early on should be part of dentistry.

The American Association of Orthodontist has traditionally said, well, see the dentist at age two and the orthodontist at age seven. Well, that’s really crazy. We need to see kids a lot sooner than that because we need to be looking at the airway issues. Many kids develop poor rest oral posture very early. All children should have their lips together and be nasal breathers and yet, you'll see kids in preschool who come in, they have their lips apart. They're mouth breathers already. Those faces are going to be growing downward and backward, and they're going to end up with more problems than those who are nose breathers.

Scott: Can we stay on the definition of rest oral posture for a minute? I know you use that phrase a lot but some of our audience members may not be familiar with it. Can you give a basic definition of rest oral posture?

William: Yes. It’s interesting because we never even discuss this in orthodontic training. It wasn’t part of anything, but I’ve learned it literally about 20 years after I was into my orthodontic practice. Proper rest oral posture really is defined by John Mew in London, England. "In my opinion," he says "if you have your teeth
together lightly and your tongue to the palate and your lips together without strain" that's what he terms proper rest oral posture. This is what he calls the "tropic premise." He postulates that if indeed you have this, the face will grow forward normally as it was meant to according to the genetic plan. Now, very few people who come into our practices have ideal rest oral posture. Many of them will have their mouths hanging wide open by several millimeters. Some will have their lips apart just by a few millimeters, but very few people are keeping their tongue to the palate and breathing through their nose entirely as they should. So we stress proper rest oral posture all the time.

Scott: That's one of the many reasons why faces fail to grow ideally. Is that correct?

William: Yes. I believe that—Dr. Mew had shown this very clearly—the first thing to change in literally all malocclusions is that the upper front teeth start to fall down and back from where they should be. As such, whether it's Class 1, Class 2 or Class 3, it really doesn't matter. The distance between the tip of the nose and the edge of the upper front tooth starts to get bigger and this is a measurement Dr. Mew calls the "indicator line." It's easy to measure, and it's incredibly accurate. You measure from the tip of the nose to the edge of the upper incisor. For a female, that number should be 21 mm plus the patient's age in years and for male, 23 mm plus the patient's age in years. So for instance, if we had a five-year-old girl, 21 + 5 is 26, measuring from the tip of the nose to the edge of the upper incisor is 26 mm. We rarely see kids come in with that measurement. Frequently, they're 5 mm or more already by that time. Their faces are falling back that much.

Scott: Those are some pretty shocking numbers. Now, Dr. John Mew of course was the developer of the orthotropics approach?

William: Right. He was a very different thinker, and he still is.

Scott: He still is, yes.

William: He's still alive. He was training as a surgeon way back in 1950's, and he decided that was ridiculous. He then started to look more critically. His dad had been doing orthodontics, and he decided to do it. I've never met a more inquisitive man in my life, a very bright guy. He knew more about medicine, dentistry and anthropology and he brought it all together and literally realized that what's going on is that our faces are falling back. You know, in the traditional orthodontic approach, it only makes them fall back even more. He came up with the approach of reversing all of that, advancing the upper anterior teeth and then developing the lower jaw forward with an appliance which basically mandated that the child become a nasal breather and have proper rest oral posture. That's really the goal of orthotropic treatment as he's outlined and designed it over the years.

Scott: What are some of the other reasons why faces fail to grow ideally? We've gone over some of the behavioral-- like breastfeeding and diet problems, what are some of the other reasons?

William: Weston Price was a dentist back in the 30s who toured the world, and he observed the faces were falling back and malocclusion was developing in the space of one generation. It wasn't some kind of an evolutionary change. It was
literally a change when people started adopting a Western diet with refined sugar and flour. Immediately, not only the tooth decay rate go up a lot, but groups of people in very isolated areas who’d never had any kind of malocclusion suddenly, the children started having these malocclusions done and his book called, *Nutrition and Physical Degeneration*, is out there for all to read.

Even prior to that, interestingly, George Catlin was a Philadelphia lawyer who in the 1830s, left Philadelphia and went to live amongst the Native American tribes in the American West, became an artist and a photographer. He observed a huge difference in the Native Americans versus the Caucasians he was familiar with. He wrote a book entitled, *Shut Your Mouth and Save Your Life*, a rather interesting title, I must say, but he described how the Native American women, as soon as the child would come off of the breast, they would immediately take their fingers and pinch the baby’s lips to makes sure that the lips were together.

He talked about the Native American children are actually being healthier than the Caucasians sleeping outside in fresh air vs. the Caucasians sleeping even in those days in a heated room (back East) and how much more problems they had, even down to the infant mortality. So essentially, he also talked about how the Native Americans ate bison and corn. He postulated that these foods they were having to chew hard, this made a difference in the way their faces grew. He made some rather interesting drawings in his book which— I have a copy of it— was first published in 1860.

**Scott:** So this is not a new concept. How long have faces been growing poorly? How long is this trend been going on?

**William:** It’s interesting. John Mew talks about the fact that maybe it started with the advent of agriculture more than 10,000 years ago. The interesting thing here is the ancient Chinese even knew about it. One of the students who has taken my mini residency gave me a book on Chinese medicine. I was reading it years ago and it talks about how, as they say in this book, “if the jaw line is receding, it’s a sign of premature death for somebody.” Essentially what that’s saying is if your chin isn’t forward, you’re not going to live a long life.

What does that translate to in the way we look at things? If the chin isn’t forward, the tongue isn’t forward and that means that the airway is smaller and there’s a much greater chance of somebody having sleep apnea, stopping breathing in the middle of the night. As they do this, the oxygen saturation of their blood drops way down and a whole bunch of physiologic changes occur, including the change in the pH of the blood. None of these are good.

So it’s not a new concept at all. It’s been around for a long time. The falling back of the face got a lot worse with the Industrial Revolution but certainly, even in my life I can see that many of the faces we see today, kids coming in, are severely recessed jaws. But when you think about what is a child eating today, very little of what a child eats today does it require really a lot of effort to eat it? You’re going to the grocery store and you see prepared foods that come in a tube, applesauce or whatever. So food on the go, and all you have to do is suck it down. You don’t have to use your masseter and temporalis muscles. You just open and that’s it.

**Scott:** So it doesn’t give the jaws a workout.
William: Exactly.

Scott: That’s a critical part of the developmental process; the forces of those muscles have on the jaws.

William: Right. Exactly. In addition to-- I think we are seeing a lot of kids who develop allergies and we can have that discussion, which came first-- the chicken or the egg? Whether the allergy causes the mouth breathing or frankly, whether the mouth breathing and hanging the mouth open, causes the allergy there. There are people who can discuss that, who got a lot more brains and respiratory physiologists can make that argument both ways, and you have people who by becoming nasal breathers completely are able to get rid of their asthma. There's a lot that is coming out now that wasn't out there before.

Scott: So this is all really good information on essentially, impaired facial development due to socio-cultural things that have been going on. So for the average person, the average healthcare consumer, how can we recognize a face that has not developed or is not developing properly? This would be particularly critical for parents to be able to recognize.

William: Well, the first thing is the parents should notice, are the child’s lips together 100% of the time when they’re at rest (when they’re not talking)? They should never have their lips apart even a little bit, even just a little slit. You want them together all the time. You shouldn't see a flaccid lower lip which is rolled outward. Another thing that we often see is what we call an"accentuated Cupid’s bow" where this part of the lip goes way up [points to center upper lip] and this part is way down [points to side of lip]. Some orthodontists will call that a short upper lip; in reality, it's just poor muscle tone, and that's very common. You can actually often start to see that the cheeks will start to get flatter.

Now, once cheeks in this region [points to cheek] start to get flat, you’re pretty far down the path of an unattractive face with the face falling back. The cheeks should be very full. The fuller the cheeks are, the more attractive the face but it also indicates that the upper jaw is forward. The upper jaw is forward; the soft palate is forward. Those are the easiest things.

A parent can observe their child sleeping. Lips should be together. They should never hear their child breathing. Proper breathing is completely silent. If they hear labored breathing, that's an issue. If they hear snoring, that's even more of an issue. If they hear a child gasp even once [gasp sound] like that, that's very likely a sleep apnea issue. We have an epidemic of that in children. There's evidence that even in one night of sleep apnea, you get brain cells damaged. Ron Harper, who's a neurobiologist at UCLA, has that well documented with MRIs of children’s brains.

Scott: Are most facets of the medical and dental communities aware that this sleep apnea epidemic encompasses children as well as adults?

William: Unfortunately, my experience is that very few really understand this. We’re still in a mode where people are laughing that their child would snore. They think it's cute. We have to get over that. Snoring alone is correlated with plaque formation in the internal carotid arteries. That came from Henry Ford Hospital in
Detroit about four years ago. Anyone who wants to learn about it can go on Yahoo and see that.

Another thing that's really happening is a lot of kids today are very hyperactive and those are the ones who are not sleeping well. I saw a figure that the number of kids diagnosed with ADHD now is about 15 percent, which is astonishing. Steve Sheldon at Lurie Children's Hospital in Chicago, who is a Head of the sleep clinic therewill make a very bold statement. He says that he doesn't believe that ADHD exists and then he says he believes strongly that it's always and uses the term "always" a sleep and breathing problem. If you solve that problem, then you're going to have a child in a better situation and the behavior which the teacher and the parent are at their wits end with some of the kids who are very hyperactive. Once the child is sleeping and breathing well, that behavior can change to a completely normal behavior. The child's grades can go up. There are multiple examples of that; they're out there. But in terms of, is the general public aware of this, are pediatricians aware of this? Not really. Are most pediatric dentists aware of this? Not that I know of. I wish that they were. That's why I'm doing what I'm doing and in the organizations that I'm in, to try to help change that.

Scott: It's interesting that you would mention the ADHD connection and that Dr. Sheldon is so fond of saying that this may not be an actual disease but rather a symptom, that something deeper going on. I just ran across an article recently published, just probably in the last couple of months, that there was a case control comparison with a group size, an N of about 100 per group showing a significant association between dental crowding in people on the autism spectrum disorder, especially crowding of the upper teeth; and that there are all kinds of studies coming out that they're talking about things like this, behavioral issues directly related, not only to airway, but actually to dental crowding and things that the orthodontic profession is focusing on.

William: Right. The dental crowding particularly, you bring up a very good point. If you have crowded upper teeth, you're dealing with a severely collapsed maxilla because usually you're going to see crowding that begins on the lower arch first. But if you're getting crowding on the upper, not only is the lower crowded but the upper's crowded, here's a patient who has a very low rest tongue posture and as with that and the cheeks are pushing in 100 percent of the time, the tongue never pushes back. So we see the maxilla [upper jaw] narrow and the crowding comes along. To see all this correlated with all these other issues is a pretty astonishing thing. I mean as a society we have some things that we need to deal with here.

Scott: Yes. There are certainly a lot of behavioral issues and focusing on those as well as airway development, facial bone development, dental crowding and being enough room for teeth as being part of a continuum, rather than focusing on each one of them individually.

William: Exactly.

Scott: To my way of thinking is probably a shift in thinking that really needs to happen sooner rather than later. So if you're looking at someone who is already into the tween or teenage era and there may be some ADHD issues that are surfacing or
perhaps the person has already been diagnosed with some sort of autism
spectrum disorder and there are other problems going on, what other facial
observations can parents or people just doing people watching key in on
especially from--I'm picturing some of the changes that you would notice looking
at the person in profile. What would you want to look for there?

William: Well, by the time a child is in their teenage years, which is that’s the typical time
for braces, and they go to the orthodontist—and people are very familiar with
that—by then, everything is full blown. The teeth are often crowded, both
arches. If you look at the face from the side, you'll see that often, the face is
longer. If you look at someone from the side, with your eye you can measure
the upper lip which actually you can measure. It's usually 18 mm to 20 mm long
and then from the junction of the lips, from here [points] down to the chin,
should be double that, about 36mm. If you see someone who has a longer face
than that, seeing someone 40 mm or 45 mm from here [points] down to here
with an 18 mm upper lip, that's a very unbalanced face. We don't consider that
attractive at all. If the child puts their lips together, you often see a flattening of
the chin which is the mentalis muscle acting to close the lips and often a
wrinkling of the muscles here [points]. We call that a stippled chin, like a golf
ball is stippled. And if you look from the side, you see the nose apparently
sticking out. In reality, if you look at someone from the side and put a tangent
from the lower eyelid and tangent to the cheek, the closer that line is to
paralleling the line of the nose in profile, the more attractive the face.

The only people in our society who even come close to that are the Hollywood
actresses and actors who have an incredibly well-balanced faces and the models.
Most of us have, like me, much flatterer cheeks making our noses appear to
stick out. Another classic feature that you can start to see is a curved nose. The
nose should not be curved. This part [points] of the nose should be absolutely
straight, but what you'll see often is a bump right here and so people talk about,
"Well the nasal bone is sticking out." The nasal bone isn't sticking out. The nasal
bone is exactly where it's supposed to be, but as the entire maxilla falls back,
the cartilaginous part of the nose here curves making the nasal bone appear to
stick out. So you have a bump in the nose and often, that won't occur until
someone's in their middle school, junior high years. I've seen it even earlier. I've
seen even eight-year-old kids with curved noses. These are kids who have really
poor rest oral posture.

Another very classic sign is forward head posture. The head should be right over
the shoulders. If you drop a perpendicular from the middle of the ear to the
floor, that should go right through the middle of the shoulder. Many kids will
have their heads forward from that. Again, that's a compensation just to
breathe. Another compensation is the forehead tilted back like this [tilts back].
Believe it or not, the forehead should be straight up and down. If you go out and
do a population and start to look for how many people have a forehead that's
straight up and down, you'll rarely find it. Almost everybody's got their forehead
tilted back to some degree. You will see this absolutely by the time kids are in
their teenage years.

Again, that's just compensation. When the chin falls down and back the patient
really can't breathe. The tongue is so far back. By the time kids are in their
teenage years, they're struggling to breathe and they have to tilt their head
back like this. If you can see an angle of 10, 20, and 30-- I've seen an almost 45
degree angle tilt in someone in their 20s. That’s just a normal posture to keep
the head forward enough to breathe.

**Scott:** But nothing really normal about it. It’s more of a compensatory posture.

**William:** Nothing normal about it. It is absolutely is.

**Scott:** In addition to that, what I’m picturing is-- Just looking with my head into the
whole facial development thing for the last year or so, just looking around at
people, mainly looking at them from the sides, and seeing that the lower jaw is
so far back. If you focus in on the upper jaw, just look at that and see that’s
really far back. These are things that should be jumping out of people.

**William:** Exactly.

**Scott:** As we train ourselves to look around and see, try to get an idea, some kind of
sense of what really is normal and what might not be normal. Again, this speaks
to the proper forward growth of the face which is quite important and very often
does not happen the way it should.

So talking about proper development of the airway, that’s a big piece of what
we’re talking about when the upper and the lower jaw are too far back, not far
enough forward, that is when it starts to impinge on the airway. It impinges on
breathing and you get this sleep-disordered breathing thing happening,
that whole constellation of symptoms. Airway and proper development of the
airway has been a major theme with a number of our speakers here on the
Functional Oral Health Summit speaking from the standpoint of an orthodontist
and an orthodontist that is out to change all these disturbing trends that we’re
talking about, what is the relationship between orthodontics and airway? What is
the consciousness in regard to that?

**William:** Well, if you ask an orthodontist-- because now it’s becoming more popular. The
word "airway" is out there over the last decade. So if you say to an orthodontist,
"Are you involved with Airway?" the response usually is this, "Oh, yes. We’ve
been involved with airway. We refer for tonsils and adenoids all the time." So
that’s their response and that's pretty much it, meaning that the tonsils and/or
adenoids are enlarged, the child has an airway issue. That's where it stops.

There's even more of a trend now of-- Well, the orthodontic profession ought to
be involved with treating these sleep and breathing issues. There are a number
of speakers that are out there, and the very first thing that they say is,"Well,
you need to expand." Well, okay fine. I admit that the maxilla is narrow;
expanding is a good thing. But just last week, as I was standing at a lecture at
the American Academy of Craniofacial Pain listening to yet another speaker talk
about expansion, I got so frustrated. I said to myself and to another guy I was
standing with, "You can't expand your way out of an anterior/posterior problem.
Then it dawned on me, it's almost like trying to spend your way out of
bankruptcy. I mean it's insane to think that you’re going to get a solution to a
problem by just expansion. The profession can and must finally recognize that
we are dealing with an anterior/posterior problem, and we need to address it in
that form.
Now, the real sadness is that most traditional orthodontic treatment is about retractive in nature—pulling the teeth back in the face. Assuming that the maxillary teeth stick out, which we’ve now known for over 35 years, they do not stick out. We’ve ignored that as profession. We continue to teach people to use headgears and we continue to have people take out teeth and insist that the teeth be retracted back.

Essentially, if the orthodontic profession’s going to get on board with this, they need to examine what they’re doing and get realistic about it, and get over the whole argument we’ve had about taking out teeth or not, whether it makes cases more stable or not. There’s never been a study showing that the cases are more stable. What reality is, is that we’re messing up faces and the airways along the way. We need to take responsibility for that and need to change it.

Scott: Absolute. There is still this consciousness in the orthodontic profession that we take teeth out in order to create space. How prevalent is that consciousness in mainstream orthodontics today?

William: Let me quote the literature. I mean there’s been a lot of discussion about it, but even just a few months ago, there was a cover article on the American Journal of Orthodontics of what was the incidence of extraction. I might probably get it wrong, but I think at the University of North Carolina Orthodontic Clinic (if I’m not mistaken) that the number was in a mid to high 20 percent of the patients had teeth taken out. The point here is that, not only do we need to be taking teeth out which ends up with everything being further back, we need to be moving them forward which, unfortunately the profession is definitely afraid of doing that, and doesn’t have a really good approach to do that. Yet, that’s exactly what the profession needs to be doing if you really understand what’s going on with the faces.

Interestingly, way back in the 1980s, there was a big controversy. A lot of general dentists were using so-called functional appliances to develop or move jaws forward and the orthodontists didn’t like this. So there were some studies that came out to compare traditional orthodontics with so-called “functional appliances”. One article which was written said, "Well, you’re no better than we are. We both end up with faces that have moderate midfacial dental alveolar retrusions." Essentially saying,"We’re equal. No matter what you do, you still end up with faces that are too far back." Then of course, that’s the end of the discussion.

In reality, that should be a red flag for the profession saying,"Wait a minute! We admit, the faces are too far down and back. To be honest, straightening teeth in adolescence is essentially rearranging the deck chairs on the Titanic. It’s really too late to do the right thing. If you’re wanting to get the face forward, you’d better doing it very early, even treating in the primary dentition. That’s why the whole prevention thing is so terribly important. The orthodontic profession, when we get involved with straightening teeth, it’s too little and too late to really make a big difference for most of the patients. That’s not something that’s going to be well accepted, but when you look at the numbers and the reality of it, it’s hard to conclude anything else.

Scott: So when should a patient have orthodontic treatment? When is the optimal age at which to get that first orthodontic consultation?
William: Let me go earlier than that. I love to have the patient if I'm seeing a family and they have a young child who is two or three years of age, I'm happy to see that child. If I recognize that the lips are apart, then what I usually do is I refer them to a myofunctional therapist and to the degree that it's possible, they can do exercises to help establish proper rest oral posture. I even do treat children who are aged three and four. I take them and move their upper teeth upward and forward and their lower jaws forward using John Mew's approaches. In doing this, we've actually been able to get rid of sleep apnea with a sleep test to prove it, in a young five-year old child who had a failure to thrive diagnosis.

This is when we need to be doing it, because by the time that even the permanent teeth are coming in, frequently the faces are down and back so far. So if you talk about treating in the primary dentition to an orthodontist, you're going to basically get that deer in the headlights look. "Well, what do you mean; straightening baby teeth? They're all going to fall out. The point is it's not about the teeth. The teeth are a handle to the face, and if you notice that the teeth are down and back in a four- and five-year old child, bring them upward and forward. Develop the lower jaw forward, work with a myofunctional therapist to have that child get proper rest oral posture and then you're going to see the face go forward the way it was meant to.

It even takes it out of the realm of the orthodontic practice. I've said when I speak to the myofunctional therapist groups,"There's like 10,000 orthodontists in the country or something like that and a few hundred myofunctional therapists. Those numbers should be reversed. If you had a zillion myofunctional therapists who are treating and seeing kids very early, then the need for orthodontics just goes out the window. It's a crazy concept but it's the truth.

Scott: Putting in that approach, with the early involvement of a myofunctional therapist starting at about two years of age, again we are focusing on what is the ideal treatment to help develop the airway. Is that correct?

William: Yes, exactly. The focus always is teeth together, lips together, tongue to the palate and breathe through the nose 100 percent of the time and having the child eat real food that requires them to exercise their jaws and muscles. These are things that I think we can easily do. It requires a lifestyle change for an awful lot of people, but let's be honest. We need that. Unless and until we're willing as a society to make that jump, we're going to see everything go down in terms of our kids' health. It's all part of a lifestyle issue to a great degree.

Scott: It's a proactive approach, and it's a really good dovetailing with a critical point that we're trying to teach our Functional Oral Health Summit audience that the basis of functional medicine is in identifying and treating the root cause of disease. From an orthodontic perspective and a facial development perspective, what is the difference between treating a cause and treating a symptom? How good are we at that?

William: The orthodontic profession is great at treating a symptom, we haven't identified a cause. The interesting thing is--Harvold was a gentleman back in the 1960s who put plugs in the nose of the monkeys and observed that he created malocclusions like we see all the time and yet, you'll still find a huge segment of the orthodontic community that doesn't really accept that as being something
that's going on with our children. To me, if you didn't believe that there was a connection, why did you do the studies on the monkeys in the first place? If we see it happening in the monkeys, why don't we think it's happening for kids today?

The crooked teeth, if they're crowded or there's a Class 2 occlusion, this is nothing more than a symptom. You see all the other symptoms, the forward head posture, the head tilted back and all of this that I've talked about previously. These are just a bunch of symptoms. Go back further and you say,"Well, why is this happening?" Goes back to what we’re eating and what we're breathing, allergies that we have and the way we hold our tongue, lips and jaws at rest. So that, then, is more of an issue.

There's another issue we haven't even talked about here which is the tongue-tie. I don't know if you want to get into that right now, but that is another issue, because a lot of kids cannot get their tongue to the palate because it's anchored to the floor of their mouth. So they have to be evaluated for tongue-tie, and that has to be released so that the tongue can actually have proper rest oral posture and get up there.

Scott: Sure, and we can get into tongue-tie a little bit later in our discussion if you like.

William: Okay. That's fine.

Scott: There are a couple of exchanges that we could have on that but just revisiting very briefly the work of Harvold, he did most of his work at the University of California, San Francisco. This is back in the 70s and much of the--I believe he referred to it as"functional matrix approach" with nerves and muscles. I mean it was decades ahead of its time and ironically, I’m not sure how many practicing orthodontists today are familiar with his work, which has been buried in the miasma of some of the other things that are happening in orthodontics, but I've heard, in fact one of a very cutting-edge thinking periodontist that I work with in my writing business, Dr. George Mandelaris out of Chicago, is very much enamored of the work of Harvold and he's incorporating that into some of the regenerative research that he's doing from the standpoint of periodontics.

William: Wow!

Scott: Soperhaps, orthodontics could maybe learn a little bit from some of the other specialties as part of an overall interdisciplinary approach. I don't know, just a wild guess. What do you think?

William: I think what we need to do is to take the walls down between the specialties. We need to see medicine and dentistry come together. It's been an artificial division anyway. I couldn't practice without an ear, nose and throat specialist who really understands all of what I'm concerned about:the breathing issues, tongue-tie issues and all of this. I couldn't practice without a myofunctional therapist. If we're going to really do this right, we need teams of people who have all these disciplines together because no one person can do it all.

Scott: Right. Absolutely. Still, I see all too often medical specialties and dental specialties working for more of a "siloed" approach and just working within that one silo and not really collaborating with some of the other specialties. The team
approach is something that we really need to cultivate. Again, a major focus of the functional medicine movement working as a team and just working to maybe check our egos at the door and just collaborate for the benefit of the most important facet of this, which is the overall health the patient.

**William:** Absolutely. Exactly.

**Scott:** What do you think the ideal goal of orthodontic treatment should be? Whatever the approach we hope from the standpoint of addressing the root cause of disease, where should we end up and how permanent should that goal be? We've heard a lot about relapse. How important is relapse and should relapse even occur if we've addressed the root cause of facial development, straight teeth, crooked teeth, crowded teeth, whatever.

**William:** Right. If you really, really take it to its logical conclusion, then braces straightening your teeth should literally never be done. Long before you got to that point where the teeth were crooked, you would have corrected the rest oral posture. You would have had the three the things that I talk about that are terribly important. They are: (a) optimizing facial balance; optimizing forward growth of the face. Well, that in and of itself means that you're optimizing the airway as well, because if the maxilla is forward where it looks good, then indeed the soft palate is forward enough that the airway there is open. If the mandible is then forward, fitting properly with the maxilla in that position, then the tongue is forward as well. The airway there is good.

So you have optimizing facial balance, forward growth, optimizing the airway, and along the way, we have to get into that very controversial thing about temporomandibular joint [TMJ] health which we've argued about in dentistry for my entire career. I want to optimize the TMJ health too, which means having the condyle centered in the fossa where it ought to be with the face forward in the airway. So those three things, optimal facial balance, optimal airway and TMJ health go together. Then, I like to say number 27 on that, these are all tied for number one. Number 27 on the list is make a teeth fit in a Class 1 occlusion. I say number 27 to completely deemphasize it and really say,"I assume that. Of course, we want that." But it is not the goal and yet, that has been the goal of orthodontics is to take the Class 1, Class 2 and Class 3 malocclusion and call it a malocclusion and then treat to a Class 1 occlusion.

What we need to do, believe it or not in orthodontics, is to quit even talking about the teeth and not even classify the malocclusions according to angles classification. That's a major leap of course and will require that we actually become mouth doctors, which not going to happen anytime soon, but it's a great goal. We really are looking at the face and from a medical perspective. We need to then get into other kinds of things to look if the body is responding well. I mean, we're starting to use autonomic testing equipment to see that the body is kind of a simple way is really happy with whatever you're doing.

If we're going to test and really see how well the body responds, that seems to me a better goal than, "Oh, gee! Look at the plaster model sitting on the table here, how good an orthodontist I am." If indeed the goal is teeth together, tongue to the palate, lips together, then the retainers are indeed the lips, cheeks and tongue. You don't need any orthodontics and there's not going to be any relapse because the teeth have gone to their proper positions ideally. This is
what John Mew's been wanting to do for years, and I achieve it occasionally. I'm not as good as he as with my treatment, and I don't get involved early enough many times, but we've had many cases where you don't even put braces on the patient's teeth and they walk out and they go off to college, they're not taking their retainers. You're not worried about whether they going to wear their retainers or not, because they don't have any retainers. Their retainers are their tongue, lips and cheeks and they never even wore braces. That is the ultimate goal as I see it of orthodontics. Is that going to happen anytime soon? I don't see it happening, but we need to have that discussion and really ought to be the ultimate outcome.

Scott: Sure, and dare we say the body healing itself.

William: Exactly.

Scott: It's an absurd analogy that occurs to me that maybe, seeing the iceberg early in time to steer the Titanic around the iceberg, rather than as the Titanic is going down trying to rearrange the deck chairs which is--

William: Exactly. That is exactly what this is all about.

Scott: Yes. So recognizing something early, identifying the cause and correcting it. Of course, we're talking here about a major cultural shift and a lot of this boils down to the culture of the medical and dental professions.

William: Exactly.

Scott: That, unfortunately, it's a continual source of frustration for me to see that the needle moves so slowly and the cultural knowledge base shifts so slowly. If I could find some way to empower people, it's one of the things we're trying to do with this Summit to enable the consumer - the patient - to do his/her own research and ask those questions of the orthodontist, the ENT, primary doctor, myofunctional therapist, to get the answers that they need and be more on an equal footing and having that discussion with the healthcare professional that will galvanize more of a rapid shift. That's what I would like to see, but we've definitely got an uphill battle ahead of us.

So switching gears for a moment here, you talked about tongue-tie. You wanted to bring tongue-tie into the discussion. Many patients and parents have never heard of it. Our audience has heard some really great content here from Dr. Alison Hazelbaker, lactation specialist and wonderful font of information about tongue-tie, good facial development and breastfeeding and just very, very knowledgeable from a variety of angles. She talks about tongue-tie as being a diagnostic problem. Can you speak to that from your perspective? What are we doing about tongue-tie?

William: The interesting thing and here I am, 45 years into an orthodontic career and only within the last five, six, seven years or something like that, this subject have even come up. I can look back on my entire career and think, how many more people could I have helped had I known all of this? Brazil is way ahead of us in this regard in the whole myofunctional therapy arena, and they enacted a law where every newborn is required to be examined for tongue-tie. If I'm not
mistaken, in the first year that that was happening, they found at least 40 percent of the kids had some degree of tongue-tie, which is an astonishing thing.

Now, the obvious thing is many of these children can't even latch on. Dr. Hazelbaker will speak to that whole issue. They can't breastfeed, and so if that's the case, they also can't get their tongue to the palate. They're not getting the exercise that breastfeeding is good for, exercising the facial muscles. They're probably not getting the nutrition. Maybe the mother can pump and all that, but it's still not as good as the actual act of breastfeeding. That goes into the child cannot have proper rest oral posture. The tongue literally cannot get to the palate and be where it's supposed to be. So the myofunctional therapist can do all they want to do but the child literally can't get the thing there and so it's going to be very frustrating to the child and those results are not going to be there.

In terms of facial development, that is one of most critical things. Believe me, it's something that everyone needs to understand in the pediatricdentist community. The pediatricians, orthodontists, the ear, nose, and throat specialists, ALL need to understand this. Everybody needs to understand this. It's one of the biggest things I've seen in my entire career. Taking it even further forward into the adult community, I know there's going to be a lot of research on this but it's strongly, in my humble opinion, associated with clenching and the grinding and bruxing [tooth grinding] activity for adults. I have had learned myself by seeing a number of these individuals literally stop clenching or grinding their teeth immediately after they've had a tongue tie release done in 20, 30, 40, or even 50 years of clenching and pain is gone instantly as soon as a tongue tie release is done properly.

It would be hard for me to make a case more strongly about this and emphasize how important this really is to the whole profession. It's a big deal, and there are other people who know a lot more about it you can talk about why we are seeing the incidence of tongue-tie. That's not for me to discuss. All I can say is, I can see the dramatic changes which have occurred when the tongue-tie release has been done.

Scott: Yes. That makes perfect sense. Who is best qualified to diagnose a tongue-tie issue and what telltale signs could have a parent observe in a child at a very early age that might suggest that there's a tongue tie problem present?

William: Well, who's best? The pediatrician should absolutely be able to see this. In my opinion, the child should be examined at birth as it is in Brazil. A myofunctional therapist should be able to do this; ear, nose and throat specialist. Dr. Soroush Zaghi is an ENT specialist that I work with, and I couldn't practice without him. He has a classification system which he's published about, Grade 1, 2, 3 and 4 which is, with your jaw as wide open as you can, how high can the tongue actually go. He's got an article written on this. But you can also-- It's very simple. If you ask the child to stick the tongue out, if the tongue can't go very far or if it goes forward and then the tip of it goes down, that's bad. It shouldn't go down.

If you have a patient open as wide as they can like that [he demonstrates], their tongue should be able to go almost to the incisive papilla [the area on the roof of the mouth, just behind the front teeth] and not have them closer their jaw at all.
It should literally elevate. You can look in to see the tongue with the mouth open, and you shouldn't see any V-shape to the tongue at all. The top of the tongue should be rounded like this and yet, many people will have V-shape. So that person has a degree of tongue-tie as well. It's a discussion that-- I believe somebody with the expertise of Dr. Soroush Zaghi would be someone that you could talk to about it. He can help. I mean he's educated a lot of the other people about just what needs to be done here. It's a big deal.

Scott: And he's got a lot of good stuff on the internet as well. So that's a name that our audience members should be familiar with, especially the parents out there who suspect that maybe your young child might have a tongue-tie issue.

I’d like to revisit a concept that we've touched on in our discussion, but I think it bears repeating. It's something that I personally think that the oral healthcare consumer should have a really good grounding in, because especially parents who are probably going to be in the position of having that orthodontic counsel maybe a lot later than it should happen and maybe in the 'tween or teen years, and that is going to bring them smack up against the concept of retractive orthodontics. What is retractive orthodontics in good, concrete terms that our audience members can take to the bank? Does it involve tooth extraction?

William: It may involve tooth extraction, but not necessarily. Retractive orthodontics is anything at all which minutely brings the teeth back in the face—even minutely. Lots of children will have space between their teeth, which is fine and the patient goes in to see the orthodontist and there's space, like having a space between your teeth like David Letterman. Every orthodontist has seen and taken patients like that, and every orthodontist has taken teeth like that and align the teeth and close that space up. I've done it many times. I don't do that anymore. Even that, alone, can cause a problem for somebody. It could cause them to snore and not breathe as well. I've learned that by doing it, observing and listening to the patients. The simple thing is headgears have been out there since about 100 years ago. Nobody should have a headgear. They should be outlawed.

Scott: Headgear being an external appliance.

William: Yes. Any mention of headgear should be, leave the office immediately. I'm not joking.

Scott: I know you're not.

William: The fact is, in July of 1981, in a refereed journal, *The Angle Orthodontist*, there was a discussion about in someone who has a Class 2 malocclusion, where are the maxillary teeth. It was concluded that it's rare that the upper jaw is too far forward. As a matter of fact, in most Class 2 cases, it's already too far back in essence. So the last thing in the world you would want to do is to take the upper teeth which are already too far back and bring them back even more. So why are we, 36 years after it's been published, why are we still even advocating use of a headgear to retard the forward growth of the upper jaw when we now know, and if you really understand Mew’s work and understand all the other things that are out there about where the faces-- Daniel Lieberman's book from Harvard on *The Evolution of the Human Head*, we shouldn't be pushing anything back and we got to stop that immediately. So, no headgears. And if you're going to close generalize spacing you can do that, but you're going to put some space way
back in the arch somewhere and over-contour some teeth to close that spacing. In no way do you want to pull the teeth back.

The other thing that's often done is extracting teeth. Yes, taking out teeth here and here and pulling the teeth back. No more of that. I'm sorry. It's not okay. We've done it. We've tried to justify it. If you try to get a new drug approved, the Food and Drug Administration, has the company prove that something is "safe and effective". Well that's never been done for any kind of retractive orthodontics showing that it is safe and effective. I've been reopening extraction spaces for people who had retractive orthodontics, and I have been doing it since 1989.

One of the most important things I've done is to listen to those patients. What I've learned is a lot. As soon as you bring the teeth back forward, sometimes a huge symptom pattern that they have goes away. We never promised resolution of the unwanted symptoms; it never has and never will. But it is amazing to me; snoring goes away and sleep apnea can go away. We have studies to show that that has occurred. So it's really hard for me to somehow justify retracting teeth in any way, shape or form. We have in the refereed [peer-reviewed] literature an article from China and another one from Turkey, I believe, talking about how the airway is reduced when you retract. They don't go the next step and say reduction of the airway is a bad thing. Help me understand anyone who could somehow justify making someone's airway smaller. I mean just from a health perspective, how good is that? It can't be okay. Just intuitively, it makes absolutely no sense. Given the fact that there are plenty of ways to avoid this, why are we still doing these things?

So any treatment plan, even disking the teeth [removing small portions of the sides of permanent teeth], I'm very much opposed to. It is very common to go in and narrow the teeth down because the orthodontist has been taught that pushing the teeth forward is going to cause the gums to recede. There are at least seven references in the peer-reviewed literature indicating that you can move the teeth forward and not cause gum recession. That's out there for any orthodontist to read. It's in the peer-reviewed literature. What is still going on is antiquated techniques that in the light of airway issues we can no longer justify.

Scott: To me, it seems a rather simple concept that if you bring the upper and lower jaws forward, you're going to be taking pressure off the airway from a number of standpoints, which would have to be a good thing. Retractive orthodontics basically does the opposite of that. Just playing devil's advocate here for a minute, Bill, I know that there are some parents in some of the audience. They're going to be visiting and taking their child to the orthodontist and some of them are going to be getting the argument that even if the orthodontist is conversant with the concept of maybe retracting the teeth and moving the jaws back and not being a good thing, some of them are still going to be saying, "Well, there just isn't enough room, so while we don't like to do it, Mrs. Jones, in little Suzie's case, we have no choice but to pull out four permanent premolar teeth. What should the parent's response be to that?

William: Right. Oh, exactly. I could have been that person because back in the 70s, I had a practice where I took out—I hate to say it—truckloads of teeth but in the early 80s, I just couldn't stand it anymore and I started the journey that ultimately resulted in me stopping removing teeth altogether. Now, if I say that in an
orthodontic group, they'll label me as a crazy guy, because there's still that feeling in the profession that they're just simply cases where you have to take some teeth out. After not taking teeth out for more than 30 years (probably almost 35 years), I can say I don't see a population of patients that are any different than anyone else. As a matter of fact, most of the people who come to me right now are what I call the "train wreck" mode. They've had teeth taken out and they're suffering the consequences of it. They're seeking my help to try to reverse that.

So the fact is their child is usually better off having no treatment than having the teeth taken out and having the retraction, which we don't know where that threshold is or where some kind of retraction is now unsafe. In my lectures, I ask the following questions to a group of dentists. Do you believe that it is possible to retract enough to cause sleep apnea?" I've done this many times now. Then I say is there anyone in the room who does not believe that you could retract enough to cause sleep apnea? I've never had one person say."No" that they don't agree with that. So then I get them to all acknowledge, "Yes, you can retract enough to cause sleep apnea." Everyone agrees to that.

The next question is, how far can you retract before you produce sleep apnea? Of course, no one knows the answer to that, and I don't know the answer to that. The next totally obvious question is, if you don't know where "safe retraction" becomes unsafe retraction, how can you ethically and morally retract even minutely? It's intuitive to me that that would follow. So we need to come to grips with that and yet, I've had this discussion and even after I've gone through that whole thing, I've had an orthodontist say to me, "Yes, but..." Well, excuse me. My response to that person is,"If you feel so strongly about this then why don't you just be comfortable? If you know that what you're going to do for someone is absolutely, unequivocally not going to cause them a problem, then sign a statement to that effect and guarantee that patient. If you insist on having teeth taken out, guarantee that you will pay to reverse the process, reopen the spaces, do whatever is necessary, replace the teeth that were taken out, pay for the implants, pay for the person to fly somewhere to have this done to find someone who can do it because that's what it's at right now, if you are that confident." It's a very contentious thing and the more I talk, the more I find people who are feeling that way. My response is not to argue with them. "Fine, if you feel that way, sign a statement and guarantee that person you'll pay for it.

Scott: I'm guessing not a lot of buy in from the people that you suggest that to.

William: I don't make friends that way but it's... you know.

Scott: So retractive orthodontics in any form, you seem to be quite emphatic, is probably not a good idea.

William: Right.

Scott: This would seem to place quite a challenge on the parent who's shopping for an orthodontist for his or her child. You may need to talk to more than one orthodontist or perhaps just do some research on the internet.

William: Exactly.
Scott: Look up John Mew, orthotropics and your site and get the skinny on what they should be looking for. Now, go into some research under your belt. Yes, that would be my recommendation as well. You have an acronym on your site called, "ERRS." Can you tell our audience what that stands for?

William: After reopening previous orthodontics extraction spaces for people since 1989, a year and a half ago, it literally dawned on me that I was really dealing with a syndrome here—these patients coming to me with aesthetic functional and emotional signs and symptoms. I named this syndrome the "Extraction Retraction Regrets Syndrome," an acronym for ERRS as in “mistake”. I define it as a constellation of aesthetic functional and emotional signs and symptoms brought on by orthodontic retraction all of which is preventable. All of these symptoms are preventable, because retraction is a choice. It is preventable. It dawned on me just how important this triad is. I have people who come to me with aesthetic issues which start during the treatment. They notice that their face, lips and cheeks are changing. They notice that their smile is getting narrower. They have functional issues. Gee, they can't breathe as well. They can't sleep as well. They air these to the orthodontist and the orthodontist says, "Oh, you'll get used to it", usually. Then after the whole thing's over-- I mean, I had one woman last week say, 'You know, I got my braces off and I wept. I cried myself to sleep after I got my braces off." Here's a woman in her 50s. I'm talking to her about reopening her extraction spaces.

So I put together this whole concept of a syndrome because it is a constellation of signs and symptoms, and is preventable. I wrote an article on it, and it resonated so much that I had a woman come in here literally from Massachusetts in June with a 1.5 in thick three ring binder with annotations and six sections in it. That binder was entitled, "My Extraction Retraction Regret Story." If I have people here who are flying to see me from all over: Switzerland, the U.K., Australia and Africa, these are people who are coming not just to see Disneyland in Southern California. They can do that. They’re coming here 8, 10 or more times for me to reverse something that bothers them greatly aesthetically, functionally and emotionally.

So I’m writing articles about this, putting it together. I have an article to submit to be published. It’s becoming a big part of what we do but it takes-- I’m kind of a slow learner. It took all these years for me to realize that almost every one of these people coming to me has this triad going on. The emotional usually being the last one after the aesthetic and the functional issues.

Scott: So the emotional impact is one of the main things that you’re having to deal with here.

William: Absolutely. People have rage. They have regret."I shouldn’t have done this. I should have known better. I should have been informed."I've had people who want to start a class action lawsuit; I don't want to have a thing to do with those people because to me that's not where I want to put my energy. But I've had people who say, "My family would be better off without me because they've spent so much money trying to deal with the sleep apnea and the pain issues that go along with it, the temporomandibular joint problems and stuff. Some of these people end up spending incredible amounts of money to try to reverse the process. The earlier we do the resolution, the better off. I have two girls that are
twins that are coming in there 20 years of age and they’ve had teeth taken out. They’re flying in from Washington State. They’re happy. They’re the lucky ones because they haven’t had temporomandibular joint problems start to occur yet. They just couldn't breathe, and they didn’t like the way it looked. So many people will come and by the time they get to us, they’re in a really bad state. The jaw joints are degenerating, and they end up requiring very involved treatment, all of which could have been preventable in my opinion.

Scott: But if the damage has been done, if retractive orthodontics has been done, there is still a great deal that you can do to undo the damage.

William: There’s plenty that can be done. Conservatively reopening extraction spaces may help the problem, even if there's degeneration of the jaw joints. They may be asymptomatic and they can live with a pretty significant degeneration. If it's way beyond that and there's still pain associated with it, there are surgical procedures which can be done. I mean even total joint replacement is a possibility, and I have a number of patients who, unfortunately, had to have that happen but the good news is they end up getting their symptoms resolved and their joint replacement can be very effective and last a long time. We don't even know how long it's going to last. Those are a small percentage of the people that come. Usually, most people can have conservative reopening of the spaces and have a pretty nice resolution of their symptom pattern aesthetically and functionally when we do this reopening thing.

Scott: Now, you’ve referred to the focus on airway development and improvement as a battle. First of all, why do you call it a battle and who should be involved in that battle?

William: The battle about it is no one seems to care, and if they do care they say it’s not an issue. Believe it or not, and if I really had, I would have realized I was getting nowhere with him and would have stopped the lecture immediately, smiled, shaken his hand and left.

A couple days later when my mind is actually working, the insanity of what he had to say really hit me. I said to myself, if I ever see him again I’ll revisit that conversation and say using that same logic that he used with that analogy, “You probably wouldn't have a problem if we took the smallest capillary in your body and substituted it for your aorta. To me, it’s intuitive that we need to have an airway. That kind of thinking is out there. Believe me, it is a battle to try to help people understand that we’re dealing with a health issue here. We've got to get away from looking at the teeth and realize that people need to breathe. You’ve got the tongue, Scott. What has it? It got four cranial nerves innervating it. We take out teeth, we pull the teeth back and we say,"It's going to adapt." Really? It’s going to adapt? That’s like saying, "I’m going to cure obesity by taking my belt and cinching it up tighter. I can eat whatever I want." But if I make my belt
tight, the soft tissue won't grow past my belt. The tongue doesn't adapt. It
doesn't adapt at all. It's going to grow to whatever volume it's going to grow to,
and here we are decreasing the garage that the tongue lives in. How far can we
go in doing that before someone says,"I can't stand it."?Almost universally,
these patients who have had extraction retraction come to me, they say,"After
my braces came off, my tongue didn't fit my mouth. I hold my jaw forward; I
have to. If I put my teeth together I can't breathe" or "My teeth don't seem like
they fit well." I've heard this hundreds and hundreds and hundreds of times.

Scott: So once again, we're talking about a cultural battle and attitudes that
unfortunately are very slow to change.

William: Exactly. Yes.

Scott: One of the many reasons why we are trying through Summits like this to
empower the healthcare consumer to be the agent of change and to write down
and to be asking these questions with the orthodontist, pediatrician, primary
care doctor, general dentist and just be a critical appraiser of the answers that
you get. Folks, if these answers don't make sense to you, you're a good thinker.
If the answers don't make sense to you, then you can vote with your feet, keep
doing your research and find the team that you can assemble that's going to be
best for the craniofacial health and total body health of yourself and more
importantly, the children who are depending on you for good dental and medical
care. So what are the groups that are working on this issue? Who are the main
cutting edge agents of change from the professional side of this?

William: Yes. I'm fortunate to be a member of a group that really focuses on this. The
American Academy of Physiological Medicine and Dentistry [AAPMD] was formed
several years ago by Michael Gelb and Howie Hindin. They're friends of mine
through the American Academy of Craniofacial Pain. They were just having
coffee together one time and essentially came up with the fact that we're
fighting forest fires and it makes no sense to fight forest fires when we can
prevent the fire in the first place. That's the whole focus is to--all the TMJ and
sleep apnea issues didn't happen overnight. They got their start way back when,
and that's why we formed the group. We're trying to bring together medicine
and dentistry, myofunctional therapists, pediatricians, ENT specialists,
pediatricdentists, orthodontists, general dentists of all stripes and other
specialists.

We also have another group called, The Foundation for Airway Health and your
readers can go to www.airwayhealth.org. This is an organization which is
basically trying to give the consumer information to know what can you do to
optimize your airway. I see the change is going to come when the mothers who
largely drive things in our society. Let's be honest. That's where it happens.
They're on the internet. They're in their little mommy groups communicating
with each other which is great. When they are communicating enough and you
get enough knowledge out there, you reach the tipping point where this now
goes viral and people are all over the place in learning this, because of these
resources available, and it makes common sense as you say to people.

It does make common sense. When we have patients who come in our office and
we explain all these, they walk out and say, "Why isn't everyone doing this?" We
say, "Well, that's what we're trying to do. We're trying to change that. Can you
help us?" The AAPMD and the Foundation for Airway Health is part of it and we're aligning ourselves with the American Academy of Oral Systemic Health [AAOSH], which is a great organization. Again, a preventive organization with a little bit different angle to talk about health and wellness.

These are the groups that I see are on the forefront of change. They're small groups but they're growing and hopefully, we get together and we make it grow more and it is a big tent. We're seeking to have all kinds of people come into the AAPMD, be part of this and learn more. It's a five- or six-year-old organization that hopefully has a big future in getting the word out to a lot of different people.

Scott: Yes. I'm very impressed with the lineup and thinking of the AAPMD. I attended that meeting in 2013 at Oakland, which is the first time I saw you and Dr. Gelb speak. Of course, Dr. Gelb and Dr. Hindin are also speakers here on the Functional Oral Heath Summit and just some wonderful information and content coming from them as well.

So where can a parent get more information about all of the things that we've been talking about here? With the professional society members and professionals can go to www.aapmd.org and www.aaosh.org. For the health care consumer, where can parents go for more information on this?

William: www.airwayhealth.org is the best one for that. It's going to be the Foundation for Airway Health. It's still a fledgling site. My website has lots of information about it and lots of testimonials if you spend a lot of time on it which is www.facefocus.com. I also have another website called www.airway-kening.com. That outlines courses and lectures that I give and there is some video that's available as well that's recorded to talk more about this. I have an article which is written in CRANIO [Journal of Craniomandibular Practice] published this year on non retractive orthodontics. It's titled, Airway Centric, piggybacking on Michael Gelb's article in the CDA Journal on Airway Centric Dentistry.

For professionals, those are critical articles. Michael's article is great and then when he wrote that, I said,"Okay, Michael. We need to write another one with specific dos and do nots of orthodontic treatment." So we had that written and published just this year. It's specific things which can and cannot be done in orthodontics. It's there in CRANIO for people to read. It's not necessarily so much for the consumer, but for the professional. Of course, I think the consumer can read the article easily enough, and if they are talking to an orthodontist, they're going to know real well that this person either is or is not on board or they can even show the article to the professional. By the response the professional makes to the article, they're going to know if they're in the right place or not.

Scott: Sure. Where do they find CRANIO?

William: CRANIO is also known as the Journal of Craniomandibular Practice. It's a professional journal. I believe we have a link to that article on my website. So I think you can go there. I'm pretty sure there's a link to it.

Scott: That's www.facefocus.com. That's something that I repeat over and over again
here folks. Yes, go to the professional literature. You may not have the perspective on it that the professional doctor/dentist whatever has, but don't make the assumption that it's beyond your understanding and even if it is, by all means print it out, take it to the orthodontist, general dentist, pediatrician and have a discussion. If that person is not willing to have a discussion with you then that's stealing you a lot right there, isn't it?

**William:** [laughing] Exactly. That's a pretty loud message.

**Scott:** Right. It's all about having that dialogue. Medicine and dentistry are not going to be effective if they are just a monologue. They need to talk to the patient and they also need to listen to what the patient is saying to them, in dentistry in particular. You made this point at the beginning of the interview, Bill, it's your steadfast belief that you feel dentistry should be at the absolute center of healthcare. In light of what we discussed, can we just revisit that for a moment and reemphasize your basis for getting the healthcare consumer to think in terms of a central role for oral health, as it relates to overall healthcare in the healthcare system such as it is especially?

**William:** With every chronic disease associated with breathing and/or sleep apnea, back it up and it's all about the size of the airway; and the smaller the airway is, the harder it is for someone to breathe. It makes it so totally intuitive that the seemingly simple act of something that I used to do routinely in my practice-- I was taught to do what's called "serial extraction" meaning the six- and seven-year-old child walking into the orthodontic office having crowded teeth, and I, as an orthodontist, saying, "Oh, you've got your daddy's teeth and your mommy's jaw. We need to take out some baby teeth here." So you take out the baby eye teeth [canine teeth] and the incisors line themselves up. The mom is very happy. Oh, look at that. The teeth are getting better. Dr. Hang, you're such a nice guy. That was really great."

The trouble is that's the completely wrong thing. That's just the first step down the path to making the crowding situation worse. That is still a seemingly innocuous thing and from my perspective and what I read, it's still being taught to do that. It's not okay. That's when as you say, this is a symptom. The crowding is a symptom. So let's go in and address the cause, whatever that is and let’s treat those symptoms to eliminate the symptoms and the cause. Unless we get our handle on that in our country, there's no way we have enough money to chase all the symptoms that are out there.

**Scott:** How is dentistry uniquely qualified to occupy that central role? What is the focus and what can our audience maybe take to the bank here?

**William:** The fact is that most people today are taking their kids to the dentist, and they do so often more frequently than they do to the pediatrician. The dentist is in a unique position to give advice. They've known about tooth decay and we're making great strides with that. That opens up the whole subject, which I'm sure you're going to deal with probably Dr. Robert Lustig and the whole sugar thing. It's all part of the same thing. The dentist here is in the driver's seat to control all these kinds of issues right from the get go at a very early age and put the person in the right direction.

Many general dentists, they take my course and learn to do the orthotropics
thing because they seethat they're not getting anywhere in getting the orthodontist to do it, so they want to do it themselves. They want it for their own kids. So you're going to see more and more dentists aware of this as they open their eyes and learn more.

I'm really impressed by the young generation. So many of them I'd meet them at meetings. They come up to me after a lecture. They're interested in it, and that's the next generation coming in that's going to have a completely different future doing things than what I started doing way back in the 1960s when I was in dental school. It's a great time to be in dentistry, asI see it. The ironic thing to me is that at age 15, I decided to become a dentist. One of the reasons I decided to become a dentist rather than a physician-there are two reasons. I realized that physicians didn't have a life and number two, I didn't want to be doing things that whetherI did something right or wrong made someone live or die. I thought in dentistry, well that will never happen. Ironically now, I look back on my entire career and realize that "No, I am in a profession - in dentistry -where decisions are made positively or negatively that affects someone's facial balance and their airway. Therefore, we really are in that position, whether we want to be or not, and never even realize it but when you think deeply about it, it is what it is and you can't deny it.

Scott: That's interesting. The new crop of newly graduated dentists are doing that cultural shift. The way that they're being taught is probably more from an interdisciplinary team approach. They're sitting in your lectures and they're getting it.

William: They're getting it. Honestly, the parents get it. Everybody gets it when they hear it. The ones who don't get it or don't want to get it because they've got so much vested interest in the status quo. That's going to change because the parents are so educated today. We have parents that come in my office, they know more about me than I know about me, and I'm blown away by that.

Scott: It's quite a statement.

William: It's kind a scary but they come in educated and they want something. That's the power of the internet and the way that people can educate.

Scott: That is I think a perfect place and a perfect note on which to end. That's a tremendous takeaway message folks from Dr. Bill Hang telling us that you want to know something, you're educating yourself and you come in focused on a goal. You're beginning with the end in mind and that approach is just so necessary in order to have the healthcare consumer be the quarterback of that healthcare team and to have that dialogue with all the members on that team: the primary dentist, orthodontist, pediatrician, general practitioner, primary care doctor and to collaborate with that team and make decisions that are best for a good facial development and straight teeth in the bargain, if you're looking at that, but focus on the other things first and having that dialogue to make all that happen.

William: Exactly.

Scott: Dr. Bill Hang, it's been a pleasure speaking with you here on the Functional Oral Health Summit, folks. We've been talking with Dr. Bill Hang, Founder of Face
Focused Orthodontics in Agoura Hills, California. Bill, for the past 40+ years has been evolving into a career focus that talks about no one treatment being a “one size fits all” and evaluating each face as it comes through his office, looking at the development of that face and the impact on the development of the airway, a critical focus that we've had here on the Functional Oral Health Summit, making sure the face is developed and that the jaws are brought forward and not pushed back. Then once you got all that straightened out, the teeth should not require a lot of work just to be straightened and we'll luckily have that good straight physiological great smile appearance for the long run without any relapse. Bill, it's been a great pleasure speaking with you. Thank you so much for the time you spent here.