



The Solari Report

November 1, 2018

The Solari Food Series
Your Dentist and Your Health
with
Dr. Andrew Killgore
&
Harry Blazer

the **Food Series**



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Harry Blazer: Hello, Solari subscribers. We have a very interesting discussion today with Dr. Andrew Killgore, dentist par excellence.

We are here in Cincinnati, Ohio at Afnia Dental, the Mason office, which is his main office. I think that you will find this very interesting.

Andrew, say hello and tell us a little bit about your background.

Dr. Andrew Killgore: Hello. I guess I'll start back to when I was a salesman. I'm a second career dentist. I've worn a lot of hats from beginning in college being a wilderness instructor to helping my wife go through medical school, and trading that backpack in for a business suit. I was training with Pitney Bowes and selling postage meters. Dental equipment came after. One headhunter said, "Hey, you can do a little better financially if you get into this industry."

In an event to improve myself, I took some dental training in Oklahoma with a mom and pop store that was developing a new technique for doing root canals. That was my first journey into dentistry and where the passion for the sciences really kicked in for the first time.



Blazer: So this was a start-up company that was doing something with root canals?

Killgore: That is absolutely correct.

Blazer: So tell me about your education background before then.

Killgore: I started out with a philosophy degree at the University of Kansas. I took a scholarship to train in philosophy to finish at Vanderbilt University, so I transferred midway through college. I was supposed to be an environmental lawyer. That was the career path that I thought I was following.

I fell in love with the wilderness and guiding trips. I worked for Vanderbilt Outdoor Recreation guiding kayaking and wilderness trips. One great memory was taking eleven freshmen ladies down to the bottom of the Grand Canyon with a fellow worker of mine, and I guided them for a week through the canyon.

I just idolized the outdoors and really had built a resume to eventually work for Voyager Outward Bound Schools based out of Ely, Minnesota. I ended up guiding in the Beartooth Range and doing the Continental Divide trails with them. That was the academic part blending with what I was called to do.

Blazer: So you transferred to Vanderbilt. Did you graduate with a degree in philosophy?

Killgore: I certainly did.



Blazer: Then you went to work right after that for the Outward Bound wilderness-type stuff, and then your wife went to med school and you said, “Hey, I had better get a real job.” So you said, “I think I’ll be a dentist.”

Killgore: Almost. It was almost that leap. We ended up living in Milwaukee, Wisconsin while she was finishing medical school. That is when I took the job with Pitney Bowes. They trained me from the bottom up as far as basic sales school and training. They sent me down to Atlanta. I started rising through the ranks with that first difficult job as a 23-year-old.

Blazer: Then you went to selling dental equipment.

Killgore: I don’t know if in part it was because I was jealous of Cara. She gets to be a doctor and I don’t. One of the difficult things that you realize on the sales side is that your quota is going up every month despite how well you do the month before. In forecasting the next five to ten years of what that life would look like, I felt some pressure. I could never really escape the pressure of direct sales.

As I became familiar with dentists, I called on thousands of dentists between Illinois and Wisconsin, there was one event that happened that really affected the way my choices went forward. That had to do with a dentist who was probably 85 years old, his hands were shaking, and I was calling on him. He had the biggest smile on his face. This was quite possibly somebody who would have retired many years before, but he was doing it because he just had a love for the craft. ———



— You could tell that he was getting such intense joy out of the patient relationships and reaching people multi-generationally.

I was seeing the stories play out, and I was like, “Wow! That’s a totally different career path!”

I was moving through the ranks as a salesperson, and I was leading a team at that point. I was like, “You know what. I don’t even know if I can take a science course. I’m a philosophy major.” I could write papers pretty well, but the most science I had taken up to that point was a basic level geology course.

So I just dumped that job and wanted to see if I could do it. I knew that it would be a big transformational journey as far as using the other side of my brain.

Blazer: A key point here is that as a dental equipment salesperson, you were able to see a lot of dental practices. You were able to take a look into that industry before you even decided to go into it, and that is going to come into play very shortly here.

Is there anything else that you want to tell us about dental school and that ordeal? Then we will go onto the most interesting part, which is once you get out and what happens.

Killgore: I don’t know if my brain had developed to a point where I could handle academia on a different level – or this level. I wouldn’t say that it was a higher level than philosophy, but it was such a relaxing and invigorating experience working out black and white science –



– it’s real concrete, not abstract issues.

If you could arrive to the end of any of these thought processes, it was 100% right or wrong, and it was kind-of refreshing to be able to measure your accomplishments. I found it incredibly easy, and I was doing very well through that. I was able to get through dental school extremely fast, with the enjoyment of the intellectual journey.

I realized that so many things that I had been told about learning and what you are capable of is opposite of the way that was engrained in me from dental school. “You’re either good at math, or you’re good at English; you can’t be both.” That was the lesson that was described to me when I was growing up.

I found out that the more we are applying our brain power into that subject matter, it’s just like a physical muscle in your body; it just works and adapts so quickly to the challenges that are presented in front of it. So I had an absolute blast going through dental school.

Blazer: So you get out, and what happens?

Killgore: I was getting ready to start a residency. I did well enough to get accepted into a residency that was going to take me three years further into dental school. My wife at that point was like, “I’m a medical doctor. By the time this deal is over, you’re going to have been through school longer than me!”



So we took a little bit of a pause, and simultaneously an opportunity arose where a classmate and I were able to join the first and only US franchise model in the United States out in Colorado. I had always wanted to live out there. That was a backpacker's dream. So living there and getting to spend time there was always something that I had dreamt about. So we left school, went out there, and started our first of two dental practices.

Blazer: And where did you go to school?

Killgore: University of Louisville, Louisville Kentucky.

We went out, took the first dental job, and it was strange because you're out there, and it's your first experience working on people, but you really don't have a lot of knowledge other than maybe what you could do to hurt somebody. You don't have any of the advanced concepts that really tell you how to do good dentistry.

In most dental schools, I would say that they are playing a little bit of catch-up as far as the innovation, the technology, and the principles based on survival studies that would allow us to put things into the body in a way that is really predictable and helpful – not just to the patient's overall health, but their experience. That was the journey.

Blazer: So 'survival study' refers to a technology and perhaps a new technology and how long it might last given the application in the human body?



Killgore: That is exactly right. As our forefathers in dentistry became a little more sophisticated, they ended up finding ways for, example, to measure fatigue in the dental crown and the materials that are inside of the dental crown and how many impressions it would take to destroy one or disrupt the glue.

Taking it from that example to, “What is a 3-unit bridge?” which maybe some of the listeners have. “How long can these things last over a course of time versus a 4-unit bridge?”

There are definitely correlations once they started putting these long-term survival studies on dentistry. These things keep getting better every year if we stay on top of the data.

Blazer: At the point where you first started practicing, it was a bit of a grey area. They didn’t know nearly as much as they needed to, right?

Killgore: I think that some people around the country were definitely paying attention to dentistry from this perspective, but the place that I went to was really not so much focused on material sciences and doing better, faster dentistry. They had a different focus.

Blazer: Rather than get into too much detail about that – because these themes are going to come up – what made you leave?

Killgore: There were two simultaneous events. One, we were living at a pretty high altitude. My second born son, Noah, was born with Down syndrome. The day he was born, he came home needing bottled oxygen. He is suffering with low oxygen saturation levels. ———



——— So we tried to do it in Colorado for the remainder of that first year, and we just realized that he was probably losing some brain cells from being under-saturated on a daily basis.

The second thing that changed was I had been hearing of other camps within dentistry that were pursuing some of the goals like survival studies and how to do dentistry in a better, more predictable way. Those were things that I was definitely interested in.

Blazer: Would it be fair to say – in a general sense – that you had certain aspirations for excellence that perhaps were not shared by that first practice?

Killgore: Without a doubt. You don't realize that fully coming out of dental school until you've actually lived it, and then you reflect on articles and journals and things that would say, "Here is a better way of doing it."

Some of those ideas were really not encouraged. In fact, they were kind-of pushed back on by the previous organization. So that was a huge factor for me. Financially we could do very well in that previous model, but if it wasn't being done at the high standards that I could imagine it being done, especially dealing with medicine and the stuff going into people's bodies, I personally held myself accountable to make a transition to go find that. That is when we decided to leave and head back towards the Midwest.



Blazer: You also mentioned to me that as part of their model, they had their own lab. You weren't always that happy with the quality of the product coming out of that lab, but you didn't really have a choice to go elsewhere.

Killgore: That is true. It was very discouraging that we would find a higher quality, better fitting type of material. You really didn't know from the quality standards of dental school what a good crown material and what a bad crown material would perform like. So that wasn't really on the radar as far as calibrating a higher, more excellent standard and precision for dentistry because I didn't know better.

The dental school maybe didn't have the top-performing labs. That was my baseline. I went out to Colorado, and the standards might have been a little bit worse. Some days better, and some days worse, but there was an option C where it was just excellent. That wasn't really known to me until I started talking to my classmates who had been out there for a few years, and they were having a totally different experience with materials than I had been having.

Blazer: This is a very key point. You come out of dental school without a real good sense of what excellence looks like.

Killgore: That is absolutely my experience. It's not even the material standpoint. In dentistry, it's fascinating because you really have to blend the patient care connection problem with the materials part and also the business part, which isn't even explained or trained but maybe in one class at dental school over four years. So you've got a quite complicated professional education that most people, in order to get really good, need to go train a whole bunch, later.



Blazer: Where do you get that additional training post-dental school?

Killgore: There are institutions. There are probably four that have held dominance as far as post-graduate general dentistry education that would be maybe a gifted specialist in prosthodontics or periodontics. They would teach the paying dentist how to do procedures at the institute's level, thus giving the general dentist exposure into more advanced dentistry. You could follow curriculums through these centers and pick up stuff that you would never get in dental school.

Blazer: From these certificates on the wall that I see in your office, you went to quite a few of these seminars.

Killgore: One of the centers that I attended, I was so impressed. I went to his first session, and it was a curriculum of ten sessions – flying out to Seattle. He was the only guy who on the first day of class, and he was already renowned being a one of the best dentists in the entire world, but he showed us his failures.

Most of the dental continuing education events that you find on the circuit are people who are throwing their best stuff up, and this guy is a master teacher. He would be humble enough to know how good he was in his own skin to go, “I finished this case in graduate school, and this thing fell apart the next week. Let's figure out why it fell apart.” He had the foresight to document everything with pictures that would show how these patients would progress over time.



It was exciting because it really elucidated the fact that anything that dentists touch that goes from our hands into the mouth will have a failure rate, given enough time.

He was vulnerable enough to say, “It will fail,” but he then goes after the ‘why’ and how you keep it functional in the longest possible way based on the placement of angulation of that tooth within the mouth and the type of materials and also assessing the patient risk with these things that we put in the mouth and teaching them how to use them properly instead of putting something into their mouths and only telling them, ‘Don’t eat rocks’ and that kind of stuff.

That patient management issue really changed the perspective about how to become a better healer for patients overall.

Blazer: So you tend to be a bit modest. I want you to try not to be, when you answer this next question: When you take a look around at the degree of dental care, how would you rate yourself next to other dentists? Are you top 10%? Are you top 5% Are you top 1%? Where do you rate?

Killgore: I would say that there are probably one or two dentists in every metropolitan area that have a command of the information that I have and the passion to do it. So I would say that is probably where I would fall. In a regional area - it’s hard to toot your own horn - but I would say that if you are fixing a lot of mistakes that other people have created, then you know where you stand. If you start taking abandonment cases with patients who can’t get solutions anywhere else in your region, then you start to know, “Maybe I’m a little gifted in those areas.”



Blazer: So are we talking about 50 or 100 miles around Cincinnati?

Killgore: I'll have people coming from different states, but I wouldn't say that they come from more than a state away. If they have special problems, they will hear about us. If they've reached the end of solutions in their local area, they will find us here and we will get them some help.

Blazer: So there may be two or three people in this entire area – you being one of them – that are the top of the heap.

Killgore: It's really hard to brag about yourself, but I think that is probably where that stands.

Blazer: I just want the audience to understand that, because that is what I have also seen from my time spent with you. You are truly exceptional, which is why I wanted to spend this time with you, and now get into the most important stuff that we are going to talk about, which is the current state of dental care in the United States.

First you might want to let the audience know the types of things that you do that require some special skill, and then let's talk about the state of dentistry.

Killgore: There are two components that help us stand apart from other practitioners. The first one is a patient management issue. It's a shift in thinking about what that relationship feels like when we are bringing a patient into the practice. In my opinion, dentists by the previous model stand behind their DDS degree or their DMD —



— degree with, ‘I’m the expert’, and ‘I’m going to do things to you, and you are going to accept them because I’m the dentist’.

I think that has been the way that this has been played out for 80 years. What I have found to be the solution for most of our issues is being extremely collaborative with the patients in designing their dental plan and their dental treatment. What I mean by that is really seeking to ask the question about what their primary motivator is behind why they are seeking dental care. That isn’t simply, “My tooth is broken. That is why I’m here today.”

In the previous model, the dentist would just fix the tooth. What we are trying to seek in comprehensive care inside of dentistry is an emotional undercurrent that actually motivated them to show up to get healthy. If we can find that by listening very carefully, the patients will *treatment plan themselves* for us.

We have so many options inside of dentistry. I mean, the complexity is enormous. In dental school, we are taught, “Give them only three options.” They just made up three. They said, “Give them three: High, medium, and low (cost),” instead of just cutting this thing off at the pass and saying, “What is the primary motivation?” We can then sling the treatment options and sequence by what the patient’s desires ultimately are.

The fact that if we don’t do it that way and they don’t get the education and the motivation behind keeping it all together when they are done with treatment, the whole thing falls apart anyway.



Before we do a large restorative case involving thousands of dollars and a big commitment from these patients – sometimes multiple IV sedation visits that will assemble this – we had better know that the gear that goes into the head is going to be protected by them when they get home at night.

Identifying the primary motivator is a huge shift because it's like I'm putting my doctor card down, and I want to collaboratively design this, helping the patients with their problem.

Blazer: But part of this also is being very explicit about the challenges involved and the responsibilities that they may have in making this care successful. Is that correct?

Killgore: You are spelling out the outcome. You are focused on the treatment outcome. You are allowing the patient – through some brief description – what this reality, what this appliance, what this rehabilitation in their mouth is going to feel like. You are going to name all of the bad stuff that could go wrong with it. You are pointing out the risks and benefits of having this stuff permanently installed, and seeing if the patient can buy into it and say, “Yes, this is the outcome that I want, and I do believe that I can deal with the risks of this appliance.”

Sometimes the complexity might involve something like they can't keep things clean because they are in a later stage of life, and they don't have the dexterity to maintain appliances that they might have been able to when they were younger. That stuff needs to be discussed very carefully because it does affect treatment outcome.



Blazer: Give a few more examples.

Killgore: We are doing more and more cases of patients who will come in who have spent a lot of money on their mouth, and there is nothing that we can restore back to. Think about the crown that is prepped and it goes to a root canal and a crown redo. Then the crown breaks off ten years later, and then we are back into implant dentistry. So they have had resources, and they just want to get stable.

We are in an era today where we can continue to go that route, or we can take out all of their teeth, put implants in the same day, and have fixed bridgework put in so that they leave with temporary, complete bridgework. And if their biology was getting in the way in the first place, we decrease that risk entirely, and they are in a brand new restart.

Blazer: Talk about this whole biological factor.

Killgore: That is one of the most fascinating pieces of this. This isn't a fault of anything but maybe US dentistry's gross descriptions, but there are definitely risk factors in terms of genetics that play major roles in periodontal disease. That is one example. That is where people are having inflammation and bone loss in their gums, and it is rampant across the United States. One in every three people has some form of it.

Because of genetic testing, we are learning so much more about how this one disease affects so many other systemic parts of their health like heart disease and premature stroke and premature labor ———



— and perhaps some Alzheimer’s links that are coming out. There are two different types that I can see right now, and one of them is a genetic predisposition to it.

If one of these patients arrives, we see a tremendous amount of bone loss. We will ask them, “Did mom or dad have a denture early?” and they will universally say, “Yes, mom lost her teeth when she was 20.”

That same person with the same amount of care sitting at the same dinner table who didn’t have the genetic markers for periodontal disease could have the same amount of film on their teeth or calculus on their teeth, and they might not get any bone loss; their body doesn’t react in an inflammatory way against the presence of mineral deposits on teeth. But the person who does, it wipes out their bone very aggressively and very quickly.

That is just to comment on what we know about. The whole cavity thing and the tooth structure part – we see people walking in, and they are sad and horrified that they have four brothers and sisters, and they are the only one who gets cavities. All their brothers and sisters are just fine. It’s the same parents and the same diets, but there is something a little off with the mineral content on the teeth, and we are just now starting to get great science on what that is looking like.

Blazer: Or there might be something in the saliva or some other chemical in the mouth.



Killgore: No question. Saliva plays a huge part in buffering against acidity. So when we see any mouth below a 5.5 pH level, if they are in that acidic realm - the teeth are actually a soft substrate. They just look hard. But in that acidic environment, minerals are getting sucked out of teeth. It keeps happening and it keeps happening until the acid attack hits that surface of tooth, and you actually see a collapse of the circular rods in the teeth. Thus, when there is collapse, it is called a cavity. It's a collapse of these little rods that are usually plugged with enamel that are just smashed at that point.

Saliva buffers that tooth surface. When it is raised above 5.5, we can start getting the body's ability to re-mineralize it back into that tooth. So it's in flux constantly.

Blazer: It's kind-of an ionic reaction, right? You've got these high pluses in the acidic saliva, and then you've got some negative ions in the metals, and they basically come out of the tooth and join with the saliva, right?

Killgore: Yes. It is definitely fascinating what is happening. The longer I go, I start to look at the math as instead of looking at an isolated cavity that is on the tooth – and I've thought this way for years now – we consider the whole mouth and the teeth. They are in a fishbowl. The mouth is a fishbowl, and if you see one or two cavities in that mouth, the dentist may react to fix those cavities, but all of the teeth in the mouth have actually had a pretty high acid hit. It's the same environment.



We are only fixing reactively the teeth that show the acid part of destruction. The rest of the teeth are going there. So we have to bring high-risk cavity-carrying patients and get that pH level up really quickly and reestablish that so that we won't be in a cycle where we are fixing things that we just fixed.

If I fix something and we don't decrease that risk or address that part of why, I could be back six months later fixing the same cavities.

Blazer: How would you increase pH and reduce acidity in a patient's mouth?

Killgore: The most impactful thing is what you mentioned before about saliva. If we are underproducing saliva, that is our major buffering agent. Incidentally, we are seeing, with chronic medications - the top 200 chronic medications that people would take for any systemic issue like blood pressure or cholesterol - a huge impact on salivary flow. So we are getting a tremendous amount of people with these problems and we are in a new epidemic of trying to control and increase saliva content because they just don't produce anymore. That is a massive issue that everybody is struggling with for people beginning at age 50 and going forward.

Blazer: I've never heard of medical doctors telling their patients, "One of the side effects to this blood pressure or cholesterol medication is going to be that your saliva production is going to go way down, and the destruction of your teeth is going to go way up."



Killgore: That is just a fact. You're right. We're not really getting to make those decisions.

“Harry”, if it's you, “were you fully informed? Do you have consent? Is that a decision that you would like to make?”

Also, the consequence of losing all of these teeth is a major health issue as far as mastication when you get into late years. I'm really scared and sad when someone gets up into their advanced age, and they are losing teeth enough that might get them into a denture where they can't fully taste their food or use it. Tasting food is like the last, most wonderful thing that you have, and you carry that all the way through life. If I mess with that, if I impact that and you don't get to taste and enjoy food, those patients have a trend of not lasting very long.

Blazer: I imagine that it's quite a self-esteem issue that is involved with losing your teeth.

Killgore: Yes. We're in Kentucky and Ohio, and that's kind of cultural in some parts. No, I'm joking with you.

Blazer: It's a status symbol in those places!

So you said that there were two ways that you differentiated yourself. One is getting the patient proactively involved and having a very significant feedback loop from them also, which I want to talk about. It's quite fascinating. What would be the second theme?



Killgore: The platform of dentistry that I was given, we understood the periodontal part. We understood the biomechanical part. These were things like: Does the tooth need a crown? Is there a crack in it? How do you fix it? Does the tooth have a cavity? Those are biomechanical issues – dealing with the hard stuff.

Blazer: You had that understanding coming out of dental school?

Killgore: I had a little bit. Maybe not fully developed. So many things change every year.

We also had a decent command on the aesthetics of dentistry and the art part. What is the shape? What is it supposed to look like to achieve a high aesthetic result?

The thing that was really not understood – and I was seeking answers to this 14 years ago – was: “How do these things work and function in the mouth?”

We eat by chewing. Ideally we move muscles and jaws in a way that replicates mastication in a cow. So the jaw is on hinges and slides a little forward, and then it retreats, and it finds its position to grind. But we don't build teeth to that place.

In dental school, you are only taught to build teeth in an up-down position, and maybe a little side-to-side position. But that is quite a bit different than actually making patients test crowns, fillings, temporaries, dentures that come out – it's all the same - by actually using them the way that they would use them when they're at home.



Blazer: So it's not just to bite up and down, but let's see how you chew. There is a lot of movement side-to-side and other dimensions.

Killgore: There is a lot of variability. It's a very unique sort of tracing about how people use the jaw. We can do some very simple things, that I have picked up through just asking a lot of questions chairside and involving the patients in their treatment – and this would be that shift. It's collaborative.

So I'd say something like – let's you walked in and you had a bunch of clenching and grinding problems, and you don't know why. Well, I would describe a situation about, "What would the bite feel like if it were perfect? I'm going to tell you a picture: It feels like both sides are hitting the back of the mouth at the same time with the same pressure. You don't hit the front of your mouth. You don't hit and slide a little bit down to find your home position on your teeth." Then I would say, "Harry, what does your bite feel like?"

I have to slow them down. They have to close their eyes because we are teaching them something that they are not even aware of.

For example, if a dentist went into their mouth 30 years ago and they put in a crown that was too high, and the dentist didn't understand what I call 'physiologic occlusion' – which is what we are speaking to right now – the patient might go, "Oh, I'm numb. That's why this thing feels a little weird."

Maybe they go back to the dental office later, and then the dentist says, "Oh, you'll get used to it. It's going to be fine. It's a little bit high right now."



I would bet that most of the listeners have gone through this. It's epidemic. That is a major problem because human beings will adapt to what they are given, but the question becomes, "At what price?" Are they going to adapt by grinding and clenching this rock that was glued in their mouth 30 years ago? Are they going to grind through that in a completely uncontrolled way in the middle of the night when the brain is just trying to seek equilibrium to get things to rest in the mouth? Or are they going to advance or position their jaw in some way – maybe a little off to the left and kicked up 3mm to the right – just to get the other side to close down with this rock that was put on the right side of the mouth?

Blazer: That could affect other parts of their anatomy – their shoulders, their neck, their chest, or perhaps even breathing.

Killgore: It's a massive issue with regards to migraine headaches and tension headaches. I mean, you are basically putting somebody into a position where they can't rest. The muscle is firing constantly, seeking a place to rest.

The muscles will adapt, and the joint can kind-of scar into those positions, although they are not in the homeostasis position the jaw is always meant to be in. So that is an example of approaching the dental treatment from a standpoint of, let's really be careful, because of the subjective part of the question, with me telling them what ideally could be, I have to listen to what their responses are – because they are very confused initially.



They say, “The bite is the only bite I know,” but then you start listening to a collection of symptoms, and you can see wear patterns on the teeth. They start talking about sore jaw, muscle pain and headaches that they’ve had for 30 years.

These things are very easily treated. We just have to show them what the end is.

Blazer: One of the key things that you are saying here is that not only do you have to be keyed into listening to the patient, but that the patient – with the right kind of coaching – is able to give you very significant feedback, even when their tooth is ‘numb’.

Killgore: Maybe this has to do with my background in sales. When I was selling to people, I am asking enough questions to basically get them to tell me what motivates them, and what they want or need.

In me wearing the shoes as a dentist, I have found that dentistry gets extremely predictable if you are having this protocol played out and evolve. *It’s happening - the dentist is doing things to me, as opposed to, the dentist is simply the hands, and we are walking down that path together and I am making recommendations and asking questions.*

My dentistry got a lot better when I actually started listening very, very carefully to the patients. The associates that I have now, I tell them to put their doctor cards down, and just assume one thing: No matter what the patients are actually describing to you or telling you, they are always right. Don’t blow them off.



You may not be able to see it, but if you are tenacious at listening and asking them deeper questions, I almost always resolve patients back to that perfect symmetry and that craving of restfulness that they intrinsically know in themselves that they want.

It's sort-of like human beings have a home position. We all just want to get there. That is what I am trying to encourage the associates to do. I want them to have that dialogue. It's a subtle dialogue, but it's almost like a protocol where if you assume that they are right and you make the adjustments based on what those recommendations are that the patient is giving you, you get there 100% of the time. That has been my experience.

Blazer: There is a lot of training of people when they come in right from dental school, and maybe even other practices. You spend a lot of effort coaching, training and nurturing?

Killgore: Yes. Our model is just a little bit different because of the training that I took after I got out of dental school. It was an excessive amount. I mean, I have taken so much continuing education that I don't even use half of it. A lot of it was 'junk' continuing education. The really good stuff that elevates the platform for dentistry, we try to take those principles and bring them down to the associates.

When I hire an associate, what I'm looking for is insatiable ability to process information, and also compassion – extreme compassion for patients.

Blazer: So you have to have a high learning metabolism and compassion.



Killgore: Yes, they have to. They also have to have that relentless desire to know that they are on a journey in their careers where they are never going to have all of the answers. They are going to get better, but these updates need to happen continually, and just make it part of the journey. It's going to be constant and never-ending improvement in the way that we deliver dentistry. There is a humility to it, too.

When I bring on an associate, I basically say, “Hey, guys. If you find a better approach to doing what we are doing right now,” and this goes to the doctors, the hygiene team, and any person in the company who can find a better, faster, and easier way – based on science and sometimes based on a more efficient approach – if you are a dentist or a hygienist and we exist in that model, we all switch. So best science (practice) wins.

That allows us to buy world-class products at economy of scale and not have ten different endodontic systems or ten different filling material methods. The chaos of that would be overwhelming. So we can get the best stuff, and we are all going down that way together.

Blazer: It might be important to mention that you have four practices.

Killgore: Yes, that is correct.

Blazer: At one time, a major goal of yours, which to a certain extent you still have, was to create a chain of really good dental shops – maybe even on a national scale.



Killgore: I think that is the path that we are on right now, and I think that we have a lot to contribute to US dentistry. I want to do this in step with great people who have the same passion for dentistry and want to hold up and tell a really good long-term story. So we would grow in step with that.

Blazer: What we are seeing in this industry – because it’s relatively high margin and the accountants start looking at people’s P&L’s – is that there is a lot of private equity guys out there looking for deals where they can put a lot of practices together and make this a financial play. Do you see that happening?

Killgore: Yes, probably on the medical side as well as the dental side. We are seeing a lot of interest in our industry – margins being quite a special part compared to any other industry. So a lot of the private equity is getting involved in the acquisition of dental practices.

I can’t really speak to whether it was in the same manner that it happened in medicine as far as grouping up everybody and massive buyouts of the solo practitioner, but that is what is happening right now.

Blazer: When we’ve talked in the past, you’ve mentioned a fascinating phenomenon involving patients and desiring to be knocked out when they get in the chair. Can you talk a little bit about that?

Killgore: One of the ways that I specialize myself is I took the training to allow me to become board certified in IV sedation. —



— I was doing some more aggressive oral surgery appointments and implant surgery, and it was just something that people kept asking for.

We went and took care of that, and that is really the same type of sedation that you would get if you went to a medical procedure and got an endoscopy or a colonoscopy. It's Versed and Fentanyl. Those are the drug agents that we use.

The fascinating part about that journey is that there is such a mass subset of people who I believe were physically abused in a dental chair. It makes sense. Maybe some of it wasn't malicious, but if you were born in 1950, the anesthetics that we know didn't work until the late 1970's at best. We actually reformulated the old Novocain. That was the name brand. I'm not even sure it's really a brand name that existed, but that is what the public used.

What they found out was that that old formula took 30 minutes for the onset of the anesthesia, and the horrifying part is that it only lasted for ten minutes. So you're a 7-10 year-old sitting in a dental chair, and you need a tooth pulled – or maybe a couple. The dentist gets your mouth numb, they wait, and maybe you're numb on that first one, but I highly doubt that you were numb on that second one or the fillings or whatever had to go behind it.

These patients were essentially held down, threatened, and the dentistry was physically forced into their mouth when they lost all of their power, and they were basically being tortured in a dental chair. That is my belief.



I have thousands and thousands of patients who have told me that that is exactly what happened. So I know I'm on a segway, but those patients will come in, and they are scared. They are as scared as little kids. They turn into that little kid the second that they come into the dental chair.

We have to quickly reset this. Some of them are so scared that they won't even sit down in the dental chair. So to reframe this experience, to me, is not just, "Let's sedate them continually." We obviously do that, but I do one thing automatically. I say, "You're my boss. I have to really take care of you or you're not coming back."

So I want to give them their power back once I know why they had the event. I'm going to give them their power back and also teach them to breathe. We are just looking in their mouths that first day - they are really terrified!

The second thing is just going back to what we described before. "There may be a day where you may not need IV sedation to come into the dental office again. It's going to be your call; you have all the power to decide if you want IV sedation or if you want to try something lighter like oral sedation with a little nitrous oxide."

The most exhilarating moment that I have isn't the dentistry anymore; it's breaking the psychological fracture that happens to these people who have been abused in a dental chair in the past.

Blazer: How much of that abuse has been sexual?



Killgore: It does come up, and it's more than I would like to admit. It's not as much as just the general physically abused patient or the loss of power patient, but it does come up. The longer you do this, you can kind of get a feeling about it. You just open the dialogue up. Even in that, if we get a sense of that, we always have women in the room with us. I'm the male, so I have to be sensitive to that. If we've got that deal playing out – whether they are willing to talk about it or not – I give them a whole lot of space when I'm in the room. I might not even do the exam in a dental chair. We might take them back to the classroom and sit them down, and I can still do an exam and give them the freedom of a new space that doesn't have the smells and the sounds and all of that stuff.

I try to get them to laugh. Getting patients to laugh is probably one of the most useful weapons that I have in getting them to play a different record. They are playing, "I'm six years old, and I'm playing the record of abuse with all of these sounds, sights, and smells, and I've lost my power."

I want to crush that record, and I want to reprogram them to a better day when they are on their own feet and they don't need all of the drugs to do it.

When we get them through that high level phobia fear when they walk in, it's the coolest thing in the world. I mean, it's like I have seven-year-olds walk in, and it's like they have their 'big boy' pants on. They are coming in, and I'm just doing a little local anesthesia, and we celebrate that at the appointment. That's a big deal.



When they come back for their cleaning and they are involved in their own care, and they're not just in that place that they started, that is the most fun for me.

Blazer: Have you found any correlations with diet and dental health?

Killgore: On the cariogenic front, the cavity side, something to go back to what we were describing earlier in terms of acid. The acid in the first line of defense of something that we drink that has a low pH level hits a tooth. That is strike one: There is a hit from an acidic drink. Coffee is a lower pH thing, and you get acid on the teeth. Soda for sure, is another one, - but that is not what really destroys the teeth.

We have a bacteria known as 'strep mutans'. Everybody has got it to some degree –and some to high degrees. It's really the metabolism of sugars when that bacteria that resides in our mouth eats it, the acid output is tremendous.

Imagine this for a second: From the time we drink something with a sugar in it – and I can't even speak to artificial sugar because some do and some don't have the same effect – but if we take a sip, the bacteria is going to secrete a lot of acid onto our teeth for about half an hour. So if a patient is taking a pH level dive below 5.5 because they are sipping these sugars all throughout the day, they are creating a nice fishbowl of acid, and they are not allowing the saliva to hit and buffer the environment so that the tooth has a chance to repair. —



— We will see cavities on every single tooth in an 18-year-old's mouth when they are drinking Mountain Dew all day. It's not because of the initial hit; it's because they are sipping it.

There are things that you can do with different foods to promote a high pH level, but I'm not an expert in a whole lot of other food issues that would contribute. I am open-minded to learning.

Blazer: What messages that we haven't covered would you like to leave with our listeners?

Killgore: I think that patients studying and staying open-minded to the resources that could be available to them, there is nothing secret to the information that we are describing today. This information is already out there if you dig in a little bit.

Become a master of where your risk is. If you feel like you can't find an answer to why you are still getting cavities in your mouth, and your dentist is not providing those solutions, become the expert yourself. Dig in because those answers are absolutely out there.

Remember that there is an end zone. There is a physiologic neutral perfect position that we all crave to be in. So trust your instincts about the way you feel. Trust your body. Realize that you need to keep chasing down these answers – whether it's with another provider or on your own – to get into that place because it's real.

When you get there, stuff stops falling apart and pathology starts to cease. That is what I would encourage everybody to consider.



Blazer: How does somebody go about finding a good dentist like you? Give us some tips on how to do that.

Killgore: I think that your best bet - since everybody will do pretty good research – is to look for dentists that place less importance about their own accolades, and more important on the fact that they have done some continuing education and believe in continuing and never ending improvement through continuing education. Make sure that they are open to this.

I would not go to any dentist who is just doing the bare minimum of what is required in terms of continuing education in your state; it's not enough.

Look for signs of flow in the dental office. You need to have the front office answering the phone and feeling really great to you – that they are handling you in a professional manner, and processing properly, if you have insurance benefits or something that you want to bring on. That efficient and professional flow in the front is representative of what is happening in the back.

You will do your research on the review sites that you can find, and I would really encourage patients to back off from the initial comprehensive exam and ask more if the dentist would provide a 15-minute meet and greet and show around the practice to see if the philosophy of practice is in alignment with what the patient feels like.



Anybody who would not be willing to do that would help you to eliminate a lot of the errors that could be made in choosing a dentist who isn't yoked to the way that you need to be treated.

I would look for things within the practice that they are committed to – mission work, for example, and things that have to do with serving in a way that you can see that the teams are prospering because the dentist is committing to some kind of local or international mission work. I think that says a lot about where their heart is. The receiving component of the patient is a big part of this process.

Those would be things that I would look at.

Blazer: Could you name a few of these continuing education organizations that you respect?

Killgore: Yes. The Kois Center in Seattle, Washington, in my opinion, is the best. That is where I did this training. They have a website with a patient link. You can quickly get into that site and see if there are any Kois providers in your area. That would be the first place that I would start.

Blazer: Is there anything else that you would like to add?

Killgore: I'm in pretty good shape. I've enjoyed getting to talk about some of this stuff.

I think one other subject matter that is going to shift gears as we go forward is the fluoride issue. It's super controversial, and _____



— I think that there is a ton of science out there to support that this is not something that really should be systemically taken and ingested into our bodies. We are brainwashed in dental school that fluoride is the panacea for everything, and I think that it has an application when it's not ingested. It can help with making the tooth structure harder, but it's only now becoming one of many components that can do that same thing.

I would be paying attention to anything that comes out regarding water fluoridation. It doesn't really make sense to me that it is in the water supply, and I don't think that there is any basis for it. I will definitely be against my peers in that department.

Blazer: And how about mercury fillings? In our discussions we talked a little bit about how sometimes if you've had mercury fillings in your mouth, it may not be the best way to just run and get them taken out. Can you expound a little bit on that?

Killgore: That is a really important one.

I try to base things in a very pragmatic way. There is controversy about the metal or amalgam fillings and the contents of those fillings. The verbiage around "amalgam" is a conglomeration of a bunch of different things.

I don't really want to be an expert on what those components are, but I can tell you that if I have to remove a metal filling, sometimes it's really hard to get out, and sometimes it's really soft – almost like mush.



Metal fillings do not unilaterally constitute the same type of filling material. I think that they were an incredible tool, and that is what we had for so many years.

We have seen metal fillings last for decades. So I try to steer off of the controversy of what is in it. I don't want to tell a patient, "There is mercury in the filling," because that may be true, but I just don't have a lot of confidence in saying that that is putting a whole lot of risk to the patient.

I know that when we take out a metal filling, we are releasing the vapors. So probably the person who is getting most of the hit on that is probably the dentist who is removing it and breathing that.

Blazer: So how high-revving are some of these drills? Are the vapors being released from the heat, or just from the speed that you are creating this aerosol?

Killgore: These things can go 100,000 to 200,000 rpms (revolutions per minute), and we are spraying a lot of water on it. It's shooting everywhere. I mean, this stuff is getting absolutely everywhere. So we try to use special suction devices that pull it before it does get out of the mouth, so we don't create a biohazard ward to get these things out. It's just not economical or practical.

If a patient wants to get them out, we are happy to do it. But we would like to do it for a different reason. What I see on metal fillings is a very pragmatic failure because metal fillings over time shrink a little bit.



It's very subtle. We will start to see leakage points between the place where the metal touched the tooth, and now we have little gaps between the tooth and the filling. That is where we start getting cavities.

Blazer: You also have two different expansion coefficients between metal and enamel, right?

Killgore: Oh, my gosh, absolutely! Imagine you've got something shrinking, and it's not filling it the way that it was, but the tooth is still getting loaded.

The number one thing that dentists fix in the mouth are amalgam fillings that have been watched too long, and they act like nails in teeth.

Blazer: What do you mean by 'watched too long'?

Killgore: We are watching it to failure. We are watching it have the little leach, and we are watching the little cracks start to happen. Those cracks are the result of a physical wedging effect that is happening by hammering these teeth. Sometimes they will split teeth, and you will lose an entire cusp. That is the number one reason why we have to do crowns.

Sometimes they fracture teeth off below the gum line, and there is no warning of these things.

My recommendation is to be reasonable and prudent about it. If you are getting some work done, and you have some metal fillings, and you happen to be numb in that part of the mouth, get them all taken out and have them redone. Put a composite filling in that ——



— is not destructive in the tooth. Keep small holes small holes; don't let them become bigger problems that involve more tooth reduction.

When we take away tooth structure, there is still no material that replaces the dentin and enamel complex. We haven't figured it out yet. We still will have failure within the things that we put into the body; we don't have the perfect enamel/dentin complex that we can put back in there.

You really want to just be conservative and try to get ahead of everything, not wait for the failure and symptoms to happen.

Blazer: What is in these composites today?

Killgore: It's a plastic, and there are different fillers inside these plastics. It's inert for the most part. It's light-cured or dual-cured into the tooth. Think of it as a really hardened plastic that has different resins. When it's locked in there, it doesn't have a lot of expansion. It does have a little bit of subtraction over time, but the property of it is chemically bonded into the tooth; it's not mechanically shoved into a tooth.

What that allows us to do is take less tooth structure out of a preparation site. Those metal fillings have to have huge metal undercuts because you're stuffing that in there, and then they get locked in.



We are chemically bonding these fillings. If you imagine that you have a dark spot on your tooth and you wanted it repaired, we can bond right to that surface – right to that outer enamel. It's as if we haven't touched the underlying tooth structure.

When a composite fails, unfortunately, they don't last as long as the metal filling. We can hold those fillings up to about 10-12 years if they are done correctly, but they will also fail. It's kind of like a tire on a car: it's going to need some maintenance. But I would rather have that tiny composite filling gently taken out and then put another one in versus the catastrophic event that can happen when you are doing the metal.

Blazer: Tell us about gold and its role in the dental industry today.

Killgore: I don't see a whole lot of gold anymore. We don't do metal anything in our practices anymore. I am still so shocked about how long these crowns and onlays and inlays still last to this day. The properties of gold are pretty amazing. I would say that it is probably the longest-lasting thing we've got. It's cost prohibitive right now for most people. It's off the charts as far as the gold prices.

Labs will still manufacture gold. A lot of the camps – like the higher institutes of learning – will still put gold crowns in the furthest back parts of the tooth where the load is really significant. That is something that seems to have tremendous longevity in those restorations in the back of the mouth.

Blazer: This has been absolutely fabulous. I think that our listeners will really appreciate the fact that you've given us this time.



Killgore: This is really fun for me. There are a lot of assumptions being made out there that I think should always be questioned, just like so many other areas in life. Dentistry is one that is in my wheelhouse, so hopefully we will be doing some pretty cool stuff out of Ohio in the next few years.

Blazer: Recently you became a Solari.com subscriber, right?

Killgore: Oh yes! It is a phenomenal resource for me on the weekends, and I love every bit about the production. I enjoy it so much more because it's a calming way to get real information as opposed to some of the crazy stuff that I would listen to.

I enjoy a mature appraisal of the subject matter, and we've got science and sourcing to support it. I like that the information is resting where it is. You can get nice advances in your own development on subject matter, but you don't have to have all of the tremendous anxiety that goes with it – as compared to some of the other outlets.

Blazer: The 'fear porn' as Catherine says.

Killgore: That is my experience of it. As I get older, I like the slower, easy, more digestible, non-adrenalin version of this information.

Blazer: Andrew Killgore, Afnia Dental, Cincinnati, Ohio. Thank you so much for your time.

Killgore: Thanks Harry.



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