

Paleo Solution - 325

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Robb Wolf: Hey folks Robb Wolf here, another edition to PaleoSolution Podcast. I'm very excited for today's guest, Dr. Akil Palanisamy. He is a Harvard-trained physician and also the author of The Paleovedic Diet. Doc, how were you doing?

Dr. Akil Palanisamy: Oh fantastic. How are you?

Robb Wolf: All good here. All good, like we were just discussing before we let roll, I'm working on the book. We have a house remodel going. We just got some goats and sheep out at the Lazy Lobo Ranch.

Dr. Akil Palanisamy: Awesome.

Robb Wolf: So it's pretty hot and yeah.

Dr. Akil Palanisamy: Wow great.

Robb Wolf: So, doc, give folks some of your background. You have a really amazing eclectic background and we have some amazing eclectic people on the show but you're perhaps at the upper end of that.

Dr. Akil Palanisamy: Well, thanks. Yeah, I really started my career in biochemistry like you did. I studied biochemistry at Harvard when I was an undergrad and I did my dermatology research for my senior thesis. I thought I would end up in any of the medical research or medicine and went into clinical practice. So eventually, I got my training at Stanford in Family Medicine and then I did a fellowship with Andrew Weil studying Integrative Medicine.

Then during that time I got very interested in Ayurveda which is the traditional medicine from India. So I travelled to India a number of times. I met some amazing teachers. I studied and became certified in Ayurvedic Medicine as well and then through my own healthy journey, I actually got interested in Paleo many years ago and I became interested in Functional Medicine, the Evolutionary Medicine Framework. So there's a lot of different backgrounds that I bring into my work but I think strong biochemistry foundation and Ayurveda and Functional Medicine are the three areas that I really draw upon.

Robb Wolf: Right and I think that's an incredible perspective to have. Clearly, I have some bias in this evolutionary biology story. I feel like medicine absent

evolutionary biology is pretty effective for emergent situations, infectious disease but really it hasn't proven all that valuable in dealing with chronic degenerative disease. But we still seem to be chasing magic bullets as a solution instead of treating fundamental causes. I view modern medicine as a very micro view of what's going on. Clearly, we're down at the cell biology level looking at the biochemistry and the genetics and the interface between proteins and our genes and our gut microbiome.

I've looked at some of the traditional healing practices like traditional Chinese Medicine, Ayurveda more as a macro view of viewing health like. What are your thoughts around that?

Dr. Akil Palanisamy: Yeah absolutely. I think they're completely different philosophies and I think that's the strength about combining them because it really gives you some two very different windows into the body and into health and I'm a big fan of western medicine. I'm an M.D. and I prescribe pharmaceuticals when needed and I think it saved a lot of lives. So I'd be the last one to discount those benefits. But at the same time I see that there are these blind spots like chronic degenerative diseases and modern afflictions which are not really well handled by the drugs and pharmaceuticals that we have. Where like for acute infections and trauma we have an incredible results but for chronic conditions we really don't and that's what really led me initially to seek out other tools.

Like Ayurveda is one where you're really taking a very root-cause approach to understanding the problem and really taking a holistic big-picture approach same with Functional Medicine. You're really looking for the root causes and I think that macro view where you're looking at all the big picture causes of illness and chronic disease is really what's necessary to reverse this epidemic of modern degenerative diseases.

Robb Wolf: Right, right. I could not agree more. Ten years ago probably almost no one knew what Ayurveda was. I think that many more people are informed about what it is but it's millennia...multi millennia old medical system. Many people are not aware of that. Could you talk about a little bit of the history of Ayurveda where it came from and some of its historical roots and then you know what exactly it is in a clinical setting?

Dr. Akil Palanisamy: Sure yeah, so Ayurveda comes originally from India. The word Ayurveda derives from "Ayu" which means life and "veda" meaning science. So literally it's the signs of life and it's pretty definitely traced back at least 3,000, possibly, 5,000 years old and it's still around. So clearly they must have figured out something during that time.

In Ayurveda, the foundation is really this concept of the doshas which are these some three physiological principles in the body. The whole idea with Ayurveda is that the doshas have to be in balance for all the optimal physiological functions in the body and when they're out of balance that's when you start getting symptoms and start getting disease. So it really takes a different approach by understanding what are the dosha imbalances? What are the diet and lifestyle factors affecting those and then they're not as interested in labels like let's say diabetes or our modern western labels. Because 10 people with diabetes going to an Ayurvedic doctor might get 10 different prescriptions depending on the state of their doshas, depending on their individual situation. I think that's one of the key strengths of Ayurveda is customizing things for each person and really developing a personalized program.

Ayurveda believes that every person is unique and is born with the unique body type or constitution and that their diet should be tailored to that and also their lifestyle. Everything in their life should be tailored to that and that's really my approach trying to help people customize programs for themselves. Even if they're on Paleo already, I think there can be value in using Ayurveda to fine tune that and really optimize it for their individuality.

Robb Wolf:

For sure and like you talk a lot about spices which I definitely want to talk about that in a bit. I'm trying to figure out exactly how to articulate this but within modern science, we rely so much on statistical methods and trying to get large sample sizes which clearly are very valuable. They're critical to the scientific method.

But it's interesting also that it really ignores the individual like the individual just kind of get smooched into this statistical framework. And if you happened to be a standard deviation or two away from the norm and how you respond to say refine carbohydrates or a statin or a blood pressure medication or any one of a number of things. Then this data then is kind of the central feature of standard of care medicine really doesn't speak to you that well. This is where using some sort of a more macro view Ayurvedic approach could potentially be really valuable.

Dr. Akil Palanisamy:

Right exactly, yeah and I think that's what is missing from a lot of the research in the clinical trials is the individuality of each person. I think in Ayurveda, there's a whole branch of Ayurveda called Ayurgenomics where they're actually looking at the genetic factors that explain these different body types and constitutions. They are finding that there's a number of different genes involved. I think we're really in the early stages of this science but I'm hoping as the research expands we'll be able to

better understand the genetic underpinnings for these different constitutions and it really goes back to that biochemical individuality.

Ayurveda is approaching that from a macro perspective looking at pulses and the tongue and history and understanding it through these doshas and that's very effective. And at the same time I think we'll be able eventually to use genetic testing and understand the different genes affecting each dosha and use that to really tailor therapies, herbs, botanicals, diet all those things. So I think in the next 10 years in Ayurvedic research are going to be really exciting.

Robb Wolf: Absolutely, yeah, similar to the gut microbiome. We'll know more in five years than what we've learned in the last 50 years about it. So yeah it's very exciting. Doc, you arrived to all of these with a bit of personal health crisis of your own which I think is really common story to a lot of the people that I know. Could you talk a little bit about that?

Dr. Akil Palanisamy: Sure, yeah. It was basically in medical school when I was at the University of California, San Francisco School of Medicine and I, over a few years, developed a very severe repetitive strain injury like RSI-type condition where I have a very severe pain and tingling and numbness in my arms and basically, I couldn't write or use my hands at all. So I had to take a year off from school and also I had very severe fatigue like a 30-pound weight loss and all the stuff.

When I...the university was very accommodating when I couldn't like use the computer, they got me this foot-operated mouse which I still remember which is so cool. You're just like...with your two feet you're stepping on. One of them navigates the cursor so the other one you can click with and I was just so thrilled with this because you could just do everything you wanted on the computer with your feet. But then after doing that for a while then I got back pain because you can imagine like constantly...

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Robb Wolf: You're seated, yeah, yeah.

Dr. Akil Palanisamy: Constantly moving your feet and then I remember when I have to study I couldn't sit because of the back pain and the neck pain so I would lie down and be like reading my textbooks and then I developed neck pain from all of this. So I just read this is really wasn't working so I took a year off and I did all the conventional things, physical therapy, anti-inflammatories and all this stuff but it was really... And then three years before that I had actually become a vegetarian and stopped eating meat for what I thought were health reasons. It was really an Ayurvedic doctor

who initially told me that wasn't it necessarily the right thing for my body type. For my body type which is the vata body type which is a wind dosha. That's a body type where generally it's recommended to have annual protein and need. She explained all the ways that contributed to my symptoms.

So basically by really reincorporating meat into my diet, I felt incredibly better. The Ayurvedic doctor recommended bone broth and that was the very first thing that I did 20 years ago before bone broth was a thing like it is today. So using bone both for gut healing and changing my diet, following like a Paleo-type framework. Then using Functional Medicine and working with a Functional Medicine practitioner to find, who uncovered other issues like gut dysbiosis and some heavy metal toxicity and those things.

So it really was a long process but it was pretty hopeless there for a while because I had seen all the top doctors in the country and done all the conventional treatments and I was pretty desperate to get better and I really wasn't. It was only when I took this completely different approach, changing my diet and using Ayurveda and Functional Medicine that I started to turn the corner and that it really gave me a lot of empathy for my patients who are in that situation every day. Because I realized how hard it is when you're in that place where you don't think there's any hope of getting better and you've been told that you may not get better. Then I saw the power of Paleo and Functional Medicine and that's the flip side of it. So I think that experience was really very fundamental one for me.

Robb Wolf: For sure, for sure. Doc, in your book you also have a number of case histories where you walked through treatment process with some of the folks that you've worked with. Could you go through that, that might help to frame what the doshas are, vata, pitta, kapha if I am correct on that and then we give them a little bit of an idea of how you're integrating both classical western medical training, Functional Medicine and then also this Ayurvedic approach.

Dr. Akil Palanisamy: Oh sure, yeah. So you're exactly right. Vata, pitta, and kapha are the three doshas that I talked about. So vata, you can think of as wind. It has all the qualities of wind, light, cold, and dry. Pitta you can think of as fire so that's hot, intense, and sharp. Kapha is earth so that's the structure of dosha. It has the qualities. You can think of it as earth. It has the qualities of heavy, cold, and slow. So basically a balance of all those doshas are necessary for health.

In my practice, usually people come to me already on a Paleo diet and I've been...since I've become known in this area. So I could illustrate a couple of cases that people who are already on a Paleo diet but how I used Ayurveda to sort of help them. So one example was a woman, I think she was in her 40s. She had about...she had two kids so a stay-at-home mom and her main issues were constipation which had been very chronic, anxiety, and fatigue and she was basically just having a bowel movement every four days and she had been a Paleo for about a year.

Typically, she'd have a big salad for lunch. She was doing intermittent fasting so no breakfast and then dinner would be like cold, cuts ham, turkey or smoked salmon with the vegetables. So her diet seemed good on the initial glance. She'd also been drinking lots of iced water because her doctors have told her to have a lot of that for her bowel movements but when I examined her I found that she had a very high vata, this wind dosha.

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In Ayurveda the key symptoms associated with vata dosha in some people are constipation, anxiety, and fatigue which are her main complaints. Her diet with all these raw food and cold foods actually was very damaging to her vata. So this is where Ayurveda can help customize things because for certain people raw foods are highly recommended and then for other body types, it's actually...completely it should be avoided and so for her vata body type, I actually told her to eliminate all the raw foods like salads and cold foods and switch to having hot foods like soups and stews and do just cook the vegetables. And also to cut out the iced water which is very cooling for the system and just switch to room temperature or warm water and incorporate a few spices like greater turmeric and ginger into her diet to help with heating her system.

So Ayurveda is basically a qualitative science. So you're looking at what are the qualities that are out of balance and how to use food to help shift the qualities in the person's system. Just those simple changes to her diet after about two months, she reported that her constipation had basically resolved. She was actually eating less fiber because she had cut out all the salads but by having the warm foods and strengthening her digestion and balancing that the vata with herbs and the spices, the constipation was resolved and her anxiety and fatigue were better as well. So that was one case where the vata dosha was what affected and modifying the diet really helped with shifting that.

I could just mention briefly another case which is with pitta. The fire dosha and there was a patient of mine who had ulcerative colitis. He was a young software engineer here in Silicon Valley where I practice and he

was in his 30s. He was also on a Paleo diet but for about six months his diet was basically eggs and bacon for breakfast and lot of red meat and fermented dairy, as well as, sauerkraut and other cooked vegetables. So again pretty strict Paleo diet looked pretty healthy. But on examining him, I found that his pitta was very high and that was contributing to the inflammation that he was having in his GI tract, the bloody diarrhea that goes with the colitis and some other symptoms that he complained about. So basically all the foods that he was eating were actually very hot in terms of their qualities and properties.

Normally meat, eggs, and dairy are incredible nutrient dense foods that I recommend for a lot of people but in his case for his unique body type, they're actually relatively heating. So I had him cut out meat, eggs and dairy and instead just switch to more cooling foods like a lot of the bitter greens, a lot of astringent vegetables. And then incorporating more rice in resistant starch and then even sauerkraut which is incredibly healthy because of its sour taste and it does have a heating property as well so I had him reduce that to some extent. By changing his diet and again incorporating some spices he was able to really improve his symptoms of the colitis and the approach from Ayurveda is really targeting the doshas that are involved and approaching it from the qualitative perspective and finding out whether raw foods should be included or not. What sort of lifestyle diet is optimal for you is...that's really the strength of Ayurveda.

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Robb Wolf:

That's great and it's so interesting because with information that we're getting from Human Food Project and so much information about the gut microbiome, there's frequently...I think as we learn about protein, carbs, fat and insulin and hormones then you could become nervous about consuming a specific macro nutrient because of potentially deleterious effects of insulin or something like that. Now, I think that we've moved to a level of neurosis where we're super nervous about removing potentially fermentable fiber for some people because of the perceived deleterious effects that could have on the gut microbiome.

But still from a clinical standpoint, we have certain people that just present with some problems and even though the recommendation may seem a little bit sideways like reducing raw vegetable intake, clinically, the person improves. I think that that is a really fascinating bit of this personalized medicine, personalized nutrition. What are your thoughts about that like when do we let go of these big picture topics. We look at like the HADSA, they're eating a 150 grams of fiber a day and stuff like that. They have this amazing diverse gut microbiome and it seems like diversity is generally good but for some people it's clearly not. Like where

do you pick up and drop off some of this information and just run with clinical outcomes?

Dr. Akil Palanisamy: Yeah, I think the key insight from Ayurveda is that at every moment in time, things have to be individualized and that would, could be constantly changing depending on a person's life situation, what their goals are, what their current state of health is. So the same diet that I'm recommending today maybe completely different with than what I recommend like two years from now for the same person depending on what else is going on, what their current state of their body is.

So I think it's not just that one size doesn't fit all with diet but it's also that for the same person over at different periods of time, different diets could be optimal and that's where I think really working with a practitioner who can figure out what's the current state of the gut, the current state of the doshas, all those things really drive this personalizing of the diet. I think... We always want like a straightforward cotton-dry recommendations and I think it's just so hard to accept that there's so much complexity when it comes to human nutrition and the workings of the body. So I think if there's a real humility that comes when you will learn that and realize that it's not very straightforward.

Robb Wolf: Right. Yeah, I just couldn't agree more and it's...I think it's frustrating both for people trying to educate folks about health and then also for people who are in a situation where they're trying to improve their health and they might be quite sick. It's always fantastic when a basic recommendation whether it's Paleo or vegan or what have you if it just fixes your situation in a profound way and everything is great as a consequence. And you get the brochure experience then that's fantastic but I think maybe 20%-25% of people don't get that brochure experience and then we have to start looking deeper but that can be really challenging. If people don't have another fallback besides just Paleo as a framework then you can really run a ground pretty quickly in trying to help people.

Dr. Akil Palanisamy: Right, right yeah exactly and I see this a lot in my practice where like for example, somebody starts out Paleo and they are more of a low-carb diet and they feel amazing for months. And then all of a sudden, gradually things are starting to break down and their sleep is getting thrown off and other things, their energy is going down and it's basically because of...a low-carb diet could be really great for a number of months but then you may need more carbohydrates to be reintroduced at that point.

Another common example is a low-fodmap diet for people with SIBO or dysbiosis. Again, they might feel amazing for several months as they're shifting the bacteria but that's also not a sustainable long-term diet. So I think that some things work really well for a certain period of time but then there needs to be adjustment and constant adaptation to where the body is, what needs to be the next goal achieved and what is needed to maintain that optimal function.

Robb Wolf: Right, I like it. Doc, do you do any or how much can a traditional and also Functional Medicine lab testing do you do that supports this Ayurvedic intake and implementation or how often do you rely on the lab work to steer where you're going or is it mainly clinical observation that you're using with that?

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Dr. Akil Palanisamy: Well, I want to do whatever works and so I really cast a broad net when I see people. So I do all of the Ayurvedic assessments of pulse and tongue, and history and then I also typically do pretty broad functional medicine testing like micronutrient testing. I always test the gut microbiome screening for heavy metals, environmental toxins and testing for food sensitivities, food allergies. And then the program that if finally created can have elements of both. So depending on what toxins we find. Ayurveda also has a tremendous strength in that area of detoxification and detoxification therapies so that might be used.

But I actually do very extensive Functional Medicine testing for almost all of my patients and because they're usually coming to me after having seen 6, 7, 8 doctors and they're not getting better. So I'm just willing to use whatever tools are in the tool bag, just whatever that can help people and I think there's a very broad list there.

Robb Wolf: No, there are absolutely. I was just curious how much the lab work helped to inform the rest of your process but it sounds like extensively like just a validation point. So do you want to do a little tinkering with me and help me figure out some stuff?

Dr. Akil Palanisamy: Sure, absolutely.

Robb Wolf: So got into all of this with ulcerative colitis had never tolerated carbohydrates well. On my first foray into this Paleo and ancestral health way of eating years ago was low carb essentially a ketogenic diet. I felt great on that. I tend to do reasonably well around that arena but the physical activity I tend to do which is Brazilian jujitsu is pretty glycolytically based glycogen demanding and so I've often found that challenging to match my carb intake to my physical activity. So that I

don't have hypoglycemic events between meals and stuff like that. So that would be a big factor and then also I've still not at super robust digestion like if I get a little stressed or I'm traveling or something like that, I don't hit the constipation side. I hit the other side of the spectrum. Do you have any thoughts on that and I knew that, that you would probably do like a two-hour intake on somebody so that's poultry information, yeah.

Dr. Akil Palanisamy: Right. Yeah. Well, whenever anybody has ulcerative colitis we know that the pitta dosha is involved because pitta is the dosha of inflammation and heat in the colon. So I would suspect that you probably have fair amount of pitta and that's consistent with the kind of exercise you like to do. People love those intense, competitive activities. Plus a pitta type of digestion tends to be more on the loose side in terms of looser bowel movements and that's the direction they go when they get out of balance. They have almost never constipation. That's really more of the direction.

Robb Wolf: Only if I'm on opioid binge which doesn't happen

Dr. Akil Palanisamy: Okay.

Robb Wolf: Yeah

Dr. Akil Palanisamy: Yeah, so I think that in terms of what's typically recommended is for a pitta dosha, raw foods are very beneficial so a lot of the leafy greens, more of the cooling foods. I think that one of my favorite botanicals for somebody with pitta is berberine which is, it has so many benefits...

Robb Wolf: I do fantastic on berberine like it just seems to help gut issues, blood sugar issues, yeah.

Dr. Akil Palanisamy: Yeah and berberine is very cooling. It's very balancing for pitta. It helps with treating intestinal permeability. It helps with the microbial overgrowth. It helps with blood sugar issues. It's like turmeric, one of those like multi-purpose beneficial herbs. Turmeric or curcumin is the other spice I'd recommend for pitta. Just really powerful at reducing inflammation and both in the gut and systemically and so the combination of berberine and turmeric is what I often recommend depending on the person for a lot of pitta type constitutions so that maybe something to try.

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Robb Wolf: Right and I've been playing with both of those and I definitely noticed benefit from that both, improved digestion, better blood sugar regulation

between meals. So through other circuitous route I've stumbled on to that so that's...It's always nice to have some confirmation bias that what you're doing is... so yeah thank you for that.

Dr. Akil Palanisamy: All right yeah

Robb Wolf: So, Doc, you mentioned a little bit about turmeric and curcumin. Let's talk more about spices like that's a really...I don't know if I call it a cornerstone of your book but it's definitely a significant feature of the book. It seems like a significant feature of what you recommend to your patients when they are trying to affect health change. Talk about the importance of spices?

Dr. Akil Palanisamy: Oh, yeah, absolutely. I think that I would say, yeah, is the foundation of the Paleovedic diet which if I had to define it in a phrase it would be customized nutrient dense Paleo diet and the customized part comes from Ayurveda which we talked about. The nutrient dense part comes partly from spices and also from getting the most nutrient dense fruits and vegetables. The most phytochemical and phytonutrient dense fruits and vegetables which I spend the whole chapter on. But basically the spices component is, I think, really something that's not taken advantage of in the Paleo community because Matt Lalonde did an analysis of nutrient density and second to organ meat, spices were the most nutrient dense food that's on the planet. For people that are looking for natural things that support health, I think spices are amazing and they're considered medicine in Ayurveda.

The research literature on spices is actually more developed than you might realize because in my book I cited like 400 research studies. They are thinking that there is enough four main mechanisms for all the health benefits of spices. Number one is antioxidant because oxidative stress is such a big issue and spices are among the most powerful antioxidants out there in terms of like turmeric and ginger and most of spices that are out there.

Second, is anti-inflammatory effect and this is suspected partly to be due to NF-kappaB, now which is one of the transcription factors that stimulates inflammatory genes. So that's been linked to many chronic diseases like cancer, heart disease, Alzheimer's. Spices have been shown to help block and modulate NF-kappaB ranging from turmeric to cloves, cumin, phenyl. All of these spices have been shown to affect NF-kappaB and have an anti-inflammatory effect.

Third area is with blood sugar regulations so that's so fundamental to health and a lot of spices have a favorable effect on blood sugar. The last area is really with supporting the digestion. In Ayurveda, it's believed that all disease starts in the gut, period. It doesn't matter what the condition is. So spices really helped with stimulating what's called the Agni or the digestive fire and maintaining healthy digestive tract. So the spices in Ayurveda are largely used for these areas, the gut health, inflammation, blood sugar and I think they're just really underutilized by so many people and they make your food taste better so it's really...

Robb Wolf: Right there's a bonus, yeah.

Dr. Akil Palanisamy: Yeah, exactly, that's right it's really a win-win here and so I think teaching people how to incorporate spices more and which are the most health corroding spices that's something that's a real passion of mine.

Robb Wolf: That's great. How careful do people need to be using spices because say like my example where I tend to maybe run hot already. I tend to like ginger and curries and these heating type foods which sounds like I could maybe get myself in the deep into the pool going overboard with those.

Dr. Akil Palanisamy: Right, that is true and that's why in the book I customized everything. So for somebody with a lot of pita, there are certain spices that are considered more cooling. So those would include cumin, coriander, phenols, cilantro, turmeric actually and with the heating spices like ginger and others, cinnamon. There are ways to modulate those by combining them with other spices. So basically everybody can use spices. You just have to tailor it of course to the body type and then you also have to start small because if you're...we are not used to having spices and your digestion isn't used to it, you don't want to start with a tablespoon of turmeric all of the sudden. That's going to be too much.

You have to start slow and work up gradually and usually people can tolerate them better and you don't really need a huge amounts or even supplements. What are my favorite studies with spices, they looked at cloves and the study looked at blood levels of inflammatory markers like certain interleukins and other inflammatory markers after 7 days of consumption of clove daily. So after the 7 days and they looked at culinary quantities so they did not looked at taking the supplement or taking the amount of spice...

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Robb Wolf: That was my next question. Great, great.

Dr. Akil Palanisamy: Yes, yeah. So they looked at just culinary quantities in seven days significantly lower blood levels of inflammatory markers with cloves so that's just one example. Cloves are actually one of the most potent antioxidants second to turmeric that's out there and you don't really need a lot. You just need a regular consumption, day after day in small amounts just like you're cooking. So it's really just a shift in the kitchen. Having them available, throwing a little bit in your cooking and I incorporate in about 53 recipes with spices in the book to teach people how to do this. So as long as they're just using culinary quantities, working up slowly, I think everybody can benefit from spices.

Robb Wolf: Great, great. Doc, nutrient density is clearly a huge topic these days. You've touched on it briefly. You mentioned Mat Lalonde. Your presentation at the UCSF Evolutionary Medicine Conference, you talked about wild apples and it just blew people out of their seats. Could you talk about nutrient density in general and then also to talk about that wild apple story?

Dr. Akil Palanisamy: Sure, yeah, that's one of my favorite studies. Basically, the thing with apples we've been told that an apple a day keeps a doctor away but there was a study in 2009 that found that eating one golden delicious apple a day for a month actually worsened triglycerides, worsened type of LDL and actually it did harm. I think that's because the golden delicious apple which is the number one apple in the world right now is so high in sugar and it's so low in phytonutrients that it has very little health value.

It's part of...it's representative of our food supply because all of our foods have been bred to be huge and a sweet, very productive, lacking fiber and through that process a lot of the phytochemicals have been lost. That was part of my research for the book was really looking at phytonutrients.

And so there was another study that looked at the measured about 300 different apple cultivars. I think there's about 8,000 different species of apples and about 300 were studied and they looked at the difference in phytochemicals between one ounce of wild apples and one ounce of the modern ginger gold apples that you would get in the store. Of course, we know the wild apple has more nutrients but you might think it's like 20% more or 100% more or 1,000% more but actually it's 47,500% more and it's just...

Robb Wolf: That's just mind-blowing. That it's crazy like you would kill yourself eating the other apples just to get the nutritional equivalency of getting like a half pound of wild apples.

Dr. Akil Palanisamy: Right, right exactly and I think this is where I know that many patients are told just to eat more fruits and vegetables but if you're going out and just getting your typical supermarket fruits and vegetables, you may not be getting a lot of bang for your buck. So that's why I think eating phytonutrient dense fruits and vegetables that are closer to how their wild ancestors were. It is very important and that's something I'm also really passionate about that I've talked to all my patients about nutrition and nutrient density of their fruits and vegetables. And so that's something as well where I spend the whole chapter telling people what to shop for, what to buy, how to prepare food because sometimes certain vegetables are better consumed raw in terms of the phytonutrient level and then a certain other vegetables like, for example, carrots or tomatoes when you cook them you it's much more bio available the nutrients in there. So some vegetables they're better off cooking and some they're better off having raw. So I think that's just a fascinating area of nutritional science that is sometimes neglected in the Paleo discussion.

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Robb Wolf:

Right for sure and I've noticed that I tend to do a lot of shopping at ethnic food markets like Asian food markets or Hispanic food markets and they tend to have a lot of fruits and vegetables that at least to my eye and my palate don't seem to have Luther Burbanks. Like they're not giant, sweet over the top items when I did a little poking around like chayote, squash like. They're pretty much the way that they were 5,000 years ago like they have not been altered all that much and so I've found a lot of benefit from just heading out of the standard like whole foods or Trader Joe's type shopping scenario and hitting the ethnic food marts and the prices were phenomenal and I tend to find some really interesting stuff in their stores too.

Dr. Akil Palanisamy: Oh, yeah, absolutely and I do the same in terms of shopping in Indian grocery stores. The study which looked at wild apples that actually the leading apple was one from Nepal where the one that had the most phytonutrients. But of course we can't all go to Nepal or shop at these stores but there are ways even within your traditional grocery stores here to get more nutrient dense food.

So one of the basic rules is just getting more intensely colored fruits and vegetables because we've all heard Eating the Rainbow, the darker colors like the red, purple, orange, black. Those are because of the high phytochemical levels in the plants. So for example choose red cabbage over green cabbage and you'll get four times as many phytochemicals. If you choose a purple cauliflower over the white cauliflower you get six

times as many phytonutrients. So that's a simple rule people can use to just shop for color and really look for those intensely colored plants and vegetables.

Robb Wolf: Oh I love it. Doc, what about everything besides food, the sleep, the exercise, the community? You talked about that extensively in the book. How do you weave all the rest of that together?

Dr. Akil Palanisamy: Yeah I think food is a foundation but really it's one part of the entire puzzle of health and I think all those things are so fundamental. Getting adequate sleep which every week I see a new study about the benefits of sleep. Then of course physical activity which I know that you're huge on and do wonderful work in the area and then community and social support. So when you look at all the long-lived societies in the world and now known as blue zones, one of the things they have in common is their intense social support in the connection and this is something which is really epidemic in our country too, the isolation that the people feel and so I think all these factors are really important to health.

I think the key with Ayurveda is it helps you customize your exercise, your physical activity maybe tailor your sleep regimen a little bit to your doshas. With social support it's recommended for everybody so there's no any body type specific distinction there but I think all those other elements are really fundamental like you said for health.

Robb Wolf: Fantastic. Doc, where can people track you down on the interwebs? Then remind them about the title of your book. We will have a link to that in the show notes but just remind them where to find you and where to find your book.

Dr. Akil Palanisamy: Oh sure yeah. So my website is doctorakil.com and I'm also on Facebook under Doctor Akil and my book is called "The Paleovedic Diet" and I also have a blog on my website. Facebook is probably the best way to keep in touch with me.

Robb Wolf: Fantastic and you know what before you go, tell folks about the second year of The Evolutionary Medicine Symposium at UCSF. When is that happening and what's so to end up for that?

Robb Wolf: Yes so it's going to be probably in March 4th of 2017 so it's a ways away but we've got Chris Kresser and hopefully you and a number of really amazing speakers lined up for it. Basically this is at the University of California so it will be at San Francisco and it's an all-day event. We'll have some of the top speakers in Functional Medicine coming like James

Maskell from the Functional Medicine Forum, Shilpa Saxena from the Institute of Functional Medicine and then the top people from the Paleo community and then some of the top researchers. So I'm trying to bring together people from different spheres to really dialogue. So, yeah, it will be as we get more details I'll post them on my Facebook page and my website but it's going to be an amazing event.

[0:45:26]

Robb Wolf: Well, the first year was fantastic and I was incredibly honored to be invited to that and doubly honored to be invited back so I'm really looking forward to seeing you there.

Dr. Akil Palanisamy: Oh yeah, well, the reviews were good. Where Robb except for some of the jokes you tried to think, I think but it did not **[Indiscernible [00:45:46]**

Robb Wolf: I'm always a mixed bag so we'll just try to delude me out with some wild apples and make it more palatable.

Dr. Akil Palanisamy: Right here we go. It was great having you there last year and I would love for you to be there again next year.

Robb Wolf: Great, well, doc it was so much fun having you on the show. I'm looking forward to seeing you again.

Dr. Akil Palanisamy: Okay, yeah, thanks Robb. It was really a pleasure and thank you so much for having me on the show.

Robb Wolf: My pleasure. We'll talk to you soon.

Dr. Akil Palanisamy: Okay, take care

Robb Wolf: Bye-bye.

Dr. Akil Palanisamy: Bye.

[0:46:18] End of Audio