

The Primal Blueprint Podcast – Episode #34: Interview with Dr. Cate Shanahan of The Primal Advantage

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Brad Kearns: Welcome to another exciting edition of the Primal Blueprint podcast and I am very happy to have Dr. Cate Shanahan as our guest today. Welcome, Cate.

Cate Shanahan: Hey, Brad. Thanks for having me today.

Brad: We have all kinds of things to talk about today. My note pad is full. I am so excited because your name keeps coming up on all these different levels. Talking about the NBA where LeBron is going paleo and then in the morning newspaper, we have the earthquake in Napa and first things first. You are calling in from Napa, California, your home base. How is everything out there?

Cate: Well, it has calmed down. The fires were put out. We got super lucky because the only that broke in our house was this bowl of dirt that some guy gave us and I don't know why we even accepted it but it bounced off the mantel and exploded all over the floor. It is probably the last time we thought of this guy. He was sort of a difficult house guest for a long time.

Brad: A bowl of dirt that was valuable.

Cate: Yes, I don't know why he convinced us that we needed that.

Brad: You warned me off the air that if we heard a helicopter flying overhead it would be no big deal. They are flying nonstop to continue the rebuilding and clean up of Napa after, huh?

Cate: Yes, I think 20 percent of the wine was lost. That is a big deal.

Brad: Oh mercy!

Cate: Yes. Stock up now.

Brad: Hit the stores now or come to PrimalCon in September where we will be serving you free wine at the wine and chocolate gathering.

Cate: All right. I'm there

Brad: So we are on the board here for over a month with the wonderful Primal Advantage program. It took us quite a long time to build this and set it up and get it ready for public sale. How is everything going with that?

Cate: [00:02:02] Yes. It took a while because there are a lot of little firewalls that we had to put up because of the stocks. This is a national service and it is not easy for a doctor to offer national services. So I had to consult with a whole bunch of lawyers and get the legal firewalls up. It has been fantastic. I have been very busy and having a great time with it. So far we have a dozen or maybe twenty people come through already. I have received really great feedback from the folks who have come through. We have established that just about everybody has gotten a good program. As I had hoped, they are interested in coming back for another three-month evaluation with the blood test and follow-up.

Brad: For those of you listening who are unfamiliar or mildly familiar with the Primal Advantage, it is a one-on-one metabolic consulting program overseen by Dr. Cate that is available on Primalblueprint.com. For a long time we realized that we needed to align with a real live medical doctor who treats patients on a daily basis. You work actively at a clinic. Having someone, wherever they are located, having primal/paleo friendly doctor to engage with about metabolic consulting, diet, nutrition, weight loss and all those things. I am sure you can disclaim this, too. We want to make sure the people know that it is not a medical appointment or medical consultation over the phone because that is difficult to do. What you are doing is metabolic consulting for your clients. Will describe exactly what that is?

Cate: It is all the things that I wish I had more time to do in clinic where people come in with maybe an abnormal cholesterol levels or wanting to do something about their diabetes, or wondering why their energy levels are low. Most of the common things that we just don't have time to drill down into where it comes from in the lifestyle and what to do specifically about it in the context of the seven to ten minutes that I get under the insurance rules of the clinic where I see people so quickly. So this is like a dream come true for me because I get to spend a good 90 minutes with people.

It makes people wonder...90 minutes...what do you talk about in that time frame? People have a lot of details and questions they need answered in order to understand what is happening. Why are their labs abnormal? Even that they are abnormal, because one of the things you have brought up before on previous podcasts is just about interpreting the cholesterol levels working on what the lab printout says is a recipe for confusion. Because those lab printouts are not reflective of the latest science in terms of understanding what really causes heart attacks.

That is one of the things I wanted to touch on here today. It is the fact that...I didn't know this until I looked it up...I knew it was bad, but I didn't know it was this bad...75 percent of patients who are hospitalized for a heart attack had cholesterol levels that would indicate that they were not in any risk for a heart attack. What that means is that for most people who have a heart attack, the first indication that they were at high risk for a heart attack, was a heart attack!

Brad: That is a good indicator.

Cate: [00:05:39] That is the perfect indicator. Unfortunately it is perfectly accurate but in terms of primary prevention or preventative medicine, it indicates that we are falling down on the job currently. That is because in a large part, we are not interpreting test results properly. We don't even know what tests to order. That is something I wanted to go into a little bit with you, if you'd like.

Brad: Yes. I think furthermore on that note is when Dr. Sinha, the author of the "*South Asian Health Solution*", was on the podcast, he mentioned the metastudy from UCLA where the heart attack victims had "normal" or "safe" cholesterol levels. He said that the medical community's initial reaction was to lower the LDL threshold instead of taking a look at the big picture of some of the other risk factors.

Cate: Exactly. When you have 75 percent of people developing heart attacks when their cholesterol levels indicate that they are not at high risk for cardiovascular events, that tells you that is true that it is time for reassessment. You have to reassess something. But obviously they have already reassessed it. This is ancient history. Twenty years ago, they reassessed it because the LDL level that was considered abnormal

twenty years ago was upwards of 160. I think it was only considered abnormal if it was 180 or 200 at that point in time. Now it is 130 for a majority of people. And it is 100 for other people with higher risk and 70 for people who have already had a heart attack. So they keep dropping that thing down and still yet people still have heart attacks even at the lowest level, even under 70. Seventeen percent of people who have heart attacks have LDL under 70.

Brad: Tim Russert was a famous case where he dropped at the age of 58...I believe his total cholesterol, his LDL and HDL total, was a statin induced lowering down to like 110 total.

Cate: That's insane. You know the question is what is the good warning? What I talk about in our books, *Deep Nutrition* and *Food Rules* is that if there was only one test you could get and you only have \$5.00 to do it, we would get a fasting blood sugar (fasting blood glucose). When that is 90 or over, that is a sign that you have a metabolic problem. It may not put you at super high risk in the next five to ten but it is going to put you at a high risk for something in five to ten years. So that is another important thing. We have talked about preventative medicine in terms of heart attacks, and very few other diseases. There is epidemics of chronic diseases from cancer, to back pain, disabling back pain, to autoimmune diseases, and the one number that indicates whether you are at risk for any of those more than anything else is that fasting blood sugar.

Brad: So what does that suggest if your fasting blood sugar is at 105 or whatever is outside the safe range?

Cate: [00:09:25] The evidence seems to suggest that it should be under 90 for fasting. We are not quite there yet in terms that your doctor wouldn't tell you that just yet. What most labs now use as a cut off value is 100. So what they'll tell you now is, "You have pre-diabetes but we don't have to do anything about it. It is not that serious." That is what they'll tell you. Unfortunately because most doctors just completely don't see the big picture of how all these diseases come from the common soil for deranged metabolism. We still say it's not that serious because you don't have to be put on medicine for it.

Obviously, there is still something wrong. What it means is a lot of different things. For one thing we have twenty hormones and their job is to keep our blood sugar level at a safe zone between 75 and 85 while we are fasting. And they need to do that because we need some sugar in our blood stream because the red blood cells can't use anything else for energy. And a few other cells in the body can't use anything else for energy. The higher the blood sugar level is, the faster that sugar does damage to all kinds of tissues. Sugar is a toxin in a higher concentration that has toxic effect on cells in the body. Everything from beta cells in the pancreas that secrete insulin, to the retinal cells in the back of your eyes, to the brain cells and so high levels of sugar actually makes some tissue damage.

Brad: How do you distinguish between your fasting glucose and the A1C test, the longer-term view?

Cate: [00:11:32] The A1C [average blood glucose over a long-term view] is another really important test because people can have normal fasting glucoses but their A1C is elevated and that is because the blood sugar level will fluctuate on a minute to minute basis depending on how much you ate and how stressed you are, how much exercise you did, how much sleep you got, how much coffee you just drank. What we also want to know is that over the course of longer time. What is your average blood sugar? The A1C is also known as glycosylated hemoglobin, or hemoglobin A1C. It has a whole bunch of different names. All those things refer to how much glucose sugar literally sticks to the hemoglobin molecules that are in your blood cells, your red blood cells. Your red blood cells go around in your blood stream delivering oxygen but they are also collecting sugar sort of like a dust catcher. The more blood sugar you have, the higher your blood sugar level, the more sugar is literally going to stick to the hemoglobin. The A1C is a percentage (I think it is by weight) of how much your sugar your hemoglobin is made up of. The normal value is somewhere under 5.1.

A lot of people are running in upper 5s or lower 6s and actually have metabolic problems already. They have elevated blood sugars. They have elevated insulin levels and have never been told that this is a problem because of the fact that doctors just don't learn what really causes a lot of these metabolic diseases. We don't learn how they are all connected to high blood sugar.

Brad: Maybe that it is so prevalent that it becomes normal.

Cate: Yes exactly. If you live in a room with yellow light, you don't notice that there is a yellow light any more. You just don't see it.

Brad: So should we be checking both of those as a routine? You said if there was one and only for \$5.00 you could get the fasting blood glucose. I have read the other one might be more relevant for the longer-term average.

Cate: It is more relevant for the longer-term average. They are both extremely useful. I do both of them all of the time and the Primal Advantage panels, of course, include both of them. But you almost need the two together because a lot of times I will see that someone will have a normal glycosylated hemoglobin but their fasting blood sugar level is elevated. That means their body is still not quite able to maintain normal values. Something is wrong with their metabolism. They don't have the exquisite level of insulin sensitivity or the other hormones like glycogen and lectin and so on. There are many hormones involved in maintaining blood sugar. Something is just out of whack a little bit. That is why I do need the two of them. There are other things I look at as well like the advanced lipid testing and something called the comprehensive metabolic panel that has fourteen different tests within it. All of them are necessary for me to see what is really going on with the person's metabolism.

Brad: [00:15:05] Speaking of the Primal Advantage program and another reason why it took a long time to build out is you did this phenomenal integrated online data base for each individual client where they have their blood results get thrown right in there. There is a questionnaire that they fill out as well as their food diary and some other peripherals. You then evaluate all that material and then spit out metabolic snapshot score. Can you talk a little bit about how that process works?

Cate: I wanted to give people something where they could see progress over time so that they could come back in three months and see at a glance themselves that things have improved. The metabolic snapshot gives you a printout like a gage. It is a colorful gage of six different body systems and the way the numbers are put together comes from a synthesis for the lab test values as well as the answers to the questionnaires that pertain to each of the six body systems.

Brad: When all that stuff gets reported, the customer signs up for Primal Advantage. What is the cost?

Cate: \$699.

Brad: [00:16:29] So they sign up for \$699 and then they actually obtain that blood test a la carte. We have a special alliance with directlabs.com. Some people can go through their insurance and get blood tests for free. The blood test that you custom designed and request for your clients is available at directlabs.com. It is called the Primal Advantage Blood Test, right? And that is only \$100 and something bucks?

Cate: There are two of them. One is \$109 and one is \$189 and both of those are extreme discounts. They give us a really great deal.

Brad: It is almost \$1,000 worth of readings if you went to your neighborhood lab. That is how much everything costs, right?

Cate: Yes. Lab tests are incredibly expensive.

Brad: Now it is great because you can kind of bypass going through steps of making a doctor's appointment, asking for blood tests, hoping that you get the relevant ones that you have talked about at the outset of the show. In this case, if you sign up for the Primal Advantage then you go to [Direct Labs](#) and order your blood tests a la carte and put in your zip code and go to a nearby blood draw center. They take your blood and then a few days later they send you an email and also it gets reported directly to you all the results. It's wonderful.

Cate: [00:17:54] I like it because it really does give me more insight in to a person's true risk of developing, not just heart attacks, but all kinds of metabolic problems. A lot of it comes from, not just looking and what the normal values that the lab provided, it really come from the twenty years that I have learned what these numbers really come from and how they pertain to everything from dietary imbalances to lack of exercise, to hormone imbalances. Even without specific hormone testing, that could cost thousands and thousands of dollars, we get a lot of insights. That is kind of what this panel really is. People have asked, "Do you do thyroid testing? Do you do estrogen testing? Do you do DNA testing?" This is something that gives me insights to where we might want to go if we want to do more detailed testing later. It is not to start out with that much detail with those kinds of body system specific tests. This helps us identify of where we might want to go.

Brad: That is important that you mention that. I am familiar with this from my days as an athlete. Quite frequently, the alternative health care practitioners will put you through these hideously expensive tests and protocols and supplement regimens while trying to figure out what is wrong and not taking the traditional Western approach of dispensing expensive drugs. This is great but it does run into obscenely high costs that are entirely out of pocket. So you are trying to address this in a different way it sounds like.

Cate: Yes. Exactly. Not to take anything from the naturopathic or alternative world's of practitioners at all. A lot of times patients will come to me in my office having spent thousands and thousands of dollars on tests and they never really thought that they got to understand what their tests even meant. From my perspective, I often don't really understand.....it doesn't appear that there was really a clear thought process behind the ordering of all the tests because it is such a mish-mash of all over the place.

I ask people if they were asked this question first because without this question first, because you really can't interpret this test. A lot of times they will remember and say, "No." But that is the last thing I want to do is ring up a big bill and then have it be for tests that really don't tell us anything. Those these tests so far for everybody who has participated, we have found it very valuable in the test.

Brad: [00:20:42] Can you talk about some of the patterns that you have seen or some of the issues that have come up with your initial batch of clients?

Cate: I say almost to every single person has already lost the ability to properly regulate blood sugar. Now frankly I have only had one patient who is as young as 20. The rest of them have been in the 40s or 50s or 60s. It is a reflection of what I see in my clinic too. These days because people start out from infancy on a high carb, low nutrient diet. By the time somebody makes it into their 20s there are already metabolic problems and the doctors just have not learned how to identify that yet. So that is what I am doing. I am making a little bit of inroads into this huge problem that we have. I am helping people understand where it comes from and what to do about it specifically. People can read books and learn a lot on their own but a lot it leaves people with a lot of questions and so that is what I am doing.

Brad: [00:21:50] Interesting, especially for me.....You wrote a guest post on Mark's Daily Apple about this referencing our discussion about my own blood work and my own athletic regimen. I have been an athlete for a long time and an elite athlete back in the old days as a triathlete. That is still no guarantee for a healthy blood panel and overall health, huh?

Cate: Right. It is so easy to over train and there is just so much that our bodies need in terms of nutrition and it is not easy to come by here in this culture. It is easier to over train a body that is relatively undernourished. Our country offers this intense and excellent training that we have access to, and people have a love for fitness and have a competitive nature. When this is combined with the lack of time for sleep and lack of understanding what a healthy diet is, it is a real problem. It is very rampant. You see the problem reflected in the metabolic snapshot.

Brad: [00:23:06] What is happening to a seemingly to healthy fit-looking person on the outside when they are expressing these risk factors such as overtraining and lack of sleep?

Cate: Aside from what other people have talked about like heart rate variability. A lot of folks have already talked about adrenal burnout or adrenal fatigue. I actually see that whole concept of adrenal burnout and adrenal fatigue as a problem in the energy system, not necessarily first involving the adrenal gland either. It is a byproduct of disregulated blood sugar systems. But other things that come up in the blood test are evidence that they are not getting enough protein particularly or if they are they are not utilizing it properly and getting enough minerals. I see a lot athletes who are borderline anemic and have abnormally sized red blood cells or their white blood cells counts are a little be low or the platelets are a little low. All of these are indicators that their bone marrow is stressed and not able to produce the cells that it needs to produce and the correct rate or even make them healthy enough to do their job properly. That is one of the most common things I see among all of the major serious athletes that I have worked with so far.

Brad: [00:24:36] So what is the typical protocol from that point? They are going to have to make some dietary modifications I would imagine would be first and foremost.

Cate: Yes, but the goal there is so that the person can use the protein that they get more effectively. Very few athletes are not eating enough protein. It is just that they are not eating the correct balance of protein or complete protein. We talk about that. We help them balance out their protein intake and they are also not able to utilize their protein because a lot of folks are forced to burn protein for sugar to feed the muscle to fuel their sports athletics. We have to get back to getting those energy systems to work properly.

Brad: So you have been through a couple of dozen initial clients so far. What do you think so far? Has it been what you expected? Has it been a little different? Where do we stand with this program now?

Cate: Here comes the helicopter now!

[00:25:39] I think it is a lot of fun for me. Every new person that I get to talk to, review their labs with and discuss their diet with learns to understand. For me it is so exciting to see those results coming in and seeing how it all fits together with their symptoms and their blood tests and what they've been eating and how they sleep and all that. I find every case so interesting. I love helping people understand how their body is working. I like to empower them to not be afraid of what is going on but to take control.

Brad: It takes me back to the start of our conversation when you were talking about that 90 minute consultation that is the centerpiece of the program in comparison to the medical system where your goal or obligation is to hit around the 10 minute mark before you have another patient stacking up. In that time period that is when you can really get in deep and pick around and find out where those holes might be. Going back to the post where you wrote about my case. I had been eating strict primal wonderfully for many years, training very sensibly but still came up with some adverse blood results that were, in my case, it was missing some of those four pillars that you call it like the bone broth, and meat on the bone and the liver and things that just didn't fall in to place. I am burning so much energy as an athlete or a fit person so our needs are elevated.

Cate: As I remember, you made some changes and you got retested, right?

Brad: Things look great. That is what is so good for anyone to realize here. Even with the metabolic syndrome markers. If someone just gets it into gear and hangs up the phone with you and goes on a thirty day simple sensible modification of their dietary habits, they are going to get their blood run again and look, generally speaking, fantastically better.

Cate: Yes. I haven't seen ever an exception where somebody does what I recommend and we don't see something, if not a lot of things, moving in a better direction. But, of course, I am looking for that because if it doesn't happen, I want to know why. I don't just say it must be something about you or your genetics. I never leave it at that. I want to try to get down to an actionable cause and hopefully solution.

Brad: Are you saying that other doctors do that as a routine, Cate? Hey, you just have bad luck, sorry, pal.

Cate: I am guilty myself. I remember back when I had my baby doctor diapers on and people would ask me why they have high blood pressure and since it wasn't that they smoked or don't exercise or the obvious stuff, I would think it just me family history. Frankly, when you only have seven minutes to talk to somebody, it is really hard to even conceive of trying to figure that out. It is just so much easier to say, "Well, I am sorry you just didn't draw the right number on the genetic lottery."

Brad: Yeah.

Cate: [00:29:12] Usually there is a reason. That is what epigenetics is. You have people on at PrimalCon talking about the power of food to change genes and effect the next generation. That's why I see people as young as 20s....I even had a 12-year-old who had abnormal blood sugar. This was not an overweight or obvious lethargic person. This was a kid who participated in sports and came from a really upper middle class background and still had metabolic problems.

I don't bring up to say the next generation is totally screwed and leave it at that, right? They have to be much more careful. That is reality. They have to be much more careful than people in my generation because of the genetic factors and all the environmental stuff. It has changed the way everybody's body in this millennium generation is working. There are food sensitivities and autoimmune disorders. So it just makes it so important to make these fundamentals correct.

Brad: Arguably the food selections are worse than the last generation faced and a lot of the lifestyle patterns and the sedentary patterns are much worse, especially for the youth today. I agree they have to be more careful and more vigilant.

Cate: Yeah.

Brad: Another thing....You often hear some attribution to genetics. It is heartbreaking for me to hear that because it always feels like a copout for the person. Oh, it's such bad news. I am so sorry to hear about it. It runs in my family. Like you said, "I just drew a bad number." Even if there is validity to that, the lifestyle alteration variable is often disregarded and people shrug their shoulders and swallow a pill or accept their fate when it doesn't really have to be that way.

Cate: [00:31:22] The genetics does play a role in terms of helping to decide which problem your are going to get form the standard American diet. For example, it might be whether your family is more prone to cancer or neurological or psychiatric kinds of problems or the standard metabolic disorders, which are just one type of metabolic disorders like diabetes, hypertension, and overweight kind of stuff. There is something called the common soil hypothesis and, hopefully, more doctors will pay attention to that. What it is showing is that all these diseases that I just mentioned that we think of as different diseases, comes from the common soil of abnormal metabolism and abnormal diet. So while it is true-ish that if someone comes in who has diabetes, you get to say, "Well, it is your family history." You don't get to quit there. You have to say, "Let's do something about it."

Because of the epigenetic effect, the next generation is more prone to whatever disease you are prone to. That is a sad fact. It is tragic. It is a disaster. It is a genetic disaster that we are in the middle of now. As a family physician, I see this and I think a lot of other family physicians are starting to notice this. Pediatricians are starting to notice that there is a big difference now in the experience of being a child this generation than it was forty years ago. Of course, there are all the social things and kids living in less safe environments where they can't go outside and play. They don't want to because their bodies don't work the same and that is something nobody is talking about.

It is bordering on a crisis situation where I have so many young children in my practice where their bodies are just not working properly and it is just getting harder to try to figure out what to do for them. If you listeners have kids, it is so important, of course for you to be healthy enough to take care of them, but it is even more important for your kids see you as a role model and then ultimately eat as well as they possibly can. It is more important for the next generation.

We have these images of people like.....Who is that guy that played God?

Brad: George Burns.

Cate: George Burns. He was 100 years old and he was smoking, right? There is something we talk about in our book called "genetic wealth." It comes from the fact that your parents and your grandparents did a lot of the right things....a lot more than the average Joe. This is why we have people who are athletes who grow to be seven feet tall and their bodies work perfectly and we have other people who are not able to do that. That is the genetic difference. It is not random either. I don't like chalking anything up to random. That is because, unfortunately, their parents and their grandparents and on down the line, who knows how far ago, something just didn't happen optimally. The genes are trying to say, "We can't have this person grow as tall, or grow this much muscle because we can't guarantee that there will be as much nutrition around as would be necessary for that. So that is how you have so many different body types and so even just that is not random. It is genetic, but it is not random. There is a big difference there, if that makes sense.

Brad: You talk about that at length in your wonderful book "*Deep Nutrition*". I believe you receive as part of the Primal Advantage package, right?

Cate: Yes.

Brad: So you have everything you need to arm yourself and, hopefully, those parents who were listening up carefully for the last few minutes and if you are kid listening, our sincerest apology for the time you were born and the state of affairs in general health in society. I appreciate your being so emphatic about just how important it is, especially, as a role model as a parent.

[00:35:49] One thing I wanted to get in to quickly....speaking of genetics.....LeBron James, a genetic outlier in many ways, just hit the news as going paleo and dropping a bunch of body weight to become leaner for the seasons ahead. I know that you are deep into the NBA scene with your association with the Lakers and if people didn't hear your first podcast with Mark, just give me a little bit of the scoop there about what you do for the Lakers and Kobe and also what you think about the great news that LeBron and Dwayne Wade are adopting a more ancestral type diet.

Cate: It is great news because these guys can be absolute dominating monsters. LeBron is already there but I can't wait to see what he can do once he gets his body on an optimal level with everything working properly.

Brad: Let's not forget that all of his exploits and performances, he did cramp up at the wrong time in the NBA finals and this something that is always strongly tied to diet, right?

Cate: Absolutely right. The first thing that goes off line for these athletes who are operating under the belief that sugar is the ultimate fuel is something like this. They believe this because they hear it multiple times from their dieticians. What we try to do for the Lakers is make them all monsters, make them all get their metabolism where they don't have these energy crises, and energy fluctuations during the game. It's been a terrible year. Gary Vitti, who was their trainer, said that after 2012-13 season, it was the worst season. Then they had the 2013-14 season! It has been incredibly bad luck with random injuries that folks came in to the Lakers with.....unfortunately, bone injuries that you would not expect that a diet change over the last three months would be able to prevent.

Unfortunately, I wish I could say that it would, but it takes years of the bad diet to make the bones weak and also takes years for the good diet to make them strong again. The guys who are on the plan are telling us that they are very happy with how they feel, how they have aches and pains, they have more energy, and, of course, their body compositions are looking good and blood tests when we get those are looking better. So it is all going the right way.

Brad: Those guys are amazing because I think there are hardly better examples on the planet of an athlete who is compelled to be explosive and powerful like an NBA player. And a full on hard core endurance athlete when you talk about a 100 game season in short order and running up and down the court all night.

There is almost nothing that compares to it. Maybe a world champion boxer who is doing all the endurance work and training as well as the explosive punching but these guys are the fittest athletes on the planet and to see them adopting the dietary habits that we are all so fond of, I think will be a great way to continue to immerse in general culture. I know people pay attention to Dr. Cate but LeBron will also help attract people to the optimal dietary habits.

Cate: Oh, yeah. Way more. I have a lot of parents who tell me that my husband, when he read what Kobe was doing or what Dwight was doing with the Lakers he is like, "Oh, wow! Where do I sign up?" That is exactly what we are hoping for.

Brad: Oh, that's great. Before we go, I know you want to get on to another one of your personal consultation appointments. I appreciate your taking time for the podcast. This has been so enlightening and there are so many questions that relate to the types of things you are talking about that we feel. I was wondering if you would like to come back on a regular basis and maybe getting in to tackling some actual questions from you clients, if they give their permission. Also people that want to write in on the podcast site (blog.primalblueprint.com) or we can even set up *Speakpipe* for you to record your question to see if we can have a little Q and A with the doctor on the Primal Blueprint podcast on a recurring basis.

Cate: I think that is a great idea. I'd love to do that. Thanks.

Brad: All right. Dr. Cate Shanahan. Everything well in Napa and the house is all cleaned up. They survived the earthquake. Go to Primalblueprint.com and check out Primal Advantage program, one-on-one metabolic consulting with Dr. Cate. It is off to a great success and, hopefully many years to come. We finally have a resource, wherever you live, to engage with directly with the doctor. Thank you for listening and we'll talk to you soon. This is Brad Kearns signing off for the Primal Blueprint podcast.