



## **Transcript of “Bulletproofing the NBA with Dr. Cate Shanahan”**

Bulletproof Radio podcast #113



## Warning and Disclaimer

The statements in this report have not been evaluated by the FDA (U.S. Food & Drug Administration).

Information provided here and products sold on [bulletproofexec.com](http://bulletproofexec.com) and/or [upgradedself.com](http://upgradedself.com) and/or [betterbabybook.com](http://betterbabybook.com) are not intended to diagnose, treat, cure, or prevent any disease.

The information provided by these sites and/or by this report is not a substitute for a face-to-face consultation with your physician, and should not be construed as medical advice of any sort. It is a list of resources for further self-research and work with your physician.

We certify that at least one statement on the above-mentioned web sites and/or in this report is wrong. By using any of this information, or reading it, you are accepting responsibility for your own health and health decisions and expressly release The Bulletproof Executive and its employees, partners, and vendors from from any and all liability whatsoever, including that arising from negligence.

Do not run with scissors. Hot drinks may be hot and burn you.

**If you do not agree to the above conditions, please do not read further and delete this document.**



Dave: Hi there it's Dave Asprey, the Bulletproof Executive with Bulletproof Executive Radio. Today's Cool Fact of the Day is that neural impulses travel between 2 miles per hour and 250 miles an hour. The faster nerves are the ones that are covered in myelin, which is a fatty sheath that acts at the electrical insulator, and yes, you can hack your myelin.

Today's guest is kind of famous. Just recently there was a whole bunch written about how she used high fat ancestral food techniques to change the nutrition of the Los Angeles Lakers. She's a board certified family physician, trained in biochemistry and genetics at Cornell, and attended Robert Wood Johnson Medical School. If you're not into medical fan boy kinds of behaviors, those are some really good schools. Cate Shanahan is also author of "[Deep Nutrition: Why your Genes Need Traditional Food](#)", and another book called "[Food Rules](#)". As the Director of Nutrition for the Lakers, she kind of knows what she's doing. Cate, welcome to the show.

Dr. Cate: Thanks, Dave. I'm delighted to be here. Thanks so much for having me.

Dave: Awesome. It was amazing to see the article come out about what you're doing with the Lakers. I said, "Oh my goodness. I have to talk with Cate." I appreciate you coming in on the podcast just to share what you're doing.

Dr. Cate: Thank you. This has been a big project for us. My husband and I actually are both involved with the Lakers. We have a whole team in Los Angeles that's constantly working to get these guys fed better.

Dave: I've always been amazed how so many pro athletes fall into the pizza and beer camp. I know I don't perform anywhere near the level I'm capable of if I live on any sort of diet like that. There are so many really, kind of the star athletes who really do crazy stuff to take care of themselves. Why is there such a disparity among pro athletes between eating crap and beating yourself up with whatever drugs you can find that won't come up on

screens? The other side, which is clean living and pure power. Why the gap?

Dr. Cate: It's a big question. There's a lot of confusion in the whole nutrition world about what's healthy because of that very discrepancy that you just described. Some people seem to be able to get away with complete bodily substance abuse, and some people really have to toe the line perfectly or they pay for it. We talk about that, actually, in our book "[Deep Nutrition](#)", because it's got to do with what their genes are getting in relationship to what their genes expect. The whole concept of genetic expectation is a super important one, in terms of understanding how to be healthy.

To put it simply, when we get sick, it's because our genes have these expectations that were not met one too many times. That goes back ... When we understand it from a genetic perspective that helps us understand that we have to go back, not just to what we ate today or yesterday, but what we've been doing for the past years and decades, if we're that old, and what our parents were doing. Because what they did, and what our grandparents did or didn't do, influences our health. When we have these star athletes, they're 6'10", perfect bodies, 6% body fat, and yet they eat the equivalent of 24 Hershey's candy bars a day, as Dwight Howard did, it just doesn't seem to add up. You have to ask, "Well how can it matter? How can what you eat matter if that's the case?"

The fact is, that does have a cost, it's just that it's not necessarily immediate. Those people who have genes that have been well nourished for generation after generation, it's like they've got a fortress of health that has been built. Whereas some folks like myself, where on my mom's side there is Jewish ancestry and we've been chased around Europe and not had always access to good direct land and nutrition for thousands of years. On my dad's side the Irish folks with various potato famines and other things that have damaged the genes. Just a little bit at a time, a little bit at a time. Not enough to kill anybody. Not enough to keep us from reproducing, but enough to make us more susceptible to problems.

There you have the explanation for the whole difference in health disparity, the whole rainbow of the spectrum of human health, where people are barely alive on one end, where they come out of the birth canal with breathing problems and heart problems, and where on the other end, people are so extraordinarily healthy that in spite of the fact that they don't really get optimal nutrition, they can still perform at this extreme impressive NBA-type level. It's only for a certain amount of time. What happens inevitably is that if you really do follow that Domino's and Doritos diet, it's going to catch up with you. Maybe when you're 18 you don't really feel it, but by the time you're 25 or 28, I guarantee that you will. What happened in the case of Dwight Howard, which was pretty well publicized last year, all over the news, so I'm not spilling the beans on anything here, he had a really tough time coming back from his back surgery.

That back surgery, you can kind of look at it as the straw that broke the camel's back on his fortress, or the stone that broke the fortress of what was his extremely excellent health. The back surgery that he never quite healed from. He had persistent tingling in his fingers and toes, and persistent back pain, and it was really impairing his performance. When we got him off of that 24 candy bar diet and immediately onto an incredibly healthy diet, which rarely happens that people can make such an 180 degree turnabout, he said he was feeling better within a week. I had promised him that if he didn't start to feel better, start to notice some improvements in two weeks, that I would actually quit. I was so sure that he would feel the benefits, at least some benefits. That's really what it took to get him to listen. It takes a lot to break through decades of habit and give up sugar in particular, because it's so addicting.

Dave: That was almost a sure bet. Anyone who's worked with this kind of nutrition knows that even the most recalcitrant person, if they do it for a week, there's going to be some improvement over a pure sugar diet. It's inevitable right? Were you at all worried when you made that bet?

Dr. Cate: No actually, because I knew he would have to feel better. I knew he had the support in place to do it. Not just anybody can turn their diet around like that. Fortunately he had a number of personal assistants, and we had an

excellent chef who was willing to help them. Even Whole Foods Market stepped up. Of course, to Dwight's credit, once he made up his mind, I could tell when I was talking to him that he really, really wanted to. He really wanted to do it. He wasn't sure he could do it. I was very impressed, actually, by the end of the week where everyone who I was speaking with, to gauge whether or not it was working, whether or not things had fallen into place. They said he was doing it. They all had these soft southern draws.

They're like, "Oh yeah, he's on with the program." It was so nonchalant. I was so excited about it because to me it was a huge hurdle that he'd overcome. A lot of people don't realize that. Sugar is an addicting substance. We know that. We get started on it. We get hooked on it in our childhood usually. Our whole brains are wired around that sweet taste reinforcement and that happy feeling that we get when we have those sweet foods, and the expectation of sweet foods at certain time periods. Maybe after working out or before a game or something like that. To be able to give it up like that, he definitely deserves a lot of credit for that. On the one hand after the article came out, [Ken Berger did a three part series for CBSSports.com](#).

The second part, actually no that was a four part series. One part was devoted entirely to Dwight. The comments on that article were like, "How could a professional level player treat his body like that?" Of course like that's what they all do. He was the poster child for too much sugar. An athlete letting himself go that way. On the other hand, I see him more as a poster child for turning it around and realizing that sugar really is a problem and making a statement about that. He was very honest and open about that all last year during all the interviews. He said some pretty amazing things too, like the fact that he got off sugar. He said, "It's good for your genes and it's good for future generations," which is all true, but I was just so happy to hear that he had bought into it, to that degree.

Dave: I was ready to cheer for that. I went on this program called the Joe Rogan show the first time. I mentioned, "If your mother is a vegan, your chances of having high IQ were lower." You actually might have lost IQ points

because of that. I've written a book about genetics. I'm not lying here. It's not a popular or easy thing to say, but I got flamed for a long time for that one. It's not meant to be unkind. I have spina bifida, the kind with no symptoms, because my mom ate too much sugar and it depleted her folic acid levels, and we have the genes that make us sensitive to folic acid. Epigenetics matters. If what your grandmother ate and really what your grandfather ate, and your mother and your father, and you want to be a rock star or an NBA star, let's hope it started a couple of generations ago. If you want your kids or grandkids to be NBA stars, you better put down the junk food. That's such a burden and it's such a pain, but it seems to be the way it is. Am I exaggerating things, Dr. Cate?

Dr. Cate: No, you are definitely spot on there. The other thing I like to blame, not my parents, but I blame the substances themselves. In addition to sugar is margarine. My mom was a struggling mother. Her husband, my dad, was going through medical school. They had to live on \$50 a week. Of course this was way back in the 1800s, so that was a little bit more money. Margarine was way cheaper than butter, so that's what we got. Got loads of it because I would spread it on everything, on [inaudible 11:41]. I'd fry my bologna. I had fried bologna on Wonder bread.

Dave: Me too.

Dr. Cate: It's the worst thing. The reason that margarine is so awful, not just margarine but all the vegetable oils that they make margarine out of is because it promotes free radical formation and free radicals can directly damage DNA, directly, the same way that radiation can. Whereas sugar, it's a little more indirect. It's sticky and it effects how the enzymes function that are involved in the replication and accurate reproduction of DNA. Vegetable oil and products made with vegetable oils, it's like eating radiation.

Dave: Good analogy there.

Dr. Cate: I wish there was a Geiger counter that could evaluate the ability of a food product to produce this edible radiation effect in your body. If there were,

things like French fries and potato chips, they would be glowing like a little nugget out of Chernobyl.

Dave: There is a detector like that. It's a really sensitive one and it's called your brain. If you are used to feeling really good and you get into what I call the bulletproof state of high performance, but when you're in the zone, everything works. My skin isn't inflamed. I feel great and I can do what I'm here to do. Then you eat a bag of potato chips or you go get some fries at McDonald's and you look at how you perform the next hour, the next day, the next 2, 4, 5 days, you're going to realize that either you don't have a great sense of self-awareness, which is common for people, or really those French fries didn't serve you very well. Once you get there you can start being really selective about how you're going to feel every day.

Dr. Cate: There was a study actually that showed that French fries really do have an absolutely immediate effect. The study was evaluating the effect on the circulatory system. What they did was they got French fries that were manufactured from a restaurant at the end of the week so that they had the old oil. Oil needs to be changed every week. That's the law and not every restaurant necessarily has the ability to follow the law to the letter. After a week the oil was going to be so heat degraded ... that's the problem with these oils is that it gets degraded with heat, that there's all kinds of nasty chemicals in there. They just fed healthy 18 to 24-year-olds French fries, just a regular large portion of French fries.

Then they evaluated the ability of the blood vessels, the arteries, to dilate in response to exercise. They found that not only did they not respond in a way that a normal 18-year-old would respond to exercise, which is they can almost double the blood flow in the artery, there was no response, which is what an 80 or 90-year-old person's arteries would do to exercise if they were out of shape. This consumption of these bad fats, it has an immediate effect on your arteries, and it lasted in some people for 24 hours. That means that you are in essence, if you have just one little thing of French fries, you are in essence aging your arteries for the next day, and if you do that every day, you're walking around with old arteries.



Dave: That sounds pretty likely to me. My own impact, when I was a kid I ate a lot of squeeze margarine, because it was supposed to be healthier than butter, which is one of the very most toxic ways you can take vegetable oil. Honestly, my parents spent extra on that because they cared about me. We were just terribly misinformed. Low fat diet with extra squeeze margarine, if you're going to have anything. What could be wrong with that? It trashed my brain.

Dr. Cate: Beautiful and bright.

Dave: I used to get a lot of nosebleeds and arterial problems. Even frequent bruising. You could see that my blood vessels weren't doing very well. In my case, there were other compounding factors, like I lived in a basement that had toxic mold, I figured out later, which also contributed to those. Just the diet high in those fats has that effect. You can measure it. If you eliminate all omega 6 oils from your diet, or at least as many as you can, you're still going to eat avocados, you won't ever fully eliminate them, but if you quit all of the processed oils, even limit olive oil to just really fresh, really good stuff, and don't overdose, how long does it take in your experience working with patients before they feel the inflammatory effects go away? Is it a week? Is it five days? Is it two weeks?

Dr. Cate: It's all about momentum with genetics stuff. Your body can recover, but it does depend on how much it's recovering from, how much of a mound you have to crawl out from underneath. If you have been really abusing yourself for years, I see a lot of folks in their 60s and 70s who have been put on statins, cholesterol drugs, blood pressure medicines, sometimes diabetes medicine, usually there is a heartburn medicine thrown in there. What I see is that their metabolism is very unhealthy looking. All the typical markers that we look at, the triglycerides being high, the glucose being a little high, the insulin being high. Those numbers are all out of whack because there is so much damage.

You can reverse it but it happens faster in some people than others just because of the fact that the body has to in some cases resurrect enzymes that haven't been used in decades, the fat burn enzymes that haven't been

used. There's a lot of clean up that has to be done to you. One of the first things that you will see improving is the triglyceride level. Then there's a lag in the HCl. That can take 6 to 12 months to come up if somebody is at that point where they're on all those medications and they're in their 60s or so. That can take a full year to come up. It's a year of, you don't have to be an angel with your food but you have to really avoid those vegetable oils, get your sugar and carb consumption under control, get plenty of antioxidant vegetables and be a good exerciser too and get some decent sleep.

Dave: When people first go on a [Bulletproof Diet](#), which has a lot of commonality with your recommendations, it's high fat, no fear of saturated fats from clean, undamaged sources, butter in your coffee. You know all about that right? When people go on that, I usually within 6 weeks will see triglycerides drop, HDL goes up, but the big thing, C-reactive protein, homocysteine and LPPLA2 in most cases will drop unless there is a genetic thing going on with methylation, in which case you have to hack that. That's kind of a 6 week window. I had a question I've been meaning to ask you. I'm hoping you'll have an answer because I don't know it.

I've noticed that when I first started doing this years ago, and really when I first got into [Bulletproof Coffee](#), I was doing 5 or 8 tablespoons of butter in my coffee. I just loved it. I could not get enough. I'd add the [MCT oil](#) and then I upgraded it to [Brain Octane Oil](#). I just put it in and I'm like, "Just give it to me." If I went a day without butter it was like a day without sunshine. I was unhappy. After about 2 years of that, I went down to 2 tablespoons. I felt like my body's urgent demand for butter went down. I'm still a high butter consumer, but on an average day in all of my food I might have 4 or 5 tablespoons instead of 10-15. Why, after a year or two, did I down regulate my rabid desire for butter?

Dr. Cate: You didn't need it as badly. That's a really good question. If you're deficient in something, you replete yourself. It's like to eat vitamin D. If you start out with a vitamin D level of 9 or some sort of basement number like that and then you take massive doses of vitamin D, you can get your vitamin D level up in 3 months and then you don't need those massive doses anymore. You are exquisitely sensitive to what your brain really wants. I find that it's

possible for people to sense what they need. I'm always very impressed when people give me stories like that where they're like, "I just felt like I didn't need it anymore."

That's so important because your body, like you eluded to, your body and how you feel are the best markers of what your body is doing and how it's feeling, and what you need. You just have to free it up from any kind of addictions that would blind your abilities to be sensitive to that. That's one thing, yet another benefit of getting off sugar is that you don't have that mental, "Oh just give me a little something sweet," always buzzing. At least not as strongly. I'm sort of a recovered sugaraholic and I still get that buzzing sometimes but it's a lot less than what it was, and I recognize it for the devil that it is.

Dave: I've found that when I cut my sugar consumption radically, I lost a lot of cravings but they didn't go away. When I increased the fat, in particular the [Brain Octane](#), the sugar cravings went down even more. Now the biggest trigger for them is when I eat foods that are lacking in quality. My understanding of the biochemistry behind that is well, when you eat something, say a mold toxin, which is much higher in some types of foods than others, for instance in some coffees vs. others, that depending on how long it takes those toxins to make it to the liver, when they're in the liver and the liver's like, "Okay, I've got to do something with these. What do I do with them?" I'd like to oxidize them.

What's the fuel for oxidation? It's glucose. All of a sudden it will grab onto what's available, and it's probably low if you're eating right, in the blood, and it will push your blood sugar lower than normal, which can trigger a food craving in and of itself. Have you come across that line of reasoning? This is what I'm putting in my new book, but I'm just asking a few experts about that ahead of time. It's very predictable for me in my own awareness of food. I'll measure it with laboratory results and say, "This stuff has toxins in it and this stuff doesn't when I eat this." Or, "This is two days old and it's slightly off and bam there come the food cravings back."

- Dr. Cate: I don't know exactly what the cause could be. What you suggested makes sense. Another thing that could make some sense is that if your liver is busy dealing with these toxic molecules, then maybe there are some things that it should be doing like stuff that has to do with hormones that you could feel very directly. If your levels of various hormones fluctuate, you can have energy drops or mood changes.
- Dave: Like thyroid, cortisol, something like that?
- Dr. Cate: Yeah, thyroid, sex hormones, or even the liver is involved in the metabolization of amino acids into serotonin and other brain peptides. What you suggested are not incompatible with each other. The liver is busy dealing with this toxic stuff and it can't really be busy doing the normal housekeeping that it's supposed to be doing to keep us feeling good.
- Dave: That makes total sense. Your liver has a lot of jobs. One of the other things that particularly I read about in the [Better Baby Book](#) was environmental toxins place a load on the liver and the kidneys, and they affect our brain functioning. If people are getting exposed to say lots of BPA, jet fuels, maybe when your a professional sports team flying all over the place, and all the crap and anti-flame retardant things in beds and whatever else, how big of a load do you think that's putting on the livers of pro-athletes or the rest of us, and is that something that we can address nutritionally, or with supplements or with medicine? Is it even of concern for performance.
- Dr. Cate: I'm sure it's a concern for performance. It's one of those things that's just a drag down on the body. Because it is so multi-factorial, like you said, all those different objects right? You've got the water bottles and the plates and utensils and jet fuel, and all these unavoidable things with different chemicals. For me it just highlights the importance of making sure that you do ... I like to keep things as simple as possible. Rather than trying to figure out what supplement might help this or that, because we don't have a lot of data at this point in time, we don't really have a lot of sinus. We have a lot of basic science that could lead us to design studies to see whether or not our ideas work, but at this point they are really just ideas. It's so hard to



get them to eat the healthy food. I just want to focus on that rather than having them also worry about supplements and stuff like that.

Dave: Food before supplements is the basic rule.

Dr. Cate: Yeah that's [crosstalk 24:45]. There's so much in food that we can improve on. A tastes good and B we have so much more control over it, rather than everything else in the environment. All the stuff with the cell phones and who knows what else is out there. It does get to what we really need to do is have the off season be as restorative as possible. That's a whole different ball of wax because a lot of the players aren't even with the Lakers anymore in the off season, and of course they're not at the practice facility and all this.

A lot of them do invest their own time, energy and get specialists to help them with better sleep, massage and all those kinds of things that help restore. Toxins have been with us for a long time. That's why we have livers partly. The liver has the technology to break down stuff that plants put into plants so that we don't overeat the plants. We just need to make sure we get plenty of sleep and all the basic vitamins and good exercise, good air, and good water whenever possible.

Dave: I couldn't agree more. I've been doing work lately with more rock stars actually, Hollywood people and some nutritional sorts of things, just around performance. I found that taking things like activated charcoal with certain types of food, they feel better and feel more energy, or up-regulating the amount of glutathione in the body and using food plus supplements, particularly when they're on a touring schedule.

They're riding on a bus for 4 to 10 hours playing in a smoky club all night, getting on a bus and doing it again and again and again, that just showing up the antioxidant defenses with supplements in order to have the energy to put it out on stage, it matters. From a pro-athlete perspective, and I'm just guessing at parallels between what pro-athletes do versus what pro rock stars do, is there some sub-segment of the Lakers or some other teams that you've come across where supplements are a major thing or is it

they're not NSF listed, it's not okay, it's not cool. What's the status of supplements in pro sports from what you've seen?

Dr. Cate: Well most of the supplements are centered around muscle building, creatine and [branchtain 27:16]. That's mostly what is heavily pushed on them. They get big boxes of this stuff sent to them for free. That's most of what they get. In terms of the supplements that we actually want for us, since we do have the luxury of having a fairly extremely excellent diet, the supplements are down to a minimum. We select, we hand pick those pretty carefully. As far as performance enhancers, that really goes back to the muscle, protein powders, muscle building, some with the fat burn and stuff like this, but it's not part of the program that we are doing. It's what I've seen other athletes being interested in, asking about, and having pushed on them just because there is so much of it out there.

Dave: There's an incessant drum of supplements that are pretty similar out there. There's also the risk, "If I take this, will it flag me in some blood test somewhere and then all of a sudden my career is in jeopardy even though all I did was take my creatine or whatever it was." I know that there is a level of sensitivity. I've also been talking with some of the MLV guys lately. It's just tough for them to know, "I can eat a food and the supplements," there's just a little bit of fear around them.

Dr. Cate: Makes sense.

Dave: There's a couple of other things. In one of your ... In fact in the article, I think it was on ESPN, about how you were working with the Lakers, you said something that stood out. You said that you wanted the players to get out of using the mindset of using food as fuel. I translate that to calories aren't important. It's not about the number of calories. It's about the composition of the calories on the bulletproof diet. Why do you say, "Don't use food as fuel?"

Dr. Cate: That gets you into the wrong mindset. If you're thinking food as fuel, you're thinking of what kind of junk can I throw into the fire to burn so that I have energy? That's where this comes from. We do need energy. We have to

make special considerations around getting energy for athletics. Our bodies are built out of recycled compounds from other beings. We can't just have that be sugar, for example. Very little of our bodies is actually manufactured out of glucose. Most of it is much more complex molecules.

We have to have the information in those molecules. I guess this gets back to the idea that we talk about in our book a little bit, where back in the late 1800s, right about when I was born, the first cookbook that talked about this sort of stuff came out. It was Fannie Farmer's cookbook. Fannie Farmer is now known only mostly for candy, but she was actually a full fledged culinary artist back in the day. In the beginning of her book she talks about how they recently discovered that the human body is composed of proteid and carbohydrates, and lipid substance. She went ahead to break them down in the content they discovered in human beings. She said based on that we need to eat these three things, and that was the end of that.

As if to say that as long as you are doing that, your body is going to be just fine. The food that we eat is so much more than that. Just to give you a concrete example of what I'm talking about, milk. The first food that most of us get. When milk fat globules are manufactured in the mammary gland of any mammal, humans, cows, it's wrapped in a double lipid bilayer. A lipid bilayer is a membrane. Every cell in our body is wrapped in one of those. These are wrapped in two just because of the topography of how it has to exit the mammary gland. Embedded within that milk fat globule are all kinds of fancy little protein doodads. They've got names like lactoferrin and other things. We don't really know what they do. We think that what they do is to help the newborns digestive system cells recognize this as nutrition, and incorporate it directly. In other words, fuse the membranes so that it doesn't have to go through the normal process of digestion.

Dave: I'm laughing that you mentioned lactoferrin specifically because glutathione force, which is the glutathione that I make, we tag the liposome, which is as you know, a globule of fat, with a lactoferrin molecule so it will absorb using exactly that mechanism into the gut, to escort a natural substance instead of a drug into the body. How cool that you went there with breast milk. I'm impressed. That's cool.

- Dr. Cate: Your science mimics nature. It really has the same idea right? It's common sense. We come up with it, nature come up with it.
- Dave: You can always copy nature before you're going to go out and create some strange thing. You were going on about how this double lipid bilayer in breast milk is out there, and we add IgG. We add lactoferrin to this. How does this relate to modern nutritional things?
- Dr. Cate: It doesn't. Modern nutritional dialogue does not include any discussion around the potential information that is lost when you process foods. I guess that's not truly accurate for me to say it doesn't relate. It does relate because that's part of the problem. That's why you have specialists in nutrition saying, "There's no difference between pasteurized homogenized milk and raw unprocessed milk." Well, we know there is a huge difference. It looks different under a microscope. We've done different things to it. That bilayer is there. That information is gone. Another element of the information in milk that I just happened to know a lot about milk because it's a big part of chapter 7 in our book where we talk about the 4 pillars of world cuisine. We talk about raw being one of the pillars and raw milk included. Milk proteins, we've got our caseins and what are the other ones-
- Dave: The whey proteins.
- Dr. Cate: The whey, thank you. Those are designed to do different things to the calf. The whey protein gets absorbed more immediately because it doesn't coagulate. The casein gets absorbed later on when the animals perhaps is asleep. The intelligence behind the whole system is completely destroyed when we process milk. You have casein interacting with calcium in ways that make all the protein in there less valuable to the body than it was when nature manufactured it.
- Dave: For someone listening to this, maybe driving in their car, they're thinking, "Okay I can give up milk. I can drink industrial milk, maybe organic industrial milk that's been heated and homogenized, or I can find someone



with dreadlocks and buy grass fed raw milk,” the same way that I do. What would you recommend they do?

Dr. Cate: I recommend you do whatever is within your comfort zone and doesn't take you too far out of your neighborhood, honestly. It can be a stress hunting down the stuff. If you can't get raw milk and you want the same kind of quality, you can do pretty well with, there's [Rommell 35:13] cheeses, those are legal in pretty much every state. Those can be hard to find too. Yogurt is kind of like a good compromise. Even though it's manufactured from pasteurized, not always made from homogenized milk, the bacteria that ferment the milk into yogurt, is thicker, has different amino acids in there, has different sugars in there, it has different vitamins. It's sort of upgraded the value of that processed milk and gets you closer to what your body really wants. If you can get a good organic yogurt, Stonyfield, to drop names, from my former neighbors in New Hampshire when I lived there. They're actually centered in New Hampshire. Stonyfield is great. Organic Valley is another great brand. Those are available in every health food store.

Dave: Those are not grass fed though right? Those are fed grains. Aren't they missing CLA? You're okay with non grass fed dairy as long as it's yogurt.

Dr. Cate: Yeah, it's a compromise. If somebody wants the best of the best, that's not going to be what I recommend, but if you want something that's better than a protein powder-

Dave: I have the idea of a spectrum in the bulletproof diet. It's the same. What I recommend if you're going to have dairy, have yogurt before you have skim milk powder, yes a 100,000% yes. If you can go further into the grass fed, full fat un-homogenized, un-pasteurized realm, that's a better selection. Yeah, you're right, you can panic about it and say, "I can't eat anything because it's not perfect enough." That's not a particularly healthy place to be either.

Dr. Cate: Right, yes, because then you're just going to go back to doing what you were doing before, because it just becomes too stressful to try to improve

everything at once. If Gary B, the trainer to the Lakers, he has this phrase, which is, “Chock full of wisdom and applicable to many areas of life, which is baby steps.” We’ve tried to do that for the players. For them to go from nachos and fried chicken wings to a [charcodary tray 37:32], I’m just pronouncing the word [inaudible 37:33]. That didn’t really feel like a baby step to them. We had to do that in the context of doing everything else gradually. We get there but it takes a while. We give them a lot of stuff that’s very familiar, just a better version of it. We do have deep dish pizza on the plane but it’s made with healthy cheese and everything is organic, olive oil instead of whatever kind of junk you’d get from Domino’s.

Dave: I notice that you do have gluten and some other sources of dairy, and things like that, even in recipes on your website. What’s the rationale? Is gluten one of those things, “Well I guess it’s better you do it right with gluten versus doing it worse with potato chips or something,” or is gluten something that you’re okay with?

Dr. Cate: Gluten is the protein component in wheat and a lot of other grains. I think when we talk about gluten being bad for us, I feel like there is a little bit of maybe too much fear surrounding it, so that when people are trying to enjoy their sushi, they’re not going to have Kikkoman soy sauce on it because it might have traces of gluten in it. Again, we have to do what’s reasonable and we have to do what makes sense, I think, to not just science but also culture. We don’t want to ostracize ourselves. The bottom line is that I think when people go gluten-free and feel better, in a lot of cases it’s not because they’ve cut out the gluten molecule, which is really an innocent bystander in all this.

The problem with our grains is that we process them. Whole grains are what people consumed until very recently because there was no technology for milling. It requires a lot of force, energy, that could only be delivered ... People who were millers back in the day, before I was born this time, maybe 1000 years ago, they were rich. Milling was a high tech intervention. That crushes the grain. Andrew Weil helped me understand this. Andrew Weil runs a website called [weil.com](http://weil.com).

- Dave: He wrote about [crosstalk 39:47] coffee a while back. I was kind of stoked. I was honored. Andrew Weil is an old school guy who knows about health, so yeah, I respect him a lot.
- Dr. Cate: He's been studying nutrition from his perspective for a long time, for many three decades now. He has, I think, a good solid stance on where the trouble comes from. Really it comes from the processing. Nature doesn't make poisonous foods, except for those poisons that it intends as immediate deterrents, right? Nature never intended for Celiac Disease to come around. That is a disease that develops, it's a chronic degenerative disease. It's not going to keep people from eating wheat. There's no way for the person to make that connection.
- Dave: It doesn't make them feel sick.
- Dr. Cate: When we crush the grains and we take the layers that nature intended, each with its specific design to preserve the germ, to sense the temperature changes, to sense the water changes, to physically change in response to changes in the environment, that's what gluten is supposed to do. It's not this molecule that is this time bomb out there waiting to try and kill us. The only reason it acts that way for some people is because we process it, and when we process protein ... Alter them, when we consume these altered proteins in a pro-inflammatory environment, our body makes antibodies to them. That's one of the main ways in which gluten is harmful to people. There's other ways we can go into that to deal with leaky gut and all that sort of stuff. Really, any protein, lots of proteins can do that, not just gluten.
- Dave: Most of them can, but don't gluten and casein have an 8 amino acid sequence that tends to be cross identified with 7 different types of tissues including the lining of your arteries, your brain, your joints, things like that? By the way, I reversed my Hashimoto's my avoiding gluten scrupulously and avoiding mold toxins at the same time. Zero antibodies to it.
- Dr. Cate: Yes, you're absolutely right, but the reason that your body made those antibodies is because it made a mistake. It's not supposed to. There's other

proteins out there in the world that could cause, and do cause, those same kinds of reactions, but your body is supposed to recognize that it made an antibody that is A) no longer needed to fight off an infection, because there is no infection and B) is attacking its own tissues. There is something called, oh shoot what is the term, it's an antibody [delison 42:28], immune tolerance, that's the term. When you become tolerant to something that you formerly had an allergic reaction to, that's because you formerly had an antibody to it. Then your body can actually delete that antibody, so it remembers to stop making that antibody to no longer make it. That needs to happen-

Dave: It happens in the memory B cell. Is there a way you recommend for people to suddenly become not gluten intolerant?

Dr. Cate: I don't know that it would be sudden.

Dave: To gradually become, because lots of people would like to eat pizza again. Spill the beans here.

Dr. Cate: I think it's essential to eliminate the allergen right? Whether you're allergic to wheat, gluten or other proteins in wheat, or milk, protein or other proteins in milk, or eggs, or peanuts, or whatever it is, you need to eliminate that for a period of time, probably six months. You also need to eliminate other things in your diet that are going to promote inflammation. This is where we get back to the high sugar intake and the vegetable oils. Inflammation in your intestine is where your immune system first starts to make mistakes.

If you've having these pro-inflammatory foods, the vegetable oils and the sugars, you are inevitably going to develop an antibody to something that your body really shouldn't make an antibody to, and that can cross-react. If you get those things out of your life and eliminate the offending protein for long enough, your body has the potential to reverse it. Not everyone's will, but I've heard plenty of stories where people had been allergic or had had intolerances, and were really good about their diets, and these things did

reverse. Like I said, not everyone's will, so you have to be very ginger and very cautious if you're going to reintroduce one of those foods.

Dave: It definitely is something I've seen too where people are allergic, they avoid something for a while and they come back and there's even a recent study about peanut protein and how they're able to turn down an anaphylactic response. There are also studies with gluten where they talk about, in people without Celiac, without an immune response to it, where it lowers cerebral blood flow. This is particularly gluten and gliadin together. I reached the conclusion where gluten doesn't have a place in the very highest performing diets for people out there. This is my conclusion. We may end up disagreeing at the end of the day, which is totally cool.

There are some people who tolerate Kikkoman soy sauce much better than others, but if you're one of the people with an immune reactivity, you have to religiously avoid it. If you are one of the people who tolerates it, it will not benefit you more than eating a piece of grass fed steak. If you're going to pick a protein, you might as well eat a pastured egg or a piece of grass fed steak, or something else like that, when you have a choice. If you're starving and all they have is biscuits, and you're not going to eat for a few more days, load up on the biscuits. By the way, that goes if you have an immune intolerance too, if you're starving. It's better not to die and be inflamed.

Dr. Cate: Absolutely, and you know what? I should mention that on our website we have under Watch Dr. Cate on Video, we have a video about this whole process of immune tolerance with a little cartoon version of the white blood cells and the antibodies that helps people. It helps to illustrate exactly the complex discussion that we're having here surrounding immune tolerance, and it's pretty high level stuff. It's a 5 minute video and we have cartoons in there.

Dave: We'll link to it in the show notes so people can find it. There's a couple of more questions I want to ask you. I know that you've got to get in a couple of minutes. Number 1, intermittent fasting, good or bad?

- Dr. Cate: I think it's absolutely a huge beneficial tool to have in your kit box. The reason it has to do with, A) all the research that we've seen surrounding it, and B) just the fact that we know there would have been times in our ancestral past where food would be limited and we would have to go unwillingly through periods of hunger where we live off of our fat. That's why we store fat too, so that we can go through these periods of hunger where we live off of our fat. Presumably there is all kinds of recess, metabolic recess that can occur when you do something dramatically different like that. I see it as a kind of, you know we talk about cross training with exercise, you want to do aerobic, cardio endurance. You want to do high intensity interval training. It's the same kind of variety with nutrition and diet surrounding meal time. I think is beneficial as well.
- Dave: That was a super clean answer. We totally see it the same way. I found intermittent fasting for me was transformative. In fact, I can fly somewhere for 10 hours and just not care about food. It's so liberating. It's amazing.
- Dr. Cate: Absolutely.
- Dave: The second to final question is about collagen. What's your take on collagen, bone broth, the importance of eating collagen?
- Dr. Cate: It's one of the 4 pillars in our book, "[Deep Nutrition](#)". The third pillar, meat on the bone. The meat on the bone refers to the traditional practice of making broth using bone, joint material, skin, and what that does is it extracts these molecules called glycosaminoglycans in addition to collagen hydrolyze. It's really a missing food group from the American diet. Every other culture around the world does this sort of stuff on a regular basis and gets infusions of these molecules that are uniquely capable of stimulating the cells in the body called fibroblasts that lay down collagen. Collagen is the backbone of our bones, our ligaments, our skin. It's almost like vitamin C in that our ancestors gave us this stuff. Now we need it. We can't make it anymore.

- Dave: It's actually made out of vitamin C, come to think of it, because vitamin C is one of the main components of healthy collagen right? I just thought of that.
- Dr. Cate: Well, yes, you absolutely need vitamin C to manufacture collagen.
- Dave: If you eat it, does your body break it down and remanufacture it, or can you use the di and tripeptides directly?
- Dr. Cate: You may break some down but there was a really cool study I saw where they radio labeled glycosaminoglycan compounds and fed them to mice with injured joints, and they saw that it passed through undigested, through the digestive tract and ended up in the joints. Pretty cool.
- Dave: I don't know if you've checked out the upgraded collaged but we do a skin-based collagen from grass fed cows that's enzymatically processed to keep the peptides intact for the reasons that you were just discussing. It's something that I put in my coffee about half the time because it doesn't have any real flavor. You put it in with the flavor and all the sudden you're like, "Bam, bone broth in coffee is gross but this stuff tastes pretty good." By the way, I have tried homemade bone broth coffee only once. It was truly horrible.
- Dr. Cate: You will put anything in your coffee won't you? Is there anything you haven't put in coffee?
- Dave: Except liver. That was not okay. I've done a raw liver smoothie and that was the most horrible thing I've ever had in my life, but I did finish it, except that one string that got caught. Anyway. There's a question that I ask everyone who has been on the show, Dr. Cate. It's, what are your top 3 recommendations for people who want to kick more ass? If you care about performance in your life, what do you have to teach them? Not just from your book, not just from your practice, but everything you ever learned as a human being. Give us the 3 most important pieces of advice.

Dr. Cate: Breakfast is the most important meal of the day to not screw up. Don't have carbs for breakfast. You don't necessarily have to eat breakfast, but the first meal of the day should not be carbohydrate unless it's excess after exercise. That's the second point. You want to make sure that you work up a good appetite as many days of the week as possible, because when you work up that appetite, that's your body hungering for nutrition. When you give it nutrition, your body can rebuild muscles, joints, tendons in ways that it can't possibly do without working up that appetite. Three is restore. However you do it, whether it's going for a walk. Whether it's getting an extra hour of sleep. Our immune systems that now we get into so much trouble when they make mistakes. They do figure out their mistakes while we sleep. They really can't do it while we're awake. That's one of the main functions of sleep is for the immune system to figure out what's good and what's bad. What needs to be eliminated? What's friend and what's foe? Including cancer.

Dave: That's a pretty impressive list. You are the first person to say breakfast is the most important meal of the day, not to screw up. I'm always telling people, "What? You gave your kids carbs for breakfast and you want them to perform at school? Stop that." My kids are eating eggs, bacon and butter for breakfast, and drinking a little tiny cup of [Bulletproof Coffee](#). They're like, "Snacks? Why do we need snacks? It's only 10:00." My son is 4 but really, they have snacks for social reasons instead of for, "I'm crashing and I'm going to misbehave reasons." It's so cool to hear you say that. If you're listening right now, and you got that piece of advice, don't eat carbs in the morning, Amen. That is such an awesome thing to reach the top 3. Dr. Cate, you know what you're talking about. That's all I can say.

Dr. Cate: Well thank you. That is definitely high praise coming from an expert like yourself.

Dave: Thanks. Will you please tell our listeners where they can find more info out about you? Your URL and things like that. We'll put all these in the show notes. People are oftentimes driving or listening on their mobiles or whatever else. [This is a number 1 ranked health podcast, almost 5 million](#)



[downloads now](#). A few people are going to hear about you and they should check out your stuff.

Dr. Cate: Well thank you so much for having me, Dave. My website is [DrCate.com](#) and doctor is [drcate.com](#). I have some services that I'm launching there. Actually there are lists on the website now in conjunction with [Mark Sisson who runs Mark's Daily Apple](#).

Dave: He was just on the podcast last week or something, so cool.

Dr. Cate: Great timing. It's going to be, it's called the [Primal Advantage](#). It's really a metabolic coaching service. What we're going to be doing is evaluating 6 aspects of your metabolism. For example, nervous system, immune system, connective tissue health, cardiovascular, and 2 others. We're doing this with blood testing and history, and we're going to identify where the strengths and weaknesses are and come up with a plan for what to do to optimize your metabolic function. That's going to be available for people all around the country and possibly even out of the country. That will be finalized in the next few weeks. It's going to be launching on April 1<sup>st</sup> and you can find that on Mark's website as well under his services section.

Dave: Very cool. Thanks again and have an awesome day.

Dr. Cate: Thank you. This was a lot of fun. Thanks, Dave.

## Featured

[DrCate.com](#)

[The Primal Advantage Program](#)

## Resources

[Deep Nutrition: Why Your Genes Need Traditional Food](#)



[Food Rules: A Doctor's Guide to Healthy Eating](#)

**Bulletproof**

[Upgraded Coffee](#)

[Brain Octane](#)

[Activated Charcoal](#)

[Glutathione Force](#)

[Upgraded Collagen](#)

[Better Baby Book](#)

[Podcast #101 Mark Sisson and His Primal Blueprint](#)