Paleo Solution - 231

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Robb: Howdy folks, Robb Wolf here. We're back with another episode of PaleoSolution podcast. I can't believe we keep doing this stuff. I can't believe you keep coming back but you do so that's awesome. And I was just teasing our next wonderful next Nina Teicholz who is the author of The Big Fat Surprise. This may be in fact the end of her career showing up in this show. This is the place where nutrition oriented careers go to die. Nina how are you doing?

Nina: I'm really happy to be here and I don't believe a word you just said.

Robb: Okay, cool. Well it sounds good. So how are you doing?

Nina: I'm really well thanks.

Robb: We got to meet at the food fight episode on John Stossel Fox News which was super cool and you did a very, very nice solo bit on that. I was quite impressed. You actually got John to eat some bacon on camera I believe during your section. Right?

Nina: Yeah he spit it out right afterwards I have to say.

Robb: You know if you look really closely when he's talking to you after he dramatically chews on the piece of bacon it looked like he spit a few pieces of bacon on you or something. Luckily you were sitting far enough away.

Nina: Yeah. That's true. But I have to say I was talking to the producer and before you go on TV you hang out in something called the green room and I was talking to the producer and he's like well it's just so great that we're getting this word out there and then we can have people like you and Robb Wolf on the show and I had just sent you an email introducing myself to you the day before. And it's like Robb Wolf, and there you were, he's like yeah just right behind you, that's him. So it's kind of thrilling that we're finally coming around doing this too.

Robb: It was super cool. There were a number of folks that have been to the Ancestral Health Symposiums that work with the farm to consumer legal defense fund, food freedom league I believe. There was some really great folks that made it on that show. I thought it was for kind of primetime news show where they just basically blast you through this stuff. It was actually pretty well done. I was reasonably impressed with it.

Nina: Yeah. And the bigger story is that the media is now – there is a shift I think in the media and I take a little bit of credit for that. I'm like I'm happy to say that there's that Time magazine cover that was based on my book that came out that was maybe a week and a half ago now and then there was – to be reviewed by like the Wall Street Journal or be an economist, I think that's pretty much the first time that these ideas are getting out into the mainstream press and in a pretty big way that they're – we owe all of that to Gary Tubbs who really began all of this.

But it's been a long uphill climb for over a decade now. I'm just trying to say that this is an important moment now I think in kind of nutrition history. So we'll see where it goes but I'm encouraged.

Robb: Absolutely and you know people get – this was something else that Nina and I talked about briefly before I rolled the tape as it were that people get really wrapped around the axle of the protein carb fat kind of conversation and I think they forget that when Gary's first piece came out, What If It's All Been A Big Fat Lie? This was just earth shaking stuff and particularly from my background this was maybe 2000 2001 that I believe that came out and I have been tinkering with this paleo low carb kind of thing since about 1998 playing with siclic ketogenic diets, getting educated about problems with gluten and different food intolerances and what not.

But when Gary's first piece hit, it hit big and it was – there was a complete vacuum in the most literature that was being published around nutrition certainly in the media that would paint animal products in any type of a favorable light like it was really the long dark tea time of the soul as far as that stuff goes.

So people get really wrapped around the axle on some of the details on this stuff but again to your point, the history of all this and just being able to get a legitimate conversation about the history and some of the back

door shenanigans that have gone on with the food policy and what not, it's really important to give some hack tips to where they appropriately apply so yeah.

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Nina: Well so what I try to do in my book which is called The Big fat surprise is I go back over some of the history that Gary Tubbs covered because you have to just know that history. Not everybody knows it. Your listeners probably know it inside out. But I go back through the story of Ancel Keys and how he, his 7 country study and how he got the idea that saturated fat causes heart disease implanted into the American Heart Association in 1961 the very first anti-saturated fat nutritional guidelines.

There's a little piece to that story that I add that I think is interesting which is that the American Heart Association was really this like back water sleepy cardiologist professional society until in 1948 when Procter & Gamble approached it and said we'd be happy to make you a good designee of or radio show that we sponsor called The Walking Men Contest.

And overnight, 1.7 million dollars flowed into the American Heart Association coffers. This is in 1948. Transformed it almost really over night into chapters opened up all across the country and it became the national behemoth that it was the number 1 biggest not for profit organization in the country and that all began and was launched by Procter & Gamble's huge push in 1948.

And coincidentally, the American Heart Association was recommending it in those 1961 guidelines that Americans not eat saturated fat and instead eat vegetable oils which was like crisco oil which was the product of Procter & Gamble. So and in fact there's an educational film where the medical director of the American Heart Association is posing with a bottle of crisco oil.

So the story of how industry has been involved in the history of these flawed national guidelines is one that I tell that story a bit in my book and it's really fascinating because I think that those of us who read Gary's work and you know, we understand how there's just fundamental errors of science that went on which was nutritional epidemiology being pushed to the limits of what it can tell us, which science being used to justify kind

of a biased set of beliefs against fat and saturated fat and how people's scientists seem to make mistakes of rushing into public health recommendations before there was good science to support them because they were so terrified about the heart disease epidemic.

But there's also intertwined in that history is the role of food companies. And so that's a story that I try to tell a bit in my book about in these – all the big food companies like you know, General Foods, Standard Food, Best Food, Kellogg's, they all grew up in the early part of the 20th century. They formed something called the Nutrition Foundation in 1941 and they knew that to get Americans to eat more of their products, they needed to influence nutrition experts at the source.

Publish the journals in which articles would appear and give research grants to scientists at Harvard and other influential instructions and they did that. They did that before the National Institute of Health did that. The National Institute of Health came later. Big food companies were in there first. So it's a pretty interesting story of how they were involved in this history all the way through even though again it really was men of science making fundamental mistakes about what the evidence can really show that I think is at the heart of these mistakes. But food companies were in there too.

Robb: And do you feel like we're finally reaching a point between NUSI and then also you know, your work and other work that we're finally getting to a spot where we're having somewhat of a legitimate conversation like you mentioned you were just on featured in the New York Times, The Economist and also Time Magazine itself you know is talking about this topic like how is this thing change – is it really a legit change or is this just another – the ocean rushed in and now it's rushing back out and two months from now we're going to see another flip flop on the story.

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Nina: Well when I started out reaching this sort of around the same time you did in the early 2000's and I started calling nutrition scientists and asking them about some of those ideas about fat and saturated fat and back in those days I would – there were many instances where scientists would say to me you know what, if you're going to take the Gary Tubbs line, I'm not even going to talk to you. We can't even talk.

And sometimes they would be so cagey and fearful sounding that I would get off the phone shaking like thinking am I investigating nutrition science or am I investigating the mob? There was such an incredibly closed feeling in the early 2000s and that's because – just to tell a tiny bit of history in there and this is also something that I explore in my book was how critics of the diet hard hypothesis were silenced.

So what happened to scientists like Pete Ahrens at Rockefeller University who spoke out against the prevailing idea that fat unsaturated fat caused heart disease? What happened to those people? What was the fate they suffered and why did debate get silenced to the point where people are afraid even to talk about it to me?

But over the last decade, there has really been – due to Gary Tubbs, scientists read his book and there has been more of a conversation, more of an opening up. I think it is a steady trajectory of opening up. Scientists have now done a lot of science. So there've been numerous from really pretty rigorous clinical trials that had been done over the last decade that are looking at a high fat diet and comparing it to a low fat diet.

Back in the day of Atkins in the early 1970's he was promoting something like a low carb paleo diet but there was no science to support him. So he had his thousands of clinical stories his patient files and he would point to them but that's not science. So now that science has really been done and including long term two year long clinical trials because there used to be that there was a lot of fears about what his diet would do if you were on it for a long period of time. There were questions about renal function and bone density loss.

But those trials have not been done and there are numerous scientists who are now swiveling around away from fat as the dietary culprit and focusing instead on sugar glucose, fructose. There are scientists at Harvard and Berkley who have done meta-analysis of all the studies on saturated fat and concluded in two separate meta-analyses that saturated fats do not cause heart disease.

So there are a number of scientists at a pretty high level who are now shifting the focus away from fat and towards carbohydrates as another possible idea about what causes chronic disease including obesity. So I think the conversation has irrevocably shifted. But it is also true that

while there's this huge ground swell of interest and a lower carbohydrate diet and eating more fat and the whole paleo movement and these scientists at prestigious universities, it is still true that the expert panels that control our nutrition policy…

So those are two of them. One is at the American Heart Association. One is at the USDA. The USDA which publishes our dietary guidelines which have been used as a foundation for the USDA food pyramid which everybody knows. So those two expert panels are moving in exactly the opposite direction. They are ratcheting up the amount of saturated fat that they recommend for Americans to eat.

The last EHA panel recommended for if you think you might be at risk for heart disease, they were telling people to cut back their saturated fat to 45% of calories which is like pretty much unseen in human history except during periods of extreme deprivation like in post war cultures or during the Irish potato famine or periods when humans have been starving.

And those two expert panels are run by what I call the nutrition aristocrats which are kind of a very small group of people that really run the nutrition policy in the country. It's a pretty tiny handful. It used to be all men for a long period of time. Now there's some women on there and it's the same people on both those panels.

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So we're going to have now there's the new dietary guidelines that panel is currently reviewing the evidence and there's supposed to be a new set of dietary guidelines coming out in 2015 and it's very likely that those will be moving in an ever more saturated fat restricted direction just like the AHA has because it's the same people on those panels.

So I see the nutrition conversation while that it's opening up, there's also this chasm as one community is going towards a low carb idea and the other community is going towards an ever more restricted pretty much nearly vegan diet.

Robb: Right.

Nina: And I don't know what's going to happen but those are really diametrically opposed directions.

Robb: Yeah. And it's interesting because I tend to be libertarian leaning and have this faith in markets kind of widowing this stuff out and that's where to some degree I've actually just kind of – I wouldn't say turn my back on academia but I have really not – I've been more excited about just getting people to do experiments of N = 1 sale you look, feel and perform. Let's see how blood lipids and inflammatory markers change with some experimentation.

And in the clinic here in Reno we definitely see particularly in police military and firefighters, these people are under extreme stress, bad sleep conditions that they seem to benefit enormously from a limited glycemic load diet. Now I will – and we're tracking this largely looking at LDL particle count as kind of our main theory of like a gradient driven process of atherosclerotic plaques and that whole thing.

Occasionally we see somebody and I'm not super sure on the numbers with this yet. We do see some folks that if they're doing quite a lot of saturated fat that LDL particle count will bump up on those folks and so we will shift them and you talked about the Mediterranean diet in your book but we'll shift them to what we call kind of like a paleo-Mediterranean diet where they're getting more fat sources from mono unsaturated fats and it seems to pull that LDL particle count down a bit.

And we're just now starting to do a little bit of gene analysis on these folks and we're thinking that we've got like an IPO E4 gene family like northern Europeans that certain branch of those folks seem to do a little bit better on kind of paleo med. But the interesting thing is that we're not – we're definitely not pulling saturated fat levels below 7% 10% you know, it's when these folks start getting saturated fat up in the 15-20% of their total fatty acid that we see some problem in some people.

So it's my hope to getting people to just self experiment and I see it as kind of a little bit of a logic tree. It's like well we try ABC. If A and B work but C doesn't then we can pop you to D but I feel like we have a pretty solid rubric that isn't really that complex. If a couple of these steps work then great, if one or two of them don't then we know some fall backs that we can tinker with and then go from there.

Nina: Yeah but you're basically putting your firefighters and people on a lower carb diet right?

Robb: Absolutely. Yeah.

Nina: So I mean that's the key is the USDA food pyramid, now my plate graphic I mean that's a 60% carbohydrate diet and that's what been recommended to Americans who have dutifully increased their fruits and vegetables and carbohydrate and their grains over the last 30 years and just look a lot sicker for it. So it seems like you're tinkering with the diet that is a new diet.

Robb: Yeah.

Nina: You're dealing with something that looks a lot different than what most people are recommended when they go to their doctor's offices.

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Robb: Absolutely. And you know, to the degree that we get some more dense carbohydrate sources in there and again the police military fire scene and I would even say medical professionals are interesting because they seem to show these westernized diseases earlier in higher frequencies and I think it's because they're just experiencing this full lifestyle shift – negative lifestyle shift kind of on steroids like they don't sleep as well.

They're under enormous stress. Their activity partners are generally pretty broken and so it's almost like when they do toxicology studies on rats or something and they give these animals like super high doses of something like aflatoxin to figure to just how gnarly it is. It's like our first responder folks are being put on a highly toxic lifestyle. Bad food, bad sleep, lots of stress and this stuff is really bubbling to the surface.

So even within this community, because we are trying to get these folks to lift some weights and do some metabolic conditioning and stuff like that, if we do a more dense carbohydrate source, it's only in the post workout period and then we're going with low glycemic load carbohydrates the rest of the time.

Nina: Right.

Robb: Actually really pushing a rather high protein intake because of the satiety signals folks get from that. And we've had some pretty darn good success with that. I've talked about this before we did a two year pilot study with the city of Reno police and firefighters trying to modify their sleep, food,

exercise based off of cardio metabolic risk parameters that we've been tracking.

We estimate that the pilot study alone has saved the city of Reno about 22 million dollars. It has about a 33 to 1 return on investment and now we have all of the police, all of the municipal workers, of all of sparks PD and we're getting into eh FBI and ATF and some different entities now because the numbers are really compelling. So that I guess looping back to my point earlier is that it's exciting that I see some shifts happening in the academic scene but I almost feel like this market driven approach is going to be the thing that really turns around.

Like we may end up turning this around having the problem solved and then about 10 years later the academics will be like we've figured it out and it's like right on cool. Good for you guys.

Nina: Yeah. I mean there's an interesting thing that's happening with academics now is that they see that there is a shift happening. Some of them are jumping on board and saying we always knew that was true and others are kind of old guard is really basically saying you people are recommending more fat and protein are killing people.

And it's interesting that you say that it's market driven. One of the drivers of all of these new questioning comes from athletes like the community of people who really want to be fit or like fire fighters who need to be fit, just going to say this as an aside. The LA Lakers apparently they're all on a paleo diet.

Robb: Right.

Nina: So but some of the original research in over the last decade has come up from basically academics who are also athletes. One guy named Jeff Folic was a power lifting state champion in Indiana. Another one named Steven Phinney is just a huge biker hiker and they came up – they were trained – I mean Jeff Volek's case he was trained in kinesthesiology which is the study of movement and so there was a questioning – and these people important had not been schooled in nutrition science.

So they came with really open minds. They had not been exposed to what was really the conventional thinking in the same way. We, we're in the third generating now where a universe of experts, doctors, believe

that fat and saturated fat cause obesity and heart disease and diabetes and so these experts who are looking at this in a fresh way, they were not schooled in those ideas. They had other demands. They were interested in athletic performance.

In fact one of the first studies that Steven Phinney ever did was – he did an experiment at the University of Vermont in the 80's seeking to prove that carb loading was a good idea, before a marathon or something. And he showed the exact opposite. He found that athletes – this has now been shown especially endurance athletes, they do much better on a low carb diet. they don't bunk which is maybe a biking term but they just don't – they can go from much longer periods of time with much more consistent energy and their overall fitness is just much better.

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So it's interesting to see that's another route and force of change that has moved the conversation in a different direction. And I'm hoping to see something like the parents for whole milk movement. I think one of the sections in my book which is new and I think kind of the most heartbreaking section of the book is in women and children.

Just that women and children were included in the low fat dietary recommendations from 1970 on it was again the American Heart Association who first kind of decided everybody should be on this diet, not just middle aged men fighting heart disease. And they brought on women and children in 1970 zero data on women and children on the low fat diet. Zero.

Well actually with one exception the Framingham study which is the biggest ever study of risk factors had looked at some women and in fact one of their inconvenient findings in 1971 which is that women over the age of 50, if they had higher cholesterol, that was associated with longer life. But that wasn't published, that result, because it was so just impossible to square with everything that experts are saying about fat and heart disease generally and cholesterol.

So women were finally tested in the late 1990's in a series of clinical trials and it was discovered that they did especially badly on a low fat diet, the standard American Heart Association recommend a low fat diet. Their HDL, the good cholesterol it turns out drops quite precipitously on that

diet. It drops for men too. But it drops even more for women meaning the risk of having a heart attack was in fact going up on that diet.

And so and women really aren't told that. Women are pretty good compliers. They try especially hard to especially to stay thin and look good. They work hard at the…

Robb: Women are definitely the avante garde of tinkering with new things for sure whether it's cross fit or nutrition or what have you. They tend to be the early adapters.

Nina: Yeah. And they work really hard – so they've been working really hard for the last 40 years of following a low fat diet too, I mean most American women right? And they look especially bad on it and there was the Women's Health Initiative which was like testing the low fat diet on almost 50,000 women and at the end of their following a low fat diet for a decade, there was no improvement in obesity, any kind of cancer, diabetes, heart disease risk. I mean it was just a total failure.

For children also no data at all on children, they were brought on to the low fat diet because it was – it was just assumed that it was observed they had fatty streaks in childhood and it was assumed that would cause heart disease down the line and when they were finally tested in the low fat diet and there's only a handful of very small experiments on children, hardly any at all actually. But it turns out that they suffer nutritional deficiencies on low fat diets. And…

Robb: You're saying these things that are growing rapidly need things like fat soluble vitamins to actually function? It's crazy talk.

Nina: Yeah. Crazy. Right? And so – I mean if there's a crime here, it's really that children have been brought up on low fat skim milk. I grew up on skim milk. I mean and you can't observe the vitamins or the minerals in milk without the fat in it. Our government does not allow schools to – it doesn't cover whole milk in the school lunch program and that's the same as true for the women and infant children for the program, nutrition program.

And so these are huge tragic issues that I feel like part of what might and should happen next, I mean talking again about where's the change going to come from. I'd like to see mothers for whole milk. Parents for whole

milk. I just would like to see our children getting nutritious diets. I mean children on a 40% fat or more diet eating mainly animal foods, that's when it seems that children grow best and children's growth starts to falter on diets that are 25% fat or less.

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So the fat is really important and as you say protein is satiating. Protein and fat particularly together provides satiety and so to have more of those whole foods with whole fats in schools and as snacks, I think that will help go a long way towards helping children fight the terrible obesity and diabetes crisis that we see today.

Robb: It's interesting for the first time in American history the average and maximum heights of our population are on a decline.

Nina: Right. And you know when that started?

Robb: Just about the time we cracked all this stuff up open.

Nina: It began pretty much just about when – well again that first advice to stop eating meat, cheese, butter, dairy eggs was in 1961 and the US government got on board with that on the late 1970's. Late 1970's also when Americans stopped getting taller.

Robb: Right. And just to throw my nut case political economic stuff in here that was right at the time that we started intensifying our food production, subsidizing up until the 1970's virtually all of our dairy and meat was also primarily grass fed because economically it didn't make sense to grain feed this stuff and you can only really make that system work with the subsidies and is a spin off that we also had all of this corn and wheat and rice and all these subsidized foods that would either go bad or you had to figure out some long shelf life kind of options for it.

And this is where I think the story gets really interesting and I know that there's all kinds of – I don't necessarily want to say bad blood but not the friendliest of stuff going on when you start talking about say like Gary and then Stephen Guinea but this idea of the neuro regulation of appetite and the hyper palatability of foods. Potato chips and snack chips and snack wells which also used to wear in American Heart Association recommended endorsement because it was 0 fat but almost pure sugar.

We started producing in mass these hyper palatable long shelf life highly refined carbohydrate foods and so long as there was a very low fat content then it was kind of like hey, knock yourself out. You're good to go. So that's where I see all of these stories starting to dovetail together and then also in thinking about how to undo this, you kind of have to root it at out the source like a lot of these issues with bad food, high fructose corn syrup all the rest of that stuff. It looks comparatively cheap because it subsidized so maybe we should get in and change farm subsidies and maybe got some of that stuff which is an aside.

Nina: Yeah. I mean there's just been vast changes in agriculture and livestock production. Meat has changed to be leaner, cattle produced differently, we dedicate lots of our props to fruit very water intensive kind of crop. I mean the changes that have come about in order for the entire country to get behind the low fat diet is just – it's vast beyond imagining really. And we have food supply that supports a high grain high carbohydrate high fruit low fat diet. There's just so much of our food production system is meant to meet those low fat targets.

I mean there's a story that I tell on my book about how much the – there's so much bad press out there now about how the evil big food industry and I'm not saying they're angels or anything of course but they are slaves to the dietary guidelines. Everybody is a slave to the US dietary guidelines. Food companies know how important it is that when consumers flip over the package and look at the fat content, I mean all of those allowable amounts of that or what's listed there that's all determined by the USDA and also the FDA.

There's a scene in a story that I tell in my book about sitting in a vice president's office at ADM and he's saying we just engineer foods backwards from the kind of claims that we make or what we want to appear on the nutrition fact panel. So if we want to make like a low and saturated fat claim which is what you can make, it's like that little thing on the front of the food package. This product, low unsaturated fat, we just reverse engineer back from that.

So we'll determine we're going to make some low fat chocolate diary desert but it's all based on what they want the fat panel to say. So it just shows you how slavishly they respond to the dietary guidelines. That's

where the power – the power really lies in that expert panel that controls the US dietary guidelines.

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Robb: That's going to be a tough nut to crack. That's going to be interesting over time.

Nina: It will be. Yeah.

Robb: Nina you talked also about the Mediterranean diet in a way that really hasn't been handled before. Can you flush some of that out?

Nina: Yeah. As a chapter about the Mediterranean diet that really kind of boggled my mind when I finally wrapped my head around what had happened with the Mediterranean diet which is that it was – the Mediterranean diet of course has existed in countries around the Mediterranean forever. It wasn't a low fat diet. It was anybody who's been to Greece, Italy, Spain, they eat a lot of meat and cheese.

But the Mediterranean diet as a nutritional concept was introduced to Americans by Harvard scientists, epidemiologists in 1993 and that was – there were a number of reasons that diet became beloved and famous but one of the biggest ones was the international olive oil council which is a body that's designed to promote the olive oil industry, they sponsored a series of what is wildly known as the best ever food science conferences in the history of nutrition all over the Mediterranean.

So government officials, scientists, food writers, chefs, everybody went to these conferences on Crete and in Portugal and turkey and they just had the best ever time. They were junkets basically and olive oil was tucked in to everybody's – under the pillow and on packages, and there were tons of scientific sessions about olive oil and the Mediterranean diet but – and it produced a tremendous amount of research in the Mediterranean diet and cookbooks and magazine articles and that was what those conferences were designed to do which is to raise the profile of olive oil as in the Mediterranean diet.

It was also the olive oil industry also invited other interested industries to help sponsor those conferences like the tomato producers, whoever else whose products were being promoted by. And that was me and that was

organized also by this group called Old Ways which is a not for profit group based in Boston. So that's why we got the Mediterranean diet.

It actually – the clinical trials showing that the Mediterranean diet is better than other diets which we all believe now to be true, basically they showed the Mediterranean diet looks better than the failed low fat diet. So that's what those trials show and actually there's very little actual trial evidence but to the extent that we have any evidence, it shows that the Mediterranean diet is better than the failed low fat diet.

The question I ask in the book is it's very well possible that other traditional diets also look better than the American Heart Association's low fat diet which is proven to be failure. I mean there are low rates of heart disease in Mongolia, in West Germany after the war, in France and they ate a lot more fat. But those diets weren't studied because nobody wanted to go to conferences in Mongolia or – so we don't know about that. And they haven't been in head to head diet trials with the low fat diet but it's very possible that any diet would look better than the failed low fat diet.

And olive oil has also been researched just up the wazoo and nobody has been able to demonstrate that olive oil has any special heart disease fighting powers. I mean mono unsaturated fats are probably better than regular vegetables oils like soybean, sunflower, peanut corn but olive oil does not – consuming olive oil does not seem to fight heart disease that it can be shown scientifically at least.

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Robb: And we do have, it's small but intervention, paleo diet versus Mediterranean type diet Stephan Lindbergh at the University of London, Sweden did this type 2 diabetic heart patients and compared them on again a paleo diet versus Mediterranean diet. One of the criticism of the protocol was that folks were counseled on how to eat and then kind of free living from there. And the folks on the paleo diet spontaneously reduced caloric intake again most likely because of more satiating foods, higher protein intake etc.

But you know, basically these folks that were type 2 diabetic were no longer diabetic on the – or peridiabetic, we're no longer in that category on the paleo diet barely statically significant improvement in a

Mediterranean diet which you wouldn't except these folks have been eating a standard kind of bad westernized diet and so I would've expected it to be somewhat better improvement on the Mediterranean diet.

And again, a very small sample sized, not super long one, not balanced for isocaloric intake but even that isocaloric story I think is intriguing again because not everybody lives in a metabolic world. So what are the notional approaches that actually get people to spontaneously eat less food like that clearly is some of the issue in this. If you can provide a dietary regimen that people feel good and they're not hungry all the time and they're not going in and raiding the freezer right before they go to bed and eating god knows what, we're probably moving in a good direction there.

But this is where sometimes the academic story in science you want to control as many variables as you can which is great but then when we actually get out in free living humans, there might actually be – and this actually caters more towards the dietetics view of this and maybe a little bit less towards Gary's view of the story which is they'll admonish us to eat fewer calories and then it's like well, okay what's a dietary approach where that's actually doable in a free living population. Really that doesn't get much air play.

Nina: Yeah, well people debate that. It's a really interesting issue but I think one of the reasons that diets tend not to work in free living populations is that – I mean one of the reasons that it looks like oh – Atkins diet, the so called Atkins diet looks almost always out performs every other diet hands down. And then it seems like later on people back slide pretty badly after at some point a year or down the line or what and then they don't look so great anymore.

And so the question is okay this diet is great but it's not sustainable. That's sort of what the criticism has been by the academic community and I don't know if that's true but I think that it's certainly a factor that every single medical professional out there thinks that the diet is bad for your health so none of cognitive dissonance that anybody on the diet is suffering from is huge. I mean if you had a universe of nutrition experts telling you yes, this is a good diet for your health and it's not going to give you a heart attack down the line…

Robb: You might be more inclined to stick to it.

Nina: You might be more inclined to stick to it. It might be more sustainable. Or if the food supplies supported it better, you go into a deli now is impossible to find one thing that is not – your corner bodega I mean everything is carbohydrates. So it's really hard to stick to a diet when the universe of experts are telling you it's going to give you a heart attack and the food supply is not supported. So I feel like I don't know if that criticism is valid but it's weak right now. I think there are reasons why people stay on and off diets and it's not at this point a legitimate way to criticize high fat diet.

Robb: Right.

Nina: Anyway so Robb I hate to do this but I have to get off the phone.

Robb: No worries. I actually have a meeting coming up here too. I was late going on here because my fantastic internet connection here in Reno but Nina it was great talking to you. I'm super stoked. Folks need to check out your book The Big Fat Surprise. Your website is thebigfatsurprise.com any place else that folks can track you down? I know you have a number of YouTube videos out there also?

Nina: No, that's been pretty much everything is on my website which is just thebigfatsurprise.com so yeah that's a great place to go. And thank you so much for having me. It's a pleasure to talk to you. I feel like we could talk for hours but we'll have to go on with our days. But it's just really great to be on your show. Thank you.

Robb: Great having you and I look forward to seeing you. Take care.

Nina: You too. Bye Robb.

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