

# Paleo Solution - 384

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Robb: Hey, folks, six listeners can't be wrong, another edition of Paleo Solution Podcast. Here at the outset of this next episode, I want to ask you, guys, a question. If you've been listening to the podcast for a while, think a little bit, what do you think the most popular show is that we've done? Maybe three or four shows that are pretty popular. Maybe a topic. Would it be a biohacking deal or ketosis or a performance topic? Noodle on that for a second.

Interestingly, one of the most popular shows that we've ever had came from a dietitian named Lily Nichols. She is the author of two books now, the first one, and this was the show that she was on the first time, Real Food for Gestational Diabetes. We're talking about that book and a host of other topics as well as her soon to be released second book, Real Food for Pregnancy.

Lily is just a fascinating and amazing young woman. She's now a mom, has a two-year old son and so she is writing on this topic both from her clinical experiences as well as the experience that we get clinically from being parents ourselves. I suspect that the popularity of this particular episode is because the gestational diabetes topic and pregnancy and having kids in general, it's an amazing time but it's also a really stressful time.

People oftentimes want to get this "right" and do the right things. There's a real disconnect between what the mainstream medical providers are suggesting are okay cut point with regards to blood sugar levels, what they recommend nutritionally and whatnot versus what I think reality is beating us over the head about.

Lily and I covered a lot of topics. We talked about the specifics of dietary approaches to improve nutrient status within pregnancies. Also we talked a good amount about the epigenetics of how we feed ourselves and what that means for our children and our grandchildren and our great grandchildren. We have knock-on effects of our own nutrition.

This stuff gets heavy. People can get really polarized, really cranky about this topic. It's a pretty big deal but Lily is just a wonderful person, super articulate on this topic. I think you'll really enjoy it whether you are contemplating pregnancy, children or not. You typically will know someone. Again, it's kind of one of these stories where someone who has used this ancestral health template and use that to retro engineer what good dietary practices might mean for someone who is

suffering metabolic derangement, it's looks very different than the standard of care. I hope you enjoy this one. I certainly did.

Lily, what's going on?

Lily: Oh my gosh, so much. So much is going on. I'm about to launch this new book and since the last time we talked -- Well, I guess, I saw you at Paleo f(x) and had a three-month old with me but since the last time I was on the show had a baby, kind of a big deal.

Robb: Kind of a big deal. Yeah, that's a little bit of a life-changing deal. I used to think that I was busy until we had two kids and then I realized that I pissed away an enormous amount of time before I had kids.

Lily: Right.

Robb: Remind me, a boy, girl, how old is this individual these days?

Lily: It's a little boy. He is almost two, will probably be two by the time this interview goes live. Yeah, lots of fun, real active, real bright, talkative little kiddo. We're beyond the one-way communication street where I would narrate the day. Now, he narrates the day to me which is pretty funny. Yeah, really entertaining, keeps me on my feet.

Robb: Awesome. It's funny, I've heard a lot of people say that girls are easier when they're young and boys are easier once they hit their teens and whatnot. It'll be interesting to see how that plays out. But I've got to say that when Zoe and Sagan have gone to birthday parties or play dates or different things like that and we have a bunch of their male classmates, these little boys, the little boys are just dirty little heathens. They just poo and pee and boogers and just like -- I mean, they're little animals compared to the girls which they're kind of collected. I mean, they can get a little bit spastic and everything but it is kind of jaw dropping the difference between them. It's completely different species between the two of them. It is so different.

Lily: I think you're right. Yeah. I have a sister and that's my only sibling.

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My parents would be like Facetime with my kiddo. He just is like running laps as we're talking. And my dad's like, "Does he ever sit down?" No, not. I mean, maybe for five minutes at a time when he's building a block tower or something but pretty much run laps all day. Crazy.

Robb: Right. That's awesome. Lily, in the intro, I believe I mentioned this a little bit, but folks may be a little bit surprised that you are one of the most popularly downloaded podcast guests that I've ever had. This topic of gestational diabetes and what to eat when and around pregnancy and breastfeeding and whatnot, you've really knocked all that out of the park.

Remind folks a little bit again. We'll have links in the show notes to the first time we had you on the show. How did you get interested in this topic? Kids and pregnancy and everything, it's a popular topic but also, man, if you want to get slings and arrows and people wanting to like fire bomb your house, you'd be hard pressed to find a topic that can get people pissed off faster than making any suggestion around how to feed and water an expecting mom or what kids should eat. People will ask and then you tell them and then they want to burn your house down afterwards. Why did you get into this? What was the motivation?

Lily: It's funny you say that because I have yet to tackle the feeding babies and kids thing because that seems even more contentious than feeding pregnant women ironically. My initial interest in prenatal nutrition goes way, way back. When I was first starting my career I decided I wanted to go into nutrition when I was in high school and everyone tells you, "Oh, you're going to change your mind. You'll change your mind." I never did. I didn't change my major. I stuck with it.

It was at that time that childhood obesity and diabetes epidemic was just starting and before I went to school and had my experience in the prenatal nutrition world professionally I thought I want to focus on helping kids be healthier. It wasn't until I was working with the California Diabetes and Pregnancy Program in public policy of the State of California on pretty much gestational diabetes policy that I started connecting the dots on just how important prenatal nutrition was to different epidemic of childhood health issues that we had going on.

For gestational diabetes, for example, a stat that I throw out a lot is kids born to mothers with not optimal blood sugar control in pregnancy face a six-fold higher risk of being diagnosed with type II diabetes or becoming obese by the time they turn 13 which is insane. There's actually some newer review I just came across that the stat was up to 19 times higher in some cases.

How a mom takes care of herself during pregnancy, the quality of nutrition she gets affects the epigenetics of her children. I saw that very much in the blood sugar realm. A lot of my work focus on gestational diabetes and my first book was all about gestational diabetes but we're seeing some of these carryover effects that we traditionally associate with gestational diabetes with just regular pregnancy because if you look at the recent Journal of the American Medical

Association stats, about 50% of adults have diabetes or pre-diabetes mostly undiagnosed.

The whole blood sugar issue, and I'm picking on one thing, I mean, there's many things, actually affects a lot more people than we think, probably half of pregnant women. It would be silly for us to only focus on, "Oh, these women who have diagnosable blood sugar issue because they've surpassed a certain threshold," and then ignore this huge gray area of women who have borderline blood sugar issues and don't know about it and it's not high enough to be diagnosed on a test by surpassing a certain numerical threshold.

That's how the blood sugar stuff led to the general prenatal nutrition. I also, from the beginning, have had a super interest in the ancestral side of things, was introduced to the whole Weston Price's work before I went through my nutrition training and so I always found it fascinating how, he talks about a lot in his book, how traditional cultures had an emphasis on specific nutrient dense food in the time leading up to pregnancy.

In some of these indigenous cultures, it was like before couples were allowed to be married they had to be on a special diet, the idea being once you're married you're going to have a kiddo and you want to optimize their health.

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Before modern medicine, if you don't have that technology available to you, it really is a matter of survival of the fittest. If you want your kids to survive you want to nourish them optimally and that starts with healthy mother and father. That part of it always played into my interest in the background and so now I find myself connecting the dots between the current crisis we're seeing with loads of pregnancy complications and kiddos facing all sorts of adverse health risks from a very young age and how that comes into play with what advice we're giving pregnant women as to what to eat.

There's a lot of overlap. I'm kind of the -- I find that I'm the person who's always trying to get the evidence to back up some of these things because all of it sounds outlandish claims until you actually look at the data. The data doesn't lie. There's a lot of it and a lot of it points to we can do a better job at giving better, more up to date, more accurate nutrition advice to women and help with all these things, healthier moms, healthier babies and everything in between.

Robb: Yeah. One of the, I guess, drums I'd been beating for -- Man, it's coming up on like eight years, I think, since I gave my first evolutionary medicine talk at the State University of New York in New Paltz. I walked along and talked about Moore's law and microprocessors getting cheaper and better and cell phones

getting cheaper and better and all this stuff and then you look at medicine and we know more on a pathology perspective about type II diabetes and all these related issues and what's ever known in history.

I think if you go to PubMed and you put in the search bar type II diabetes human 2013, there's like 30,000 peer reviewed articles that were published on PubMed alone in 2013. So, massive amounts of information. But yet the problem is getting worse which then I make the point, okay, if anything else, if we've got kind of an engineering problem, if we learn better how to build bridges, the bridges get cheaper and better and stronger and all that type of stuff, medicine is getting more and more expensive and there's lots of contentious stuff around there but it's mainly driven by these degenerative modern diseases and our pills and potions approach just is not working and I don't know that it's ever going to work because these complex degenerative diseases, they're just so multifactorial.

Some of the best things we have like Metformin, I had always suspected that Metformin probably wasn't going to be a net win and now we have some long term studies of folks on Metformin and dysregulated blood glucose levels. And although their blood glucose levels improve their all-cause mortality isn't better and oftentimes is worse than the non-management.

I don't want to jab around it too much more but just some of what you said really sparked some thoughts for me. I'm working on this metabolic flexibility talk. One of the points that I make in there is that how we define normal is really, really important. The fasting blood sugar is in the oral glucose tolerance test of folks from non westernized populations, pretty westernized populations. I forget what the exact cutoff is. Is it 160 nanograms per deciliter for over type II diabetes and then 140 at that two-hour oral glucose tolerance test?

Lily: You mean like the 75 gram glucose tolerance test?

Robb: Yeah.

Lily: Since I work so much with pregnancy, all of the numbers I have in my head are pregnancy. So, for pregnancy, I can give you those values. The 75 gram glucose tolerance test, which is used almost exclusively internationally, it's recommended by the World Health Organization and is not adopted in the US. We have an old backwards way of doing the glucola which is a separate conversation.

The 75 gram, the cutoffs are for pregnancy less than 92 fasting, less than 180 at one hour and less than 153 at two hours. I'm trying to remember the exact ones for the type II diabetes but they're a little bit elevated, higher than those levels

because outside of pregnancy blood sugar levels trend higher. I can't remember the exact cutoffs but I think it's pretty high, like 126 fasting.

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Robb: Here's my point to that. In these pre-westernized populations, which tend to be little people like the males are 5'4" and the females are 5', maybe even less than that on average, they're little people which means that you've got a small delusion factor relative to westerners which are just bigger people.

But in general, these folks did not see their blood glucose go much above 100 at the one-hour mark. So, just throwing that out there. Even are kind of aggressive standards may be so paltry as with regards to preventing somebody's epigenetic changes. What's fascinating to me is maybe looking back at how many generations folks have had in their familial lines of antibiotics, refined foods and whatnot.

Some of us, maybe we've only had two or three generations since antibiotic era. There are people who've had five or six generations since antibiotic era. It really depends. This is one of these, it appears to be kind of a snowball rolling downhill where each successive generation is more predisposed and then maybe prone to making even worse habits and being in a worse situation which then loads the deck adversely for the next generation.

We really do need to get a handle on this. No matter how good you and I are at this, we're probably going to have job security throughout our whole careers trying to fix this.

Lily: Yeah. You give us the example of blood sugar, microbiome. You can pick out example, numerous examples from the literature, mostly of them are done rodent studies, of nutrient deficiencies during gestation that have carryover effects to subsequent generations like your grandchildren, your great grandchildren and beyond. That is quite frightening especially given the current state of affairs on most people's health.

I think we really have to bring context back to the discussion especially when it comes to -- When we're looking at what's optimal or what all these recommendations are for pregnancy, how do we know what's up? What's the context in which we're saying a certain level of nutrient is required? I mean, most of our nutrient recommendations for pregnancy are originally based on data from adult men that are then adjusted by some mathematical estimate that is inaccurate.

Two examples of this are vitamin B12. The latest data says that the requirements during pregnancy are triple the current RDA. Another example is choline, a B vitamin like compound that's really important for preventing neural tube defects, also is very important for brain development, and the original recommendations for choline were actually set in 1998. That shows how sort of behind we are in the research. That was only 20 years ago that they even set a recommended minimum intake.

That was set based on estimates for men to prevent fatty liver disease and then they upped that estimate a little bit for pregnancy but now we're seeing supplementation trials in humans, by the way, looking at women supplemented with double the recommended intake and looking at infant outcomes. There's one that recently came out that showed cognitive developments, specifically, they were looking at reaction time in infants, was significantly better in all of the infants from the group whose moms had the double quantity of choline.

So, all these recommendations on foods and nutrients, they have a carryover effect. If we don't know the optimal amount it's silly to then set the bar at some arbitrary level and be like, "Okay, well, 450 milligrams is fine." Meanwhile, we have conventional recommendations that aren't super happy about recommending more eggs or sometimes even still tell women to eat only egg whites and thus eliminate one of the best sources of choline from their diet and then what happens to their infants.

Robb: Oftentimes I think only source, yeah. Right.

Lily: Exactly, yeah. Most people, it's the only significant source for the people who aren't consuming liver which is the vast majority of people. I'm just pointing out some little tiny examples but there are dozens and dozens and dozens more.

Robb: Lily, did you see the research article that came out recently that got a ton of press, Low-Carb Diets Boost Risk of Serious Birth Defects? Did you see that thing?

**[0:20:00]**

Lily: I did, yes. Did you see Zoe Harcombe's response to that?

Robb: I did, yeah. God bless her. Yeah.

Lily: Yeah. Right.

Robb: That thing is tough for me on a lot of levels. It seems like a lot of the nutrients that we're wanting -- Marty Kendall over at Optimizing Nutrition has this

phenomenal nutrient optimizer platform that he's put together. It seems like if you really lean towards a protein-centric mixed diet approach you're really stacked in the deck in one's favor for a highly nutrient dense diet. That's one layer of this thing.

The other layer is that it's also pretty clear that the needs for various nutrients are different on a low carb versus a high carb diet. What do you make of all that stuff? What's going on here? Part of this, for me, is just that I think that low carb, keto, Paleo, all that stuff, is really making a dramatic in roads into folks lives and kind of the old guard is starting to freak out and they're trying to go after this by hook or by crook. What do you think about that whole topic?

Lily: Yeah. Specifically on the low carb side of things, again, I think we have to bring context to the discussion. There's been a bunch of different studies that have looked at carbohydrate intake specifically in pregnancy and different outcomes and just to point out some issues with that one study that you brought up, there is a nutrient dense way to do low carb and then there's a not very nutrient dense way to do low carb. Still probably better than the sad American diet but still some people take low carb to the level that they're not consuming a big variety of foods or they're eliminating vegetables, for example, and you start getting super nitpicky on things.

And it's like, "Oh my gosh, kale has carbs. Almonds have carbs." People get a little bit -- They could take it to a level. Certainly, that's something to take into consideration where your folate is coming from and really on a well-planned low carb diet you'd probably still be eating leafy greens. If organ meats were ever a part of the menu, which hopefully they are because they're some of the most nutrient dense foods, well there you go. There's an excellent source of folate along with many other micronutrients.

I think a lot of it is context. They were getting kind of freaked out because people who go low carb then aren't consuming refined fortified grains. Actually, I got tagged in some angry twitter conversation by some dietitian somewhere who is upset that my recommendations were pushing people away from fortified grain foods because how are they going to meet their nutrient needs otherwise?

I'm like, "Sorry, but giving people refined grains fortified with three synthetic B vitamins and some poorly absorbed iron is like a sad argument against more nutrient dense foods where we get those nutrients naturally." I think just in the framework of conventional policy eliminating fortified grain foods freaks people out. Because if you're not also including some of these foods that they traditionally consider off limits like foods that are naturally high in cholesterol and saturated fat or, God forbid, liver which might be too high in vitamin A, they say, then yeah you might end up with a diet that doesn't have enough of these B

vitamins because you've arbitrarily told people to avoid those foods for other reasons that aren't evidence based.

I think that's part of it. There's an interesting study that I came across looking at folate status in people and stratifying it by weight and the more overweight or obese the person was the lower their folate status was regardless of the folate intake from their diet or supplement which suggests that nutrient partitioning gets kind of messed up when metabolism is dysregulated.

Vitamin D is a great example of this as well. Perhaps the needs are higher. Perhaps that gets used up quicker. Perhaps that gets sequestered in fatty tissue or other places. We don't really know all the reasons but I think that's something that also factors into this because the women who generally are going to choose to go low carb and stay low carb are often doing it for a reason.

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Right now, with keto getting really popular and low carb diets having sort of a resurgence, it's a pretty reliable -- It's at least a good first effort place to go for losing weight. So, what if the women who are choosing to go low carb were the ones who already had extra weight on board and maybe by default had lower folate status for any of those possible reasons? I think that's something that needs to be looked bigger.

And then Zoe's rebuttal was just perfect because she pointed out so many issues just with the study design as a whole, that it really deserves to be retracted. But, unfortunately, it's made so much just a huge wave in the world. I know I'm going to be having to write a rebuttal on that one too because, obviously, I'm a proponent of a lower carb intake before and during pregnancy.

Robb: It's interesting. Chris Masterjohn has really done a nice unpacking of the reality that one of the things -- The individual that's actually able to become obese without becoming insulin resistant is the more successful individual in a lot of ways. It's kind of counterintuitive but oftentimes what that person is doing either due to genetic factors or dietary factors, they're getting enough of these nutrients like folate and different cofactors that allow them to expand their fat mass, allows them to continue to overeat.

Again, it kind of makes people crazy. They're like, wait, they're gaining weight. If you can gain weight while remaining insulin sensitive you're not quite sick yet. Whereas interestingly, people like me, I never really -- I would be that person that would never be able to get to like 300 or 350 pounds because I would die far before that. My insulin resistance goes up so fast and has such dramatic negative

effects with regards to dislipidemia, hypertension and all the rest of that stuff. I would just die.

To your point, these folks that are maybe carrying excess body fat, they've been potentially repartitioning a lot of these nutrients in what is, at least on one level, an adaptive process towards dealing with the food environment that is too rich. We're taking in too many calories by hook or by crook and, yes, insulin matters but so do calories. Again, to your point, context. That seems to be like the most important thing we're bringing up again and again.

It's really interesting and, man, it's a challenge to unpack this stuff and trying to provide a sound bite that folks can take away is really difficult but then we end up getting sound bites on the flipside of this with research that just kind of reasonably arbitrarily throws a low carb approach under the bus. And it is fascinating when you read the news reports on it where it's like folks should be eating orange juice, fortified grains and you're kind of like, "Dude, this is like prison food you're recommending here."

Lily: Yeah. Well, one of the things I looked at when I was working on my book that actually got me really fired up to write this new book was I had a colleague reach out to me asking me questions about the Academy of Nutrition and Dietetics which is like the new name for the American Dietetic Association. It was their policy paper on prenatal nutrition.

Of course, I haven't looked at those documents in a really long time but I was like, okay, well, let me see what she's talking about because she's like, "This is just so much different than what you recommend." I get a lot of people who are like, "But your recommendations are so different. What do I do?" She sent me this document. I looked over the sample meal plan. It was just atrocious.

Breakfast was oatmeal, low fat milk and strawberries. The afternoon snack was carrot slices and whole wheat crackers. The dessert was frozen vanilla yogurt, low fat. It was just the saddest thing.

Robb: There's no real food. Wait, there's literally no--

Lily: No, there's no real food. They did an okay job with dinner because they put in salmon and that was just about the only thing that raised any of the nutrient values on what they're talking about but they're relying on fortified grain foods to fill in a lot of the gaps on the B vitamins and then, of course, just trying to meet the bare minimum RDAs. I talked about the choline and the B12. Those were met. Definitely not super high. Iron was a little low.

I did a nutrient comparison on just -- I just took one day of a sample meal plan from the book, just a random one, and ran side by side nutrient analysis and pretty much all of the micronutrients, minus one that was equivalent, they were all higher on the real food plan.

**[0:30:12]**

Robb: Shocker.

Lily: The only thing that was lower on my plan, of course, is the omega sixes because I'm not putting in vegetable oils on the plan. It's crazy. We're still in this realm of recommending lean protein, low fat dairy, fortified refined grains. We have to call it what it is. They're refined grains that have some vitamins added to it. And not enough quality animal foods, frankly, because there's still this persistent fear of saturated fat and cholesterol and then the whole food safety thing threw a whole bunch of other nutrient dense foods under the bus as well.

What are we left to work with here? I mean, that's it, what I mentioned. That's just fortified grain foods, low fat dairy, fruit and vegetables but not much else. It is not satisfying. It's not nutrient dense. I think it's something that we really need to take seriously. Because if recommending these foods is affecting the development of these babies and their epigenetics and their risk for disease later in life, what's happening?

Is it any surprise that we've seen this huge surge in childhood obesity a decade or so following the application of the US low fat high carb dietary guidelines? I don't think it's a coincidence and from everything that I've researched I think there is pretty solid case for doing something drastically different. That really means in a lot of ways flipping the macronutrient ratios on their heads and allowing and promoting these more nutrient dense foods so people can meet their needs naturally from food alone and not from fortified stuff.

Robb: It just makes my head spin. I'm sitting here trying to think how we tackle this or unpack it. It's maybe crazy but on a lot of levels -- I'm grateful for the lawyer that we have. He is a very nice person. We haven't had to use him all that much, cease and desist here and there with people stealing intellectual property and stuff like that. I generally try to steer clear of anything legal related but a class action lawsuit in which people held the Academy of Nutrition and Dietetics to put their feet through the fire and say, "Okay, you were guaranteeing me that if I eat this way that there will not be knock on multigenerational epigenetic changes which are inconsistent with health. And if that's not the case, then you guys are going to be legally and financially responsible for undoing this process."

Something like that might actually perk these folks up because, I mean, it's interesting the folks over at crossfit.com, the Russells, Russell Berger and Russ Greene, they did some really fascinating investigative journalism around this stuff and the collusion between NSCA, ACSM, Academy of Nutrition and Dietetics and basically big sugar. Who's that guy Dr. Katz? He was just kind of ousted off of a faculty review board because he had taken more than \$600,000 in donations from effectively like big sugar.

I mean, there was a Shell company that has given him some money. It's almost a million dollars. This guy has been just an unapologetic shill for the refined grain, sugar isn't really that bad, and they take all the stuff out of context where they feed people table sugar and they're like, "See, sugar is not a problem." And it's like, "Come on. Create hyperpalatable food out of that and tell me it's not a problem." It's so interesting. Other than the trench warfare that we're engaged in right now, what do you see is a way that we should tackle this stuff?

Lily: Gosh. It's hard because I have worked on the public policy side of things on a very, very small level with a small not for profit sect of the State of California focused specifically on diabetes and pregnancy and even among them, and I really respect a lot of the people that I worked with, in general really doing good work, there were still -- I'm pretty outspoken and back my keys with research and I still wasn't able to shift many of the things that I wanted to see shifted.

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It took about six months of arguing and providing the evidence to show that it was safe for them to even add Stevia-derived sweeteners to the list of things that would be safe because all the other sweeteners they recommend were all artificial sweeteners which like we have a lot of solid data showing maybe that's not the best idea during pregnancy for your microbiome, for your blood sugar regulation, for so many other aspects even childhood adiposity levels. Those are shown to be higher in women who consume lots of artificial sweeteners in pregnancy even more than the ones who are drinking sugar sweetened beverages in place, the artificially sweetened beverages, by the way.

Even in that tiny example where there's a lot less bureaucracy involved, there is still heavy amount of pressure for us to just comply with following the MyPlate recommendations. When I was working at the organization, they were leaving behind a food pyramid which was just awful, and embracing the plate but there was even argument with that because the State wanted us to follow more closely the government's plate and we were suggesting a plate that was lower carb than that one.

Even still the recommendations are higher carb than I recommend but like the tiny changes were like -- It was so minor but because it was different it takes so much extra effort to debunk something or go against whatever standard than it does to just go with the flow and put up with it. I'm not sure we're ever going to see our policies really reflect the data.

There is, however, I mean, there is hope. The Czech Republic, for example, actually changed their official gestational diabetes recommendations based on the information I presented in my book. They took out the base to have a minimum recommendation, minimum carbohydrate of 200 grams per day and they dropped that entirely and replace that with 200 grams was the maximum carbohydrate recommendation.

They just went like they did a full 180. They're reporting better outcomes, less meal time insulin, less big babies, less yadda, yadda, yadda. Maybe because it's a smaller country and there's less bureaucracy involved or less organizations or companies that can benefit from the sale of things like refined grains and sugars, I don't know but they were able to make that change. I'm hopeful that eventually the evidence will just become so overwhelmingly pushed in a better direction that will see some change.

My solution right now is just to go at it from a grassroots effort. I don't know that we're going to have these recommendations change. Certainly, I wouldn't expect them to change in the next decade. How many women and children's lives can we affect if we got better information out there sooner?

Robb: Absolutely.

Lily: I mean, I am hopeful. That's like one of the reasons that I took so long writing this second book was that I feel like I cited every single sentence. There's a 934 citations in the book because I'm citing everything. Again, when you're going against the norm you have to work triple as hard as somebody who's just spouting out the same guidelines and cites the government website with the dietary guidelines and treats it like it's etched in stone. You have to work a lot harder to show that something different is potentially better.

Robb: The Czech Republic piece is really fascinating to me because -- As an example, this is a little bit far field but I'll just kind of use it as an example. Nikki and I were in Nicaragua ten years ago, traveling around and we had a guide pick us up to take us back to the airport. We were getting ready to go home. We were chatting with him.

He had lived in the US for six or seven years and then moved back to Nicaragua because he just liked the excitement there. The US is too boring. It's too safe, or

what have you. I was commenting on how amazing the meat was down there. It was all grass fed. It was super good quality.

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He was looking at us in the rearview mirror. Really all I could see was his eye gestures, he looked up and comment. He said, "Yeah, that's right. You guys feed cows corn and grain there, right?" I'm, "Yeah. It's kind of the primary food that they eat in that final chunk of a life cycle." And he's driving along and then he looks up and he's like, "Yeah, that would bankrupt our economy to do that."

This Nicaraguan cab driver completely gets the totality of the sustainability story while he's zipping in and out of traffic and everything. He fully grokked it right there. It's interesting that most of the rest of the world doesn't have either the benefit or the curse of the kind of oblique food and monetary system that the United States has where we may end up just burying ourselves because we have so centralized power.

I long suggested that if we had five American medical associations and five or ten academy of dietetics and these guys compete against each other instead of it being one centralized entity, it's like, okay, you guys go with this and do your evidence based medicine and you go there and you go there and at least then you have the potential that somebody along that line is like, "Yeah, I'm not going to take the money from big sugar. I'm going to let this stuff--"

For that matter, I'm not taking money from big meat or big dairy or whatever. We've got some billionaire philanthropist that's going to support us and we're going to let the data support itself. But people are so enamored with centralizing power and kind of kowtowing to authority. I guess, that's okay if the government gets it right but our government, which ends up influencing so much of the rest of the world, gets it so incredibly wrong.

This is just another one of those, I guess, cautionary tales on the one hand but also a ray of hope which when people don't have the luxury of getting the story wrong they're going to fix it much faster than we will. But it may be a disastrous process for us.

Lily: Yeah. It's a speak to the beef thing. You don't realize how weird the food system are until you're kind of removed from it. I lived in Alaska for a while and we got our beef from this grass based operation where the cows were literally on an island. At some point in the mid or early 1900s, somebody brought cows to this deserted island sort of near the beginning of the illusion chain and there's no predators on the island and there's no way for a barge to get to the island. It's not set up. That's it. The only thing that's on that island is this beef operation.

It would have cost them so much money to try to ship in grain and soy feed up there for their cows or they can just let them roam and eat whatever grows there in the wild. They even processed on the island and then shipped it out. Best beef I've ever had, even better -- I get great grass-fed beef where I'm at now, really long time pasture raised grass-fed operation and it's still isn't as good as that Alaskan beef.

I feel like there was no chance for them to accidentally or purposefully maybe be given things that they weren't meant to be given because there was no need. They were just able to live out their life. But, yeah, it doesn't make sense. A lot of our food system doesn't make sense. It doesn't make sense to process foods to the level that we do and then try to fortify that thing back in to then try to make them whole again. It just doesn't work.

I feel like this has been repeated again and again and again. I don't know how much it's going to take for people to realize that a cereal fortified with B vitamins and some other items is not the same as getting those B vitamins in their natural synergetic form from organ meats, for example, which by the way is going to be a lot less expensive than buying fortified cereal.

Maybe takes a little time to get used to, to incorporate it into your diet if you happen to not be in a household that eat organ meats growing up like most of us from America but you take people who have grown up with that way of eating and they eat that stuff all the time. I mean, I worked with a pretty large population of people who had recently immigrated from Mexico and South American and there's like menudo on the menu. There are organ meats all the time.

**[0:45:08]**

Often times they were being actively discouraged from consuming those traditional foods because of, again, these outdated government guidelines when really that's probably, A, it's affordable, B, they like it, and C, it's super nutrient dense. And then what do you put in place of those traditional nutrient dense foods? Foods that are usually nutrient devoid especially if you're going for the refined fortified carbohydrates.

It was interesting. I came across a study on micronutrient intake in pregnancy and the groups that had the highest intake of carbohydrates especially refined carbohydrates had the lowest micronutrient intake. It makes perfect sense because it's usually not just the factor of you're eating more of these foods but those foods are displacing other foods.

Again, I think we have to take it from this radical grassroots effort where you have to inform yourself on what these nutrient dense foods are and incorporate them yourself instead of trust that some guideline is going to be the end all be all for recommendations or trust that some food company has concocted the perfect mix for you. They usually get it wrong. Make sure you usually get it right.

Robb: Lily, I don't even know if we have mentioned the title of your new book. I don't think so.

Lily: Have we not? It's called Real Food for Pregnancy. It's kind of a carryover from the first book, Read Food for Gestational Diabetes. Shortly after the first book was published I kept getting asked by people, "This information is so good. I want to give it to all of my pregnant clients. But it's all about blood sugar. Shouldn't every pregnant eat this way?" Well, yeah, of course. Every pregnant woman should eat a nutrient dense diet that is not excessively high in poor quality carbohydrates. Simple.

Yeah, this book has the title Gestational Diabetes in it so it's not really applicable to everyone. I still had a lot of people, midwives and OB-Gyns just give it out anyways with a caveat like, "Hey, you haven't been diagnosed with this but eat this way." I was tasked with do you have a recommendation on a general prenatal nutrition book and I scoured the market and I couldn't find one that was of the caliber that I could endorse.

They were either spouting the same conventional recommendations, don't eat all of these foods, all this emphasis on foods to not eat that seems silly in pregnancy. But with the food safety stuff and the mercury and fish. People don't want to rock the boat. They don't want to look really hard at the data on that to debunk it. So, most of the time these books would just go with the flow and recommend the same old avoid these foods, same old low fat guidelines, lean meat, low fat dairy, yadda, yadda.

Or you'd find ones that had better advice and then nothing was backed with science or maybe there was some kind of outlandish claims in there too that I couldn't really wrap my brain around like some strange supplement recommendations or things that just didn't set right with me so I was like, all right, I guess I got to tackle this.

I was pretty much playing a waiting game to regain my brain power after having my son and have the time and the child care available to tackle this project because it was just a big monster of a project to work on mainly because I was citing everything. If I didn't cite anything and I was just making this stuff up, it would have been a simple project. But no, I had to dig into all the data. That took

a long time to write but I'm really happy with the end product and I'm happy with the advanced reviews I've received so far. Most of them are pretty positive.

There are some people who are still a little uncomfortable with some of the recommendations, again, because they're so different than what's currently out there but I think we're seeing a paradigm shift in prenatal nutrition before and I'm really happy to have a lot of clinicians on board who are behind us.

Robb: It's awesome. I'm so grateful that you're doing this work. I've kind of floundered around in this space. I think when we had you on the show the first time -- I had done maybe a three-part series or something like that on gestational diabetes and kind of laid out some recommendations which were in line with your, but not nearly as sophisticated, not nearly as informed from clinical experience and whatnot but, man, the gnashing of teeth and push back I had from that.

**[0:50:16]**

I had equal parts too. A lot of people are like, "Holy smokes. This really fixed all the problems I had. I had a great pregnancy. Everything went well." Man, it was a contentious topic. I was pretty happy to offload that liability to you. I feel like here's this person who is way smarter than I am. Go check out her stuff.

It is funny. I assume that although the second book is massively referenced and leans heavily on more updated research, it still is going to be quite synergistic with the first book but people want that unique snowflake experience and so it's like, hey, I'm pregnant not gestationally diabetic so I need something that speaks to me. So you pretty much have to do it.

Lily: Exactly. And the first book on gestational diabetes, I was really -- I kept that book very simple by design and the language, the way it's structured, the way I present information, that was all very much an intentional choice because the diagnosis usually is people are blindsided by it. Sometimes this is their first brush up with an idea that, "Oh my gosh, my health isn't exactly perfect," and "Oh my gosh there's something that I could do and I don't know how to do this. Is my pregnancy going to be terrible? Is my baby going to be huge or still born?"

All these fears come up and so that first book was very much written from the perspective of like you have just been diagnosed, it's going to be okay, here's what go do and here's why it's different than what you're told and why it's going to work better than what you've been told from your conventional dietitian.

Because of that and because most women are diagnosed with gestational diabetes in the third trimester, I intentionally glossed over a whole bunch of topics that are more relevant for early pregnancy and I kind of glossed over --

Again, it was intentional but there's so many more topics I could have gone into that I didn't.

So, this new book fills a lot of those voids. The whole point of the first book was to get people on board with the fact that a lower carb diet would be better at managing blood sugar and also that it would be safe even in spite of all these unfounded warnings on ketones. That was really the focus. This other book I feel like, oh my gosh, I think I might be a lot more under fire because I take on so many other topics.

I take on the food safety issue. I take on lab testing, thyroid stuff. I take on the diagnostic standards for gestational diabetes and all the different alternative tests which I didn't cover in the first book because you're picking up this book because you're diagnosed. This other book, you're probably reading an early pregnancy and you haven't yet gone through that testing.

There's a lot of other areas of controversy that I tackle in the new one hence why it's like double the size of the first book with six times the number of references because I just had to by necessity. And then also coming at it from the standpoint of I've now gone through pregnancy and had a kid of my own. There's like a whole section on postpartum stuff as well.

I know a huge amount I'm going to get pushed back on is how nutrient intake postpartum in breastfeeding women affects nutrient levels and breast milk. I'm going to be under fire for that one. I really tried to frame it carefully. However, there's so many barriers to breastfeeding that some people will assuredly take it the wrong way and be upset that I'm suggesting women eat nutrient dense foods to make more nutrient dense breast milk.

The data doesn't lie. Again, that's why I just cite myself so much because I'm going to get pushed back. I was actually pleasantly surprised how little push back I got on the first book. I thought I was going to be pretty crazy but more so I just get people reaching out a little bit confused and asking for references which I happily send over.

And now we have a couple more updated studies to add on the whole low carb and ketosis thing that sort of add to exactly what I defend in that first book. We'll see. I'm a little bit nervous but also I think I backed my case enough that the overall net result will be positive. We'll see.

**[0:55:14]**

Robb: I'm so stoked that you've done this. Really grateful for the work that you do because I felt like an absolute crazy person saying what I was saying and, again,

like you have such a broader experience and depth of experience in this topic than I do. It's just awesome to be able to lean on you for all this material. Lily, remind folks where they can find you on the interwebs, the name of the book, when the book is being released, where to track that down. We'll make sure to get all that in the show notes.

Lily: Awesome. So, you can find the book at [realfoodforpregnancy.com](http://realfoodforpregnancy.com). They'll be sold through Amazon so I'll have a print version and a Kindle version. Eventually, if I get enough people knocking down my door I might record an audio version. We'll see. I'm also giving away the first chapter for free. That includes a section that I referenced earlier that does the nutrient comparison on the conventional diet versus real food which a lot of people are finding interesting. Definitely if you're curious but not curious enough to buy, at least go and get the free chapter and read that. And then you can find me on my main website over at [pilatesnutritionist.com](http://pilatesnutritionist.com), my blog and there are all sorts of--

Robb: Any preferred social media outlets you hang out on?

Lily: I'm only three. I'm on Twitter, Facebook and I just started an Instagram account but, man, I feel like a total newbie at Instagram. I just realized last night that I had 25 messages. I was like, oh, I didn't even realize there are message function on Instagram.

Robb: It took me about a year to figure that one too. It was like, holy smokes.

Lily: It's like sorry to leave you waiting. I'm pretty sure this question no longer applies. You've probably had your baby already. I apologize.

Robb: What are your handles?

Lily: You can find me on all those. On Instagram and Twitter, I'm @LilyNicholsRDN and on Facebook it's Pilates Nutritionist.

Robb: Lily, thank you so much for doing all this hard work, super excited to see the success that is going to come out of doing this book. I have no doubt that there will be a little bit of slings and arrows and pressure cooker but you're tough. You're up to the challenge. It's going to help a lot of people, so really grateful for the work you're doing.

Lily: Thank you. I'm hopeful it will be as positive as the feedback I've had on Real Food for GD. We'll see.

Robb: Looking forward to seeing you in real life. Are you going to be at Paleo f(x) this year?

Lily: I'm not sure if I'll be over there this year. Life as you know it gets tricky with little kiddos but I'm sure we'll cross paths. I was going to try to go to the Breckenridge Conference that you're speaking up but it just came up too fast on my radar. You know how it is. You've just released a book. All this whole chunk of your brain is just devoted to book, book, book, book and then all of a sudden when it's kind of off your plate or in the launching phase this whole other -- Now that brain power is available again and now I'm like, "Oh man, I should be going to this, this, this and this." And that hasn't happened. And working with a small kiddo on board. We'll see. I'm hopeful that I can run into some conferences soon.

Robb: Awesome. Well, I can't wait to see you. Again, thank you for doing the hard work on all this stuff and looking forward to having you back on the show in the future.

Lily: Yeah. I am happy to come back on.

Robb: Okay, Lily. We'll talk to you soon.

Lily: All right.

**[0:59:03] End of Audio**