

EPISODE 206

[INTRODUCTION]

[00:00:10] AVH: Hello everybody and welcome to The Paleo Magazine Radio Podcast, thanks for being here. Today's episode is for all the pregnant ladies and ladies who want to become pregnant and the people who love those women, although paleo pregnancy today my friends, I have Dr. Lily Nichols on the show today and she's going to talk to us about pre and peri and post natal nutrition from an ancestral health perspective. Including what those weird pregnancy cravings mean, like, you know, ice cream and pickles and stuff, how to work through them.

And what the deal is with food aversions, even to healthy food. I know I had friends who said, they couldn't even think about eating a burger. I can't even imagine it but what those mean and also ways to exercise during pregnancy and the ways that real food can also minimize pregnancy complications that so many people consider inevitable parts of being pregnant. We talk about how eating and moving in certain ways can maximize both the baby and the mother's health. We dispel some of the common nutrition myths for pregnant women and we talk about sushi, all kinds of good information here for people who love to eat and are also pregnant. This is a good one.

Dr. Nichols is a real food dietician, she's a specialist in prenatal nutrition and she's the bestselling author of *Real Food for Gestational Diabetes* and she just put out her new book called *Real Food for Pregnancies*, that's what we're going to talk about today.

I hope you enjoy this episode and I hope you enjoy the podcast period because otherwise, I'm bad at my job and that would make me sad. Let me know I'm good at my job by leaving a nice review on iTunes or even just taking two seconds to give us a five-star rating. I'm always super grateful for any feedback that you guys give me and I've had people reach out to me on social media and give me such kind words and feedback and lots of suggestions which is amazing.

I really appreciate it but it's even more valuable if you can leave some of this feedback on iTunes where other people can see it and can benefit and we can share all of the knowledge

with more people. That would be awesome. That's it for my intro, here is my interview with Dr. Nichols.

[INTERVIEW]

[0:02:17.3] **AVH:** Lily, welcome to the podcast. Thanks for being here.

[0:02:19.3] **LN:** Thanks for having me, Ashleigh.

[0:02:21.8] **AVH:** Awesome, I read your new book, *Real Food for Pregnancy* which, it isn't out yet, right?

[0:02:26.6] **LN:** It's coming out end of February.

[0:02:28.3] **AVH:** End of February. Okay, it might be coming out just as the podcast is coming out too which is perfect. But before we get to all of my questions from reading the book, I'd love if you could kind of just give us some background and some information about the work that you do.

[0:02:41.5] **LN:** Sure thing, yeah, I'm a registered dietician and certified diabetes educator by trade but I have a special interest in real foods so I definitely take an ancestral paleo-ish, although I tend not to use the paleo term too often, approach to health and I specifically work a lot with prenatal nutrition and also with gestational diabetes.

On the professional side of things, you know, as a dietician, when you're working out in the field like not on your own, meaning you're working for somebody else which is how most of us start, including myself, you have to follow guidelines because that's whatever institution or office you're at has as their policy. It becomes sort of like you know, a liability issue and in those roles, I was able to see conventional, prenatal nutrition guidelines, especially ones for gestational diabetes in practice and see how poorly they actually work, maintaining health during pregnancy for, in the case of gestational diabetes, like how well they control blood sugar or don't and it really pushed me to look for an alternative and really take a closer look at the ancestral,

traditional culture diets, what foods they had, what nutrients those provided and how that compares to the conventional guidelines. It just blows them out of the water.

Soon changed suit and have, you now, since made my practice almost entirely based upon [inaudible] and you know, now have one and soon coming out or by the time this is live, two books now, addressing these issues and you know, backing it up with current research so it's not just hearsay or old wives' tales but it's actually based on science, there are specific foods that are especially beneficial for pregnancy and for fetal development and I just hope to get the word out to more moms and healthcare practitioners. So we can have healthier babies and easier pregnancies all around.

[0:04:31.5] AVH: Right, that sounds good to me. First, I love in your book and you already just touched on this, how your explanation of the types of foods that you should be eating are super ancestral and generally paleo-ish as you said. You talk about organ meats, bone broth, lots of green veggies but you don't have to call it paleo and I like that for the simple reason that people who are hesitant to jump on what they consider a fad or a trend, I don't believe paleo to be a fad but some people do. You can't really use that as an excuse because you're not calling this a paleo diet. You're explaining what it is and it's certainly has its roots and ancestral nutrition but you don't have to call it paleo.

I'm curious, you mentioned initially that you don't, although it's paleo-ish, you don't like to call I that and it's that similar to why I just explained why it wouldn't work? Because people kind of sometimes have a negative reaction to it?

[0:05:20.1] LN: Yes, especially within the – you know, I sort of span two worlds, I have like one foot like, the real food paleo, ancestral, lowish carb group and then I have one foot in like healthcare practitioners and that whole, having that traditionally trained background and I'm always trying to broach the two because I feel like sometimes, as diets get more popular, it becomes all these rules get created, sort of arbitrarily that aren't necessarily, have been spaced and on the same side.

Some people in healthcare are like credential practitioners, they might be resistant to embracing some of those actually good practices in their practice because they don't believe they're

evidence based or they think it's a fad or they have their own connotations about what it means to be paleo or low carb or real food or whatever.

I tend to use the term real food, A, I like the term, it is inclusive, it doesn't stick you in a box and then it's my job to kind of define that throughout the book.

[0:06:24.6] AVH: I'd like for you to talk a little bit about – I don't want you to have to go through every element of the book because people got to have to read it to get all the goods, but I would like for you to talk a little bit about some misconceptions that I think a lot of people have about how to eat when you're pregnant and the first one being, I've never been pregnant, some of the stuff is stuff that I took for granted as being facts too. The idea of eating for two which I think gets a bit misconstrued, right? Certainly your body is working hard and you have to fuel it but it's really kind of more like you're eating for like one and a quarter, right?

[0:06:55.4] LN: Yes. The concept of eating for two is so overstated. In and of itself, I don't disagree with the term because there are a lot of nutrient needs that go up during pregnancy and quite a bit, like iron needs go up 50%, vitamin A needs to go up about 30%.

There's a lot of nutrients that you need more of, however, calorie wise, in terms of like quantity of food you need to eat over the course of the day, doesn't actually increase that dramatically. The classical estimate is about 300 extra calories per day. When you look at research on pregnant women from across the globe, they show that this number is most definitely an estimate and for some women, their energy needs only go up like 70 extra calories.

In that study, the researchers suggested that we call it eating for 1.1. You know, I think instead of using, eating for two to defend like large amounts of food or especially excess junk food because I think that's one of the big things. It's like, "Well you're eating for two, you can have the cake. Well you're eating for two, you should have the extra scoop of ice cream."

I think it's better for that notion to serve as a reminder that your baby's relying on you for nourishment, it's your job to make sure that every bite of food that's going in your system is as nutrient dense as possible. I'm more of a quality over quantity issue. Not bating yourself up for having cheats, there's food aversions, there's nausea, there's all sorts of things that get in the

way of eating well during pregnancy and this isn't something to strive to be some sort of perfectionist around food but just to have that sort of mindful awareness in the back of your mind.

Am I eating something that's going to be nourishing to my growing baby? Because oftentimes, when it comes to like the really obviously unhealthy foods like soda and desserts and whatever, it's pretty straight forward, is this good for me or not? You can usually make the call.

[0:08:50.9] AVH: Right, I'm glad you mentioned the idea of food aversions because you know, I've heard a lot of people say that one of their food aversions when they're pregnant, it's like, one of my biggest fears, is that they don't, they're really turned off by meat. That's something that people want to get their protein and all the good minerals from meat but they just can't do it. What do you do?

Some people get really kind of severe food aversions too. What do you do if you're trying to eat this whole food, paleo kind of approach but you're turned off by a lot of the foods that are generally classified in that category? And how do you kind of work around it? And I guess, the other part of that question is, if you're supposed to be eating healthy meat and vegetables and stuff like that but you're super turned off by them, what does that mean?

[0:09:36.2] LN: Yes, well, I actually love your follow up part of that question because this is something I like to highlight with people. Pregnancy is full of so many ups and downs and often times, many surprises. I think a lot of people go into pregnancy thinking like, I'm going to eat the best that I'm going to ever eat in my life while I'm pregnant and then, nausea, food aversions, cravings, heartburn, whatever comes into play and then you don't end up eating quite as well.

I think it's important to stay like, mindful of which symptoms are driving what your choice is around food because sometimes the symptoms that you're getting might actually have a reason. I actually don't believe that all food aversions and cravings, they kind of fit into the same category a lot of times, I don't believe that they're necessarily a bad thing and this is one topic that I sort of went down the research rabbit hole in the book about because I think it's really interesting to think, especially from an ancestral perspective, what would these aversions, how

would these serve us during pregnancy? Why would avoiding, having an aversion to meat and that thus not eating as much meat serve us during pregnancy?

I actually, for people who get it and not everybody gets an aversion to meat but usually it shows up around the time like first trimester-ish. When nausea is going on, the embryo is forming and is most susceptible to damage from outside toxins or from picking up pathogens like you know, viruses, parasites and other bacteria and stuff like that.

If we think about eating meat from an ancestral perspective, you would be harvesting an animal in the wild, hunting or fishing or whatever and you're not really able to store that food for that long. I mean, you would either, well, maybe eat it raw or probably cook it, depending on what the circumstances are but if that food is left over, what do you do with that refrigeration, you know?

Meat is very susceptible to spoilage and very susceptible to growing all sorts of unwanted organisms that make you sick. It seems like there might be a carry over effect from the, from that pre-refrigeration, pre-food safety standards era, that seems to sort of be ill adapted to our modern environment where you know, back then, you might not eat meat and then would eat some other nutrient dense wild food that you foraged.

But nowadays, you're averse to me and then what do you turn to? It's like, the sugary breakfast cereal or saltine crackers which are just white flour. You know, you don't turn to an alternative nutrient dense food. I think the best thing you can do with any sort of aversion but especially meat aversions is just trust that maybe there's a reason behind it, you will get through this period, be mindful of what you replace that food with.

You might not be what I noticed with aversions when I was pregnant is that they really came and went, it could be like, one day, I couldn't think about a hamburger and then the next day it was like, I'd love to sit down to a burger. And then one day I really didn't want fish and then the next day, I really wanted salmon. And so, it's sometimes you just have to stay, just because you don't want something one day doesn't mean you're not going to want it another day or another week down the line and then if you're really not able to get any of your animal proteins in, it's going to be okay for a short period of time, nobody says you have to eat perfect, 100% of the time and

baby's going to be harmed. If that was the case, we wouldn't have so many babies because so many women have nausea and aversions going on early on and we have nutrient stores for a reason to make up for some of that.

Whatever foods you are able to eat, I just really encourage people to keep it as close to whole foods as possible. You know, there's even a physiological basis for carb cravings in the first trimester and if that's you and you are craving more carbs and not wanting as much animal protein, go forth but try to keep it to maybe sweet potato fries that you made yourself in the oven with pasteurized lard as your fat rather than french fries fried in vegetable oil from the restaurant down the road.

Or, try to keep it to maybe really want something cold and sour, make some home made popsicles with juice instead of doing like the super sugar sweet and full of food dyes and natural flavors, popsicle that you got at the grocery store, right? Just keeping it as real as you can and trust that usually, aversions will subside and you'll be able to get back to eating a little bit more of a balanced meal plan.

[0:14:12.6] AVH: Got it, okay, you talk about carb cravings and again, as someone who is not pregnant but can deeply relate to just carb cravings that come out of nowhere, I'd love for you to talk about the basis for that and also, I think you mentioned in the book somewhere that the typical kind of sad, American high carb diet is not really ideal when you're pregnant and can you kind of get in to that. I guess, balancing like honoring the carb cravings and knowing where they come from but also not over doing it.

[0:14:40.4] LN: Absolutely. Yeah, the carb craving thing is really interesting, this is a bit of conjecture on my part from what I've read in the research because we never almost never have clear answers as to why something is happening, it's always about what we're observing and then try to make sense of it from like a physiological or biological basis. With carb cravings, we have to think about like what's happening in a pregnant woman's body as she's growing a baby.

An early pregnancy or body is in an anabolic state. It's trying to build up maternal tissue stores, you're growing a brand new organ, the placenta which grows rather rapidly and you'll also have

this very tiny embryo but with bunches and bunches of rapidly dividing cells, growing a brand new human being. Your blood volume is also increasing at like a crazy rate.

When you get to the second trimester and third trimester, they don't exactly know when it shifts over but eventually, your body shifts over to more of a catabolic state. Where your body energetically starts to pull from your maternal nutrient stores and fat stores that you've been putting on throughout the pregnancy to now shunt to those nutrients to the baby who is now pretty large and growing at a fairly rapid pace like in the late third trimester, they can put on like half a pound a week.

Some of that is just physiologically built in. As part of this anabolic, early pregnancy, sort of setup in a pregnant body, your pancreas is changing like crazy, because as you get ready for the second half of pregnancy, your body needs to pump out a lot more insulin, like sometimes double or even triple the amount of insulin to send - to overcome the insulin resistance that goes on in your body, essentially your body does not want you to hoard the nutrients, it wants to send them to the baby.

In early pregnancy or pancreas is already changing, you're already producing more insulin, you are already starting to experience maybe some hypoglycemia because you don't yet have insulin resistance going on you and you're in a very insulin sensitive state in early pregnancy, meaning, your body wants to accrue and hold on to energy, it doesn't want you to burn excess energy in early pregnancy.

For that time, I think it makes sense that maybe if your blood sugar is turning a little bit low, maybe your craving carbohydrates during this phase and it's a physiological response to low blood sugar like an adaptation. The other possibility, if nausea is going on, then of course the quickest to digest foods are carbohydrates. I mean, from outside of this context when you're not feeling ill with nausea, usually we don't want to be eating pure carbs because it spikes your blood sugar. It doesn't keep you full for very long, leads to cravings the rest of the day on and on. But in the context of nausea, you actually want calories that are going to enter your system and be digested and be further down the digestive tract before you feel like throwing up.

It makes sense to have carbs in that context. Again, as those symptoms tend to subside and it's usually towards the end of the first trimester, you'll be able to incorporate more variety and more balance of foods or at least be moving in that direction and like I already mentioned, just focusing on the whole foods instead of the other processed items.

To answer the second part of your question on carbohydrates and I don't want to negate what I've just said because I think I started with the exception to the rule which is like the certain not feeling so well instances, where you kind of need more carbs on board. But as you get further on in pregnancy, usually, and this doesn't happen for everyone but usually, the nausea and aversions tend to subside and as we look at the research on what is optimal from a nutrient perspective but also like, for maintaining normal blood sugar and blood pressure.

You know, sending optimal nutrition to baby, it actually seems better to back down a little bit on the carbohydrates. Part of that is related to blood sugar changes so in late pregnancy as your body is more insulin resistant it has more trouble keeping your blood sugar at a lower level so if you really overdo the carbohydrates.

You know, your pancreas is already working like double or triple over time and think about if you're loading your system with a ton of carbohydrates and driving the blood sugar up even higher. That puts even more strain on the pancreas. For a very healthy woman, normal weight woman, active woman coming into pregnancy, this may not be as much of an issue, but, currently, about half of US adults have either diabetes or pre-diabetes and most of them don't even know it. We're seeing that reflected in the rapidly rising rates of gestational diabetes. So if half of us has some sort of a blood sugar issue, I think it kind of behooves us to be mindful of that and to try not to be eating like the majority of our calories as carbohydrates.

Then, there's also the ancestral side of things where we look at what did hunter gatherer populations consume when it comes to carbohydrates and of course, their food landscape was unprocessed foods, right? Any carbohydrates they were eating were in their whole food form, they weren't broken down into flour or made into juice or made into bread necessarily, there was a lot more whole foods that were gathered and prepared in that way.

When we, there is a really interesting study out in 2011 that estimated carbohydrate intake in 229 modern hunter gatherer populations so there's a run like currently still in existence, they found that the average carbohydrate intake was 16 to 22% of calories. If we compare that to our current guidelines which are 45 to 65% of calories from carbs, we see a huge difference and I know personally, I've observed my own practice, especially with so much in my work on gestational diabetes, which by necessity makes us focus on carbohydrates, because they're the only macronutrient that has a significant impact on blood sugar levels or the most impact on blood sugar levels, it was funny, do the math and the amount of carbs that was working for my ladies to keep their blood sugar under control, fits right within those macro nutrient levels.

I think there's clearly wiggle room based on how a woman is feeling and also how healthy and active she is coming into pregnancy. So I don't think everybody needs to be super low carb but I also think most women should probably be aiming below the 45 to 65% of calories from carbs. I mean, you do the math on that.

For a pregnant woman who needs 22 to 2600 calories per day, this is upwards of 420 grams of carbs per day. If you are a super weight lifting, like uber active woman, at a healthy weight or maybe somebody who like really needs to put on weight, that might work. But I think for the majority of women, that's pretty high.

[0:21:49.0] AVH: Yeah. How do you then encourage women, because I run into this problem even as a health coach who is working with women who are not pregnant, to focus on perhaps upping, in some cases, they're protein and fats since those tend to be the two macro nutrients, I think that's stereotypically, women have a hard time consuming more of and getting their head around consuming more fat for example. What are some ways you can either encourage or kind of, I guess, entice women to kind of be more open to that?

[0:22:21.4] LN: Yeah, well, I have to do a lot of deprogramming in my work because all the prenatal nutrition recommendation are a reflection of our outdated US dietary guidelines which I feel like the science is pretty clearly shown that low fat, high carb doesn't exactly work well for a large percentage of the population.

So many women are especially of the mindset or maybe been preprogrammed over all these years to be not eating meat or not eating as much meat. Not eating fat, you know, throwing away egg yolks, luckily, that seems to be changing a little bit. Cutting the fat off their steak, doing boneless skinless chicken breast, it's like everybody is so fearful of fat. So I have to do a lot of reeducation around the fact that fat is not necessarily a bad thing.

Saturated fat is okay for you, it doesn't cause heart disease, yadda yadda yadda. But also, I look at what the research says on the nutrients that you need to grow a healthy baby. and when you look at it, you look at all the micronutrients. They've actually found that women who are eating a high carbohydrate diet, especially high in refined carbohydrates, they have the worst micro nutrient intake. The less you make your diet up of things like white bread cereal, crackers, pasta, the more room you have for nutrient dense real foods like fish and eggs and meat and nuts and seeds and vegetables and fruits and all these other things that actually have some nutrition with them.

That's a big part of it and then another part of it is I think, I've already eluded to, I'm big on mindful eating. I really encourage women to pay attention to how they feel after eating and I think breakfast is probably one of the best experiments to do, is to have women compare how they feel after breakfast of oatmeal and low fat milk and strawberries which by the way is like, if you look at the sample meal plan from conventional prenatal and nutrition policy, that is the recommended breakfast.

How do you feel after that meal which is mostly carbohydrates versus how do you feel after you have like a couple of eggs and a couple of slices of bacon and maybe some sautéed veggies or even some sweet potatoes or even a slice of whole wheat bread along with it? I'm not, you don't have to be full on, full on paleo but how do you feel when your macro nutrients are better balanced and you have more fat and protein coming in your world.

Usually, the difference is like astounding you know? You go from having like crazy, hangry, "I need caffeine sugar right now within 30 minutes to an hour and a half of that breakfast," to, "Oh it's lunch time? Okay," it's just – it's night and day. But what I do mostly in the book, you know, other than telling people about mindful eating, is just pointing out all the nutrients that you get from foods that contain fat and protein naturally.

All the micronutrients in there are absolutely essential to a baby's growth. You know, the short list is like clean zinc, iron, vitamin B12, vitamin A, I could go on and on.

[0:25:29.2] AVH: Okay, another couple of misconceptions, getting back to some of these misconceptions that I thought were interesting. Walk me through fermented foods because I know that that's huge for the regular population in terms of improving gut health and also, sushi. Because I've always been told that raw fish is problematic. But you have more to say about that, right?

[0:25:51.8] LN: Yes I do. Yeah, I'll start with fermented foods. You know, the main reason that fermented foods are so helpful is that they contain good bacteria, probiotics. And we have probiotics living in and on our bodies, they outnumber human cells by quite a bit and they colonize your digestive system, your skin, they're even in your vagina and we know that now, even the placenta has its own microbiome. Its own, you know, specific makeup of bacteria populations and those are transferred to the baby during pregnancy.

They're also transferred especially at a higher rate during birth in the case of a vaginal delivery. What's cool about probiotics and fermented foods is they've shown that in women who don't have that great of a bacterial balance, there's certain complications that are higher like pre term birth, pre-eclampsia, gestational diabetes and even excessive weight gain during pregnancy and on the flip side, consumption of foods rich in probiotics is like two of the opposite reduction in a lot of those symptoms. Reduction in inflammation in the placenta, pre term birth, pre-eclampsia, it's even shown to lower blood sugar levels and then women who are not diagnosed with gestational diabetes that actually may help prevent it.

There's a lot of good reasons to eat those foods. This doesn't even take into account like the setting up of the baby's micro biome because a baby is essentially taking on a mother's micro biome both during pregnancy and during birth which can set them up for reduced risk for all sorts of issues in their life.

During infancy, if they're seeded with a good micro biome, less infant allergies, less eczema, less colic, less spitting up and then over time, a better immune system, lower risk of heart disease, diabetes, obesity and all of these other chronic health conditions.

This is all just from bacteria that's just naturally transferred so you may as well do your due diligence to keep your probiotic levels good in your body. One of the best ways to do that is with fermented foods. Before we had probiotics supplements, where'd we get our probiotics? You know? We got them from food and so you look at things like you know, kefir, yoghurt, aged cheese, all the raw, lacto-fermented vegetables like sour roud, kimchi, natural pickles, fermented beverages like kombucha and stuff, these provide a lot of bacteria and when you look at the amounts that are in these foods, it's actually often times a lot more than in supplements.

For example, a table spoon of sauerkraut juice has 1.5 trillion colony forming units of bacterial cells versus like a high quality probiotic often has maybe 30 or 50 billion and we're talking 1.5 trillion. It's a lot more, that's in a table spoon of sauerkraut juice, right? We were probably getting a lot more probiotics just from foods back in the day before we had supplements because we had to ferment foods to preserve them and that was it. It was by necessity but we're also seeding ourselves with good bacteria.

The second question was on – the sushi thing is crazy. I know this in myself and I hear it from clients all the time and I've heard from a number of different midwives and healthcare practitioners that work with pregnant women that women tend to crave sushi during pregnancy. But of course, sushi is like on almost every do not eat list you read about prenatal nutrition so there's all of these conventional prenatal nutrition recommendations that are trying to protect women from getting food poisoning.

It's for good reason because your body is more susceptible to getting an illness during pregnancy because of the immune changes that your body takes on in order to be growing a new and different life with different DNA and everything from your own. Some of these bacterial infections or parasitic infections could cause major issues in the pregnancy. I don't disagree with an emphasis on food safety but I disagree with the blanket recommendations for a lot of the foods that are on this list because many of these foods are key sources of nutrients that you

need for your baby, need for things like your baby's brain development, if you're smart about food safety and maybe it's not quite as risky.

I found the cravings of sushi pretty interesting and looked into what are the recommendations around raw fish during pregnancy in different parts of the world. In the US, they're pretty like, absolutely not. But you go to other places and it's actually different. In Japan for example, consumption of raw fish is encouraged for optimal fetal development.

In the UK, I was really surprised to see on the NHS website, they said, it's usually safe to eat sushi, and other dish is made from raw fish when you're pregnant. The rationale is that seafood that's marked for human consumption undergoes screening for microbial contamination but it also is often flash frozen, especially sushi fish which is an effective way to inactivate parasites and thus make the fish safer to eat.

Assuming you're getting sushi from a reputable source and you're following good food safety practices like not leaving it out for many hours in warm weather and like eating it day of, that it was prepared and whatnot, I actually don't think it's necessarily a bad idea. And I also uncovered some kind of interesting research showing that certain nutrients are more bio available from fish when it's eaten raw. This included selenium, which is an important mineral because it prevents mercury from being absorbed. It's also important for thyroid health and overall liver function. Omega three's and also iodine. All three of these nutrients play a really important role in your baby's brain development, especially the omega three's and iodine.

I just thought that was interesting because there's so many women report cravings to it and then avoid it and then again, the question is, what do you eat instead of that real food that you were craving? Often times, the nutritional tradeoff is not beneficial.

[0:32:09.6] AVH: I think you just made a lot of pregnant ladies really happy with that news. What should women look for to make sure that they're getting the best quality sushi? Or the least risky sushi if they're still worried about it, what should they choose?

[0:32:23.2] LN: Well, if you're buying sushi from like a restaurant, I would definitely go, if you're in an area that were they rate restaurants on cleanliness. You know, I grew up in California so

they just regulate everything, right? They have A, B, C, D, on restaurant windows and I would definitely go to an A establishment, a place that's really clean, a place that you know has really fresh fish. Maybe if you don't quite know this, you can get a recommendation from somebody. I would not feel comfortable buying grocery store sushi, unless you're at like a high end grocery store that's preparing the sushi in house. Within a few hours of you consuming it. It's just usually not that fresh.

If you are preparing it yourself and when I was pregnant, I was actually living in Alaska and so us and our friends would go fishing. So I had access to the best fish, ever. So I felt comfortable because I knew the exact part of the ocean that it was coming, for like a 100 feet from my house like it was fine but even with that, you just want to make sure that you defrost the fish in the refrigerator not on the counter. You prepare it right away. For me, I often did ceviche which in a way like semi cooks the fish because you are mixing it with lemon or lime juice and so the acidity actually plays a role in preventing bacterial contamination.

Same thing with poke because you are adding a lot of salt to it and salt is an antibacterial agent but again, I would be really smart with food safety like kitchen super clean, don't defrost on the counter always in the refrigerator and eat pretty soon after preparing it. Don't eat raw fish that's been sitting around for two or three days. Eat it day of and that's it, no exceptions.

People think I am crazy for some of the recommendations in the book on the foods I think are fine to eat but I am also really, really strict on food safety and keep a super clean kitchen and I think that is wise for everybody because most food actually gets contaminated upon preparation and usually it's in restaurants not in your own home, by the way. So you just have to do your due diligence that if you're eating out that it's a really, really clean restaurant.

[0:34:37.0] AVH: It seems like these are like you said just kind of common sense tactics that you should keep in mind anytime, especially when you're pregnant but really anytime.

[0:34:45.6] LN: Yeah, of course.

[0:34:46.7] AVH: What about supplementation? If you feel that you are really on the ball with your whole foods, healthy eating and you're feeling pretty good and you feel like you are getting

mostly what you need, you are not feeling too out of whack during your pregnancy, do you still need to supplement? Are there still things that you should be supplementing with in addition to your diet?

[0:35:05.0] LN: Yes, this is a good question. Yeah I have included a whole chapter on supplements because I feel like this is such a new ounce discussion. I am actually of the belief that not everybody needs a supplement for every single thing like I ran the nutrient analysis on the nutrition plans that I have like the meal plans that I have on the book and it meets the RDA. It meets the recommended amounts for almost all of the nutrients almost every single day.

So if you are really, truly, eating super well, then you probably can get away without supplementing with a few exceptions. And most of the time I think of prenatal vitamin by the way is like a good insurance policy because I think most of us aren't eating squeaky clean perfect with like liver in our diet several times a week and two to three eggs a day and vegetables at every meal. If you are that person, you're probably good. If you're not, probably a good idea to have a prenatal vitamin on board.

But other nutrients that I think can be important to have, vitamin D and I really recommend women get their vitamin D levels checked, if it all possible like once each trimester but at the very least at the beginning of pregnancies you can optimize that but vitamin D is something that most of us, well it is not found in super high amounts in their food because of the way that we're supposed to get most of our vitamin D is from the sun and in parts of the world where you don't get very much sun in the winter and in fact, a lot of those parts of the world like super far north or super far south if you are in the southern hemisphere, you can't make any vitamin D from the sun for part of the year. And then those cultures, a lot of them actually supplement it with cod liver oil which was rich in vitamin D. They didn't know at the time that it was vitamin D but now we know that like, "Oh that probably was important".

So based on the time of the year, based on your sun exposure, based on where you live, a lot of women are not getting enough vitamin D from the sun. Especially in the winter and outside of the tiny amount that you get from your diet which cannot meet your needs alone, the rest of it is going to come from supplements.

So it's a good idea to get your vitamin D levels tested and supplement. The research shows that 4000 IUs per day of vitamin D is safe across the board for pregnant women.

And from the trial they found that that amount met about 80% of women's vitamin D needs and also resulted in about 80% of infants having sufficient levels of vitamin D at birth. Whereas if you compare that to the recommended amount of vitamin D and usually the amount you'll find in the prenatal which is about 600 IUs, the deficiency rates were very, very high and it did not meet the majority of women's vitamin D needs, nor their infants.

So I really recommend 4000 IUs across the board and if you have lab testing that shows you're deficient, you may need more. And interestingly that study was actually performed in I forget which one of the Carolinas, North or South, but either way they are at a latitude where you should be able to make vitamin D from the sun year round and even still most of the women in the study were deficient. So it's a good idea to have that on hand.

Another supplement that I'll point out that is helpful is fish oil and unless you're a person who is eating around a pound of fish a week like 16 ounces of fish or sea food a week, it's pretty likely that you are not getting enough omega three fats. So I think it's wise to have that on hand. For me personally, if it was the day where I was having salmon, I didn't take my fish oil but on the day when I wasn't having salmon or sardines or another type of sea food then I would take my fish oil supplement.

And that is mostly to provide the omega three fat DHA which is really crucial for brain and vision development in babies. There are more, a lot of the supplements I recommend are just on the basis of like, "Are you getting this from your diet or not?" If you're not or if you have a specific complication or symptom then maybe that supplement would be helpful for you.

[0:39:09.1] AVH: Yeah and I would like to move on and talk a little bit about some other elements of being healthy during pregnancy including stress management, exercise and stuff. So folks will have to read your book if they want to dive down deeper into the food portion because there is a lot more but I think we have covered a lot and I think just to conclude, it seems to me that if a woman wants to eat healthy during their pregnancy that it's this real food

mindful eating approach, that really isn't that different than what you would prescribe for a non-pregnant woman, right? It seems like it's not that different.

So I guess one thing just to kind of close the loop here on the food part of it, if you could provide just a really high level kind of cheat sheet for pregnant women, the high level goals of what they should be aiming for generally what are those things?

[0:39:54.7] LN: In terms of what foods they should be eating every day or?

[0:39:57.9] AVH: Yeah and just how to eat the best so that they feel the best and they feel like they are not restricted and how to manage the challenges that come with being pregnant, right?

[0:40:09.6] LN: Yeah and just to elude to what you said, a lot of what I recommend is not that much different from non-pregnant general common sense, real food, sort of approach to eating that a lot of people who are following a paleo-ish or low carb-ish kind of a plan or grain free plan. That's what you are eating and my job is just to put that into the context of pregnancy, tell you why it's important to either change to this way of eating or keep eating this way based on the research.

So I just back everything with science so people who are really skeptical about the whole thing and see like, "No there is actually good data on this," so there's 930 citations and counting on the book to give people that reassurance that no this is not just some fad or crazy talk, this is the way to do it.

So breakdown wise on what to be eating this sounds simplistic and a lot of people use this method but I call it the plate method. Many others call it the plate method as well. I didn't create it or anything. I have my own version of how this breaks down but I think it's very important to be having lots of veggies. So half your plate, if you can, with veggies mostly the non-starchy veggies. Starchy veggies are okay too, I just count those towards your total carbohydrate intake for the day. Part of this comes from my background as a diabetes educator and all that I know about blood sugar and part of this also comes from just seeing so many clients whether they are diabetic or not who have super imbalanced macro nutrients. So I like to separate the sweet

potatoes, potatoes, winter squash thing, from the rest of the veggies most of which are green because it just gives people an easier way to sort of breakdown what they are eating at a meal.

So lots of non-starchy veggies, definitely prepare those with some fat. A, it makes it taste good. B, you absorb a lot of the micronutrients and antioxidants from it better. Definitely some protein and fat at each meal so that could be fish or meat or poultry. It could be a dairy product like cheese or Greek yoghurt which are pretty high protein and it maybe foods that are a little heavier on the fat with not as much protein as an accompaniment like coconut, avocado, nuts and seeds, I didn't mentioned eggs. Often times, protein and fats comes packaged together in nature, so I usually just lump them all together. And also encourage people to be cooking with a reasonable portion of fat during the meal as well because it makes your food tastes good and also has a lot of nutrients that are important to you like fat soluble vitamins.

On the carbohydrate end of things, I think there's a range, as with everything, everything can be personalized and people always want me to get super specific on, "How many grams of carbohydrates do I need?" And I recommend actually a pretty big range. A lot of that is based on what your health was like coming into pregnancy, so did you come into pregnancy heavier than is ideal for your height or body size? Did you come into pregnancy instant resistance, PCOS? Did you come into pregnancy not very active or did you come into pregnancy super athlete doing Crossfit four times a day or maybe you have some other health issues and you are underweight and need to gain weight?

On those ends of the spectrum, you may need a higher or a lower carbohydrate intake or you may be somewhere in between. I think most people benefit from half to one cup of starchy or carbohydrate rich foods at a meal. Whether that's sweet potato or potato, fruits, it could even be whole grains. I am not anti-grains, I just don't think there's much room for them on the diet on the context of hitting your macro nutrients and not exceeding your carbohydrate intake and also making sure you're getting enough micronutrients. Or maybe it is coming from some dairy products like milk or yogurt but there's room for those in a meal.

And then from the mindful eating perspective, it is just a matter of paying attention to how do you feel before, during and after meals? How are your food cravings? How are your hunger-fullness levels and how is this working with the current state of affairs with whatever symptoms

are going on in your body while you are pregnant? Whether it's heartburn or nausea or food aversions or maybe none of the above and you're feeling great. How does that play into it?

And then of course, there's specific foods that I highly recommend and I have a whole chapter on that and a lot of those are specific animal foods. So that protein and fat section of the plate is pretty important. Like once you're through the food aversions phase, it is pretty important that you incorporate those foods.

[0:44:46.0] AVH: Got it, okay. So I have a question here for you that I got on social media. I put out a request for folks who wanted to pose a question to you and this one is about hypothyroidism. And she was asking if someone with hypothyroidism is at risk of further damaging their thyroid while pregnant and how you can actively work against that. And I am pretty ignorant about this entire topic. So feel free to kind of talk about it from a high level.

[0:45:11.2] LN: Yeah, it's a complex topic and I have a whole chapter on lab tests and one of the ones I specifically recommend is getting a full, comprehensive, thyroid panel in the first trimester if at all possible. The reason for that is that your thyroid has a lot of stress on it during pregnancy. It's expected to reduce like 50% more thyroid hormones and the first third to half of pregnancy depending on which source you read, your baby's thyroid gland is not developed enough to make its own thyroid hormones. So it is reliant on yours and why does that matter? Well A, it's important for metabolism but B, it's very important for brain development and so not having enough thyroid hormone can be a big issue and for women who are coming into pregnancy with a pre-existing thyroid condition, and for most women it's hypothyroidism so an under active thyroid. If you know that, I definitely recommend having frequent checks on your thyroid hormone levels with your doctor. Hopefully it's somebody who is really familiar with measuring thyroid hormones during pregnancy because there is actually trimester specific ranges.

If you don't follow those ranges, a lot of women don't get proper treatment or don't get diagnosed if they haven't yet been diagnosed with a thyroid issue. So definitely monitoring that and for most women, they actually will – if you have a thyroid issue, if you're not already on thyroid hormone replacement therapy, you'll probably need it and that is something to really

push for to push for the lab testing and then push for having it properly treated. Because unfortunately, under functioning thyroid gland is a huge risk factor for miscarriage.

And a lot of women who have trouble either getting pregnant or maintaining a pregnancy, particularly a lot of these first trimester miscarriages, can be linked back to thyroid issues. So if you have any history of miscarriage, I highly recommend getting your thyroid hormones tested ideally before pregnancy, so you can optimize that but in lieu of that at your first doctor's appointment and I would schedule that as soon as possible in your first trimester.

There are other nutritional things that are very important. As part of producing thyroid hormones your body requires certain nutrients and one of those is iodine. Which is very important and needs for iodine go up during pregnancy. And despite everybody is saying in the US is a place that doesn't have any iodine deficiency going on, there is actually a lot. Inadequate iodine intake is found in 57% of pregnant women in the US. So it is pretty important that your prenatal contains an optimal amount of iodine. Which is at least 250 micrograms per day if it doesn't, you may want to talk to your doctor, practitioner about having a separate supplement.

And then there's a whole host of other nutrients that play a role in thyroid function. So I can just list them off and not go into it but it's iodine, selenium, vitamin D, vitamin A. There's probably others that are not at the tip of my tongue right now but really important one to get tested and act on early.

For women who are already taking thyroid hormone replacement therapy, a lot of them find a need to up their dose by 50% in the first trimester. So if you are on it already and you're like, "Well I am fine," be a hound on your doctor because not all of them are really up to speed on this or whoever your provider is and get the testing done and or some of them even recommend just like upping the dose of thyroid hormone without lab testing.

But again, I can't recommend that. I am not a doctor. This is just what the research is saying so follow up with your clinician.

[0:48:55.3] AVH: Got it. Okay, I'd like to touch on stress and stress management and specifically first the stress of exercise and movement and working out while you are pregnant.

So I have heard and read that a general rule of thumb is to be, as with food, to be mindful of how you feel when you are exercising right but that generally, you can kind of for the most part sort of continue what you've been doing. You don't need to start some new crazy regimen or you don't need to completely stop working out. But if you were somebody who worked out frequently and you're pretty into it and it was a big part of your life that can continue to be a part of your life. If you are somebody who liked to jog, you can keep jogging and it's about maybe being a bit more gentle and a bit more aware as your body is changing and the stresses that you are undergoing, being aware of it, that you can maintain for the most part what you were doing before you get pregnant. Can you get into that a little bit?

[0:49:50.7] LN: Yes and everything you said is accurate. So yeah, a lot of the exercise or recommendations and I have delved into this a lot because I actually used to work and train Pilates instructor and I used to teach Pilates prenatal and postpartum and also lecture to this professionally to other health care practitioners because there are some people who are still really fearful of exercise. There are all sorts of strange misconceptions about exercise and pregnancy.

But overall, the benefits outweigh the risk with exercise and yes, being mindful of any of the physical changes going on in your body are important. Some of this stuff is specific to trimester. So like in the first trimester, you don't have to make a huge number of changes to your exercise routine, other than avoiding activities that have a lot of bouncing or jerking or risk abdominal injury, because there is this theoretical risk of miscarriage.

You also want to be aware of your temperature and avoid overheating during exercise and this can be a concern if you live in a hot climate or maybe practiced hot yoga. You might want to switch to regular yoga but the reason for this is that –

[0:50:54.0] AVH: Okay so just to interrupt you just there and maybe you are getting into now but there's a difference between the normal, "Okay my heart rate is going up and I am warm and I am sweaty," versus like really overheating during exercise, right?

[0:51:07.9] LN: Yes and you'll feel it. And it's okay to have your heart rate go up and it's okay to be breathing more heavily. The talk test which is when you are trying to have a light

conversation or say your ABC's while you are working out, if you can maintain that with a little extra effort on your end you are exercising a good level. And it sounds too simplistic to work but that is actually be best correlate with like VO2 Max and all these fancy ways to measure exertion, talk test is the most accurate way and it's the simplest one that doesn't require any fancy exercise physiology tools to measure all of these stuff.

So that is a good one for women to have on hand. You'll know because your body will stop you. That's the thing that I found really amazing about pregnancy is your body usually stops you before doing things that are going to hurt you. So I noticed I was very tired in the first trimester. I was doing a lot of hiking. Well I love hiking, that is one of my big forms of activity and so we were out on a hike and it was something I have done many times before but it was a warm day and I found myself having to stop multiple times to catch my breath and cool down. And my body will tell me and I just have to listen to it.

So I think the only women who will potentially get into trouble with this is if your trained as like an elite athlete and you're the type of person who pushes through the pain, now is just not the time to do that. Now is the time to be really mindful of what's going on. The reason on the overheating thing is that getting overheated on a regular basis in early pregnancy increases the risk of certain birth defects. So if your body is trying to maintain a very special temperature inside your body and when the organs and everything, the baby are being formed during the first eight weeks of pregnancy. So that's especially important time to not get super overheated.

And again, your body usually tells you from the fatigue, shortness of breath or just literally feeling really hot. So just slow down, catch your breath, drink some water ideally with some electrolytes in it too, have some salty foods along with it. That's important for hydration and you'll be good. Later in pregnancy, some of the shifts that need to take place are avoiding exercises where you are laying on your back if it results in you getting lightheaded. The baby can put weight on your vena cava and impede blood flow back to the heart. So that is something to keep in mind. Some women never experience this and if they never experience any light headedness, like they may be fine to do exercises in their back but again, that is a general guide.

And then as you get further along, you know it is all blurred the lines but as you get further and further along and the baby is so big, all of your internal organs get pushed up, up kind of into the lungs.

And it just gets hard to catch your breath, you also have a lot more blood volume like 40% more blood volume plus you are carrying around this 20 plus pound belly. It changes your center of gravity, it changes the stability in your joints. Your body releases a specific hormone called relaxin to help relax the ligaments that allows the pelvis to expand during birth so you can birth the baby. It's a really cool system but some women as a result feel a little more unstable in their joints. They might hyper extend more often especially if they tended to do that pre-pregnancy. So I noticed that big time I had to be really careful with stretching. Deep lunges felt horrible, it would feel like I pulled my hips out of alignment and I'd be hobbling. So I had to be cautious about that, other women don't have as big of an issue so it's just again, mindfulness and maybe you have things like hip or lower back pain. So a lot of really gentle, Pilates type, exercises that just keep you really aligned and stabilized are super helpful during this time period and then I know I am focusing on the to-do stuff and not on the research on the benefits of exercise but it is what it is.

The last thing I'll say is just to be cognizant of your pelvic floor health because a lot of women think that, "Oh your pelvic floor only changes a few like give birth vaginally." Actually your pelvic floor is actually going through a lot of changes just carrying a baby and no matter how you birth, those muscles get stretched and weakened over time as do the abdominal muscles to some degree.

So exercises, although it is theoretically safe to run throughout your pregnancy or jog if that's what you've been doing or to lift heavy weights like Olympic dead lifting and stuff like that, technically you can physically still do those things. Is it optimal as you get really further along? Like a lot of those exercises that are more high impact or heavy weights put a lot of pressure on the pelvic floor which is already under a lot of strain and so it's something to be cognizant about. If you found yourself peeing yourself while running or peeing when you sneeze, these are things to keep in mind because postpartum, you want to make sure that those muscles can heal properly and I just think there are some women who really push it too hard just to sort of prove that, "Yes I could do this during pregnancy," but you may want to ease up a little bit if you are

getting some symptoms of pelvic floor issues in pregnancy. Again, there is always exceptions to every single rule but I just want to throw a bit of caution out there on that front.

[0:56:40.3] AVH: Yeah, I think that's a really important part to reiterate and also maybe a good place for us to wrap up here is the idea of pregnancy not being the time for us to push past or ignore our warning signs and to push through pain because I do think that's something that a lot of people, a lot of women and a lot of people in the fitness world but a lot of people in our culture, period, kind of we internalize that a little bit that to be tough, and to be successful and to be good at things you have to push through pain and suffering a little bit and in some cases, that's appropriate and in some cases it isn't and I think that is something that really has to be as you were saying earlier with the food ideas that it has to be almost relearned. That it's not necessarily a tougher better version of yourself if you are ignoring what your very intelligent body is telling you during this really incredible time in your life, right?

So I think that that's a really important thing for people to remember. And I think you talk a lot in the book about different ways to manage and mitigate stress like prenatal stress because a lot of people talk about the obvious stresses that come about after giving birth but people don't maybe necessarily talk to much about managing stress leading up to the birth or as you're pregnant, becoming pregnant or trying to be pregnant and I think that there's a lot in there that we have touched on throughout the call including mindfulness, in everything that you do and movement that feels good to you and that makes sense to you and just being aware of how different foods and activities and things make you feel. And I think that that's probably the biggest key right? It's just mindfulness and paying attention to how your body reacts, right?

[0:58:19.4] LN: That's it in a nutshell. I mean pregnancy is really the time to surrender and slow down in a way. Stop proving yourself maybe because you are about to embark on the most humbling experience possible if this is your first kiddo. Of like caring for this helpless little tiny human being who needs you 24/7 and it's really exhausting. Really exhausting mentally, emotionally and nutritionally and so for me, I feel like part of the mindfulness, it comes into all of this stuff.

None of the things that I am preaching are some sort of strict rule that you have to follow or you have to do this or you feel guilty if you don't accomplish that. It's really a matter of like, "Okay,

how can we take the best care of you?" A, so you are taking the best care of your baby and sending all the nutrients and all the physiological benefits of exercise and also because all of these things carry over to your mental health and how well you are going to heal postpartum. Which is why I included this way too long chapter on the fourth trimester because there is so much, we put so much attention on the pregnancy time and very little attention on new moms and postpartum and it is all about if we circle back to the exercise thing like how quickly can you get back to life as it was before a baby instead of embracing that, you're just getting used to adjusting to this new life with a baby.

And it's okay that things are different and it's okay that you're not doing all the things that you used to do or XY and Z and it's a new time and it's a huge adjustment. So I just like to take care of the whole women in all possible ways and also prepare her for how she's going to nurture herself and find support in the postpartum time as well.

[1:00:08.8] AVH: Yeah, I love that. So we've obviously just scratched the surface. There's so much more we could talk about and for folks who want to read more, learn more, get the book, where can they go online to find out more?

[1:00:21.2] LN: Yeah, you can learn more about the book over at realfoodforpregnancy.com. And for anyone who's not quite sure, maybe wants to hear a little more from me first, you can get a free download a chapter for free to get your feet wet and see if you like the direction that its going and that book will be sold on Amazon.

[1:00:40.8] AVH: Awesome. Alright Lily well thank you for your time. I really appreciate it. I feel like I have learned a lot and it's inspiring me as someone who is not planning on getting pregnant any time soon, still to kind of up my game and just take some of these thoughts to heart myself with the mindfulness and just trying to be the healthiest person you can be because why not, right?

[1:01:00.1] LN: Why not, yeah. If it keeps you feeling well, it keeps me feeling well and there's never a bad time to prepare to conceive I mean.

[1:01:06.8] AVH: Exactly, that you never know what is going to happen right? On that note I'm going to go but Lily thank you again for your time, I appreciate it.

[1:01:14.7] LN: Thank you.

[END OF INTERVIEW]

[1:01:20.0] AVH: That's it for today's show. Thanks everybody and feel free as always to reach out and start a discussion on social media at Paleo Magazine or you can reach out to me directly on Instagram @themusclemaven. If you have any thoughts or suggestions for future guests or podcast ideas, I'd love to hear it and yeah, follow us on social media so you can learn all the awesome things that are going on with the magazine.

So next week is a big podcast. I have Ben Greenfield coming on the show. So Ben is a regular contributor to Paleo Magazine. He was also voted the best personal trainer in America. You may know him as a pretty intense bio-hack dude. He is actually getting mainstream with some of these practices, like he is getting some mainstream attention. He was just in a Men's Health feature. He is the one putting infrared light on his junk and inhaling essential oils while he works and manipulating his supplements. And his food and his sleep and his light exposure and training and recovery and everything else you can think of every moment of the day to live longer, be healthier, have better sex, all the important stuff you know?

He's a big endurance race expert, he has his own Uber popular podcast that I listen to religiously because honestly, he talks to a lot of the same guests as I do and we kind of have the same interests in a lot of ways. He takes things a little bit further maybe than I do. But we do walk around in the same circles a little bit granted he's a lot more popular.

But I think it will be a good talk because we are both nerds about this stuff admittedly on different levels. He is smarter and therefore a bigger nerd but he's been on the Joe Rogan Podcast because obviously, the next step for him in success would be to come on my podcast, right?

Anyway, I am full of it today but please do join me and Ben Greenfield on the podcast next week and we are going to talk about all the ways to be super human or super healthy or at least super weird and just enjoy some bio-hack tips and tricks. So join us next week and thanks for listening.

[OUTRO]

[1:03:32.8] AV: Paleo Magazine Radio is brought to you by the Paleo Media Group and is produced by We Edit Podcasts. Our show music features the song *Light It Up*, by Morgan Heritage and Jo Mersa Marley, and on behalf of everyone at Paleo Magazine, thank you for listening.

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