

Diet Doctor podcast - Georgia Ede (Episode 22)

Dr. Bret Sher: Welcome to the Diet Doctor podcast with Dr. Bret Sher. Today, I'm joined by Dr. Georgia Ede. Georgia is a trained psychiatrist and has worked as a general psychiatrist for years. But through her own personal challenges and finding nutrition as a treatment for her, she started to use it with her patients and she's got a fantastic story about how she sort of progressed from Harvard to Smith College and now to sort of nutritional consulting.

Her challenges along the way and her successes along the way and how she's reframed how she thinks about treating psychiatric diseases. But she's not just an expert in psychiatric diseases, she is a breath of fresh air in terms of how she helps us understand nutritional research and nutritional news. And the forces behind it and how we can incorporate that into our lives and understand the complexities of it.

So, we talk quite a bit about that in this interview, so hopefully you'll walk away from this interview with some specific suggestions of how to see nutritional news and also how to think about psychiatric conditions. It's not so different from the rest of our body and how insulin resistance, pre-diabetes, how it plays a role in our bodies and in our minds.

So, I hope you really enjoy this interview with Dr. Georgia Ede and if you want to see the transcripts, you can find those on dietdoctor.com, as well as the rest of our previous podcast episodes. All right, thank you very much and enjoy this episode. Dr. Georgia Ede, thank you so much for joining me on the Diet Doctor podcast.

Dr. Georgia Ede: Thank you for inviting me.

Bret: Well, it's a pleasure to have you on because you represent this world that seems so different than the rest of the low-carb world. It really shouldn't be right? It's the world of the brain, the world of psychiatry, the world of how we think and mental disorders. But, in reality, it's not that much different, is it?

Georgia: The brain is part of the body. Most studies do agree with that.

Bret: Interesting way you put it. So, you are trained as a psychiatrist, which means you are trained to prescribe medications for psychiatric diseases. Just as a quick recap, was there any discussion of nutritional therapies in your psychiatry training?

Georgia: No. Psychiatry residency training, four years, not a word about nutrition in four years.

Bret: All right, and then you went on to work at Harvard as a psychiatrist. And I've heard your story many times and it's an amazing story how through your own health challenges, you came to find a low-carb way of living, which really reversed your own health challenges and then you decided maybe I can apply this to my patients as well. And what did you initially see when you started to apply nutritional therapies to your patients seeing you for mental disorders?

Georgia: I think the most predictable thing I've seen in the beginning and all the way through is two things... usually improve. One is anxiety levels tend to come down. And another is that people who tend to overeat or binge eat or even people with bulimia who meet diagnostic criteria for bulimia, which is not just bingeing but also purging the low carbohydrate diet can be very, very effective for controlling urges to binge because it so nicely regulates appetites and cravings.

Bret: Well, that's interesting because we frequently hear when people say who should not go on a low-carb diet or a restrictive "diet", frequently the topic of eating disorders comes up. But here you're saying it's potentially useful, specifically in eating disorders.

Georgia: Yes, with the caveat that we want to be careful about anorexia. So, the eating disorder anorexia was good for most people with anorexia, but not all of them are underweight, and most people with anorexia are very, very afraid to eat fat, and so if you recommend a low-carb diet for someone with anorexia, I mean, obviously you wouldn't do that to help them lose weight because that's not a goal.

But let's say you were thinking maybe a low-carb diet, a more nutrient dense diet, a higher calorie diet would help them resolve the actual thinking that goes behind anorexia, the disordered thinking. The problem with that approach is that what can happen is that the person may of course not be willing to increase their fat intake.

So, now you've taken away another macronutrient and now there's very little left for them to eat. So, in approaching anorexia, it has to be done very, very carefully and in fact I've never yet had that experience of working with somebody with anorexia and applying a low carbohydrate diet. It would have to be very carefully done and on a team.

Bret: Right, right. So important to differentiate when people talk about eating disorders, it's not just one thing, there are different areas there. But again, no matter what, when you're starting nutritional therapy to treat any psychiatric condition, it

seems like probably not the best thing to do on your own and start trying to wean off your medication. It's best to do it under clinical supervision and expert guidance.

Georgia: That's absolutely right, that's a really good point, because low carbohydrate diets are very safe options for most people. But if you are taking a psychiatric medication or really any medication, but a psychiatric medication in particular, when you're starting a low-carb diet, especially the first few days, it's a very powerful metabolic intervention. And therefore, your body chemistry changes very quickly in very positive healthy ways.

But that can have an effect on your medication levels and so, if you're taking a medication where levels are important like lithium, a mood stabilizer or Depakote, another mood stabilizer, then it's very important to work closely with somebody who knows what they're doing to help monitor those levels and regulate them. I do have a free article on Psychology Today, Ketogenic Diets and Psychiatric Medications, to help guide clinicians as well as patients through that process, give them some tips.

Bret: Very interesting, okay. Now, getting back to your path through this maze of nutrition for psychiatric health. So, you're at Harvard and you start instituting nutritional recommendations to help treat your patients seeking care for psychiatric diagnoses. And, from what I've heard, I guess you could say the institution wasn't so favorable about that.

Georgia: Well, at first, they were, you know. So, I was there for seven years and for the first six or so years they were very supportive of my incorporating nutrition into my work. And many students, particularly graduate students and some of the faculty patients were very interested and motivated to change their diet.

But then, there was a change in leadership after that sixth year and the new director came on and-- she's no longer there-- but the new director came on and said, we don't want you to do this anymore, this is beyond the scope of psychiatric practice. And I was forced to stop and that's one of the reasons that I left.

Bret: Yeah, and hearing it now sounds is short-sighted to say that nutrition has, basically nutrition has no role in the treatment of psychiatric diseases.

Georgia: Well, I don't know if that was her thinking, she at least thought psychiatrists shouldn't be involved in giving nutritional advice. And you know, to be fair, psychiatrists don't have any training in nutrition, we would have to seek it out ourselves, and so I guess there's some logic there but it was unfortunate.

Bret: Right, that makes sense. What authority do you have to recommend nutritional therapies?

Georgia: Well, exactly.

Bret: Well, what authority does anybody have though, because who's trained in nutritional therapies for psychiatric diseases? Not many people.

Georgia: No MDs are trained in nutrition and therefore no MD should be giving nutrition advice. I don't understand how that works.

Bret: Okay, so then you transition from Harvard over to Smith College. And here's where I think the story gets even more interesting. Because it's already very interesting, but even more interesting, because now you're in an environment where people have not so much control over their food. They're living in dormitories. Health and nutrition is not on the forefront of most college people's mind. It's an all-women's college and a fairly liberal college where I would imagine a vegetarian bias was probably fairly present when you got there.

Georgia: Mm-hmm.

Bret: Tell me about your years there and your struggles, the challenges you found and some of the successes you saw in working with that type of population.

Georgia: Yeah, it really was challenging. First of all, I loved working with students at Smith and you're right. You know, most of the students that I saw, their physical health wasn't necessarily their top priority. Their mental health of course was, and that's why they were coming in. But you know, I asked every single student-- this was part of my intake interview-- every student I met with the same question, "Do you eat a special diet of any kind?"

And I documented what their answer was and there was actually a very high percentage, if I remember correctly, about 8% of my students ate a vegan diet. And an even higher percentage a vegetarian diet. And, for the most part, not even for health reasons actually but for compassionate reasons. And so, you know, because of the treatment of animals and so forth.

And you know, that's an emotional argument that's very hard, very hard to respond to, and I didn't try because I think it's a valid point. But when it came to their mental health, it was my job as an educated-- as their doctor and as an educated person in nutrition to explain to them either that they would need to very carefully supplement their diet, which I didn't meet a single person on a vegan diet who was supplementing properly.

Or that they might want to consider including some animal foods in their diet, even if it was you know, shellfish. So, you know that was my approach but of course, that was

unsuccessful. In five years, I was unable to convince any of my students to incorporate any animal foods into their diet.

Bret: Really?

Georgia: Yeah.

Bret: That's very interesting. And did you see a lack of progress that was sort of very frustrating to you in terms of how they were doing?

Georgia: Well, you know, that's a hard question because almost all of my students were struggling, almost all of them were struggling with mental health problems and you know, the nutritional quality of a diet is not just about whether or not a person eats animal foods, it's about how much junk food they're eating primarily.

And the vast majority of my students were eating a lot of processed food. So, whether you eat plants or animals or both, that's the main thing that's going to be interrupting normal brain chemistry. And that was really the thing that I was up against. That was the hardest thing to work with students around.

Bret: So, traditional teaching in medical school and psychiatric residency or an internal residency, is depression, it has to do with serotonin, it has to do with dopamine or norepinephrine. It's just a chemical imbalance that it's sort of hardwired and therefore, the only real treatment is drugs that will counteract those chemical imbalances. I mean, it almost sounds crazy for me to say those words, but that's sort of what we're taught. Speak to that for a minute.

Georgia: Well, there is a lot of truth in that, so yes, there are neurotransmitter imbalances and this has been well documented. Actually the most popular antidepressant medication, the so-called SSRIs, the serotonin reuptake inhibitors like Prozac and Zoloft and Celexa, those medications are designed to increase the activity of the neurotransmitter serotonin in the brain, which some people associate with happiness.

And so, that theory about a serotonin deficit being a cause, a root cause of depression is very, very weak. When you look at the best-done studies about these types of antidepressants, the SSRIs, they can help about 50% of people but in the fine print what you find out is that is only 10% more than placebo.

Bret: Oh, boy.

Georgia: And there are many other reasons why the serotonin deficit theory doesn't hold up. But there's a little bit of truth in it and there's actually a little bit of truth to the dopamine excess theory of schizophrenia. And there is this new theory, relatively

new theory which maybe your listeners haven't heard about. There's a neurotransmitter called glutamate, which is kind of the brain's gas pedal.

And that neurotransmitter is found widespread throughout the brain where serotonin and dopamine are found in certain places. And glutamate, the brain's gas pedal is balanced by another equally widespread neurotransmitter called GABA. And so those two, the balance between those two, help your brain decide how active your brain is, the activity level of your brain.

There is a lot of strong evidence coming out now that imbalances in the glutamate system are driving a lot of cases of depression and psychosis and even bipolar disorder. So, yes, there are neurotransmitter imbalances but what is causing them? That's what we always want to ask. Okay, you can add a medication to try to address the neurotransmitter imbalance but that's not going to get to the root of the problem. It's not that you have a medication deficiency. What's wrong?

Why are your neurotransmitters imbalanced? So, I could go into lots of biochemistry if you want, but I will just state one thing-- and you can ask me more if you'd like-- is that if you eat refined carbohydrates and seed oils, those cause inflammation and oxidation and those turn on-- those shift your chemistry particularly on a particular pathway away from serotonin towards dopamine and further more you can get up to 100 times your normal glutamate level.

Bret: Wow.

Georgia: Just by eating the wrong foods, primarily processed foods, particularly refined carbohydrates. If you want to unbalance your neurotransmitters, that's the best way to do it.

Bret: That's impressive, over a hundred-fold just by eating the refined foods. That's pretty impressive. So, then is that how a low-carb diet works? Simply by avoiding the refined carbohydrates and the vegetable oils? Because that would just be to, you know, higher carb diets, I guess a cleaner carb version would work equally as well. So, is there a need to differentiate between the two or do you think they can be equally effective in the right setting?

Georgia: Well, any change you make in the right direction is going to be a good one so, I think start wherever you can and then make further changes as you go along, especially if you're not seeing the results you want. I think a low carbohydrate diet is a very, very healthy diet for the brain because when you eat a low-carb diet, you may or may not go into ketosis, but even if you don't go into ketosis, you have lowered, you've taken a lot of pressure off your brain to process all that excess sugar.

Bret: Yeah. That's a great point, so do ketones matter? You know, they matter for a lot of things but do they matter for trying to treat depression or to treat schizophrenia or treat anxiety? Do the ketone bodies actually matter or is it the reduction of the glucose and the insulin? Do we know the answer to that question even?

Georgia: Well, theoretically, I could give you all kinds of theories about this, but we have very little clinical, documented, published clinical evidence on this. I can tell you my clinical experience and the experience of several other psychiatrists who are working in this field is that for some people it does matter, for others it doesn't.

Bret: Okay. The diagnoses that get thrown around and lumped together frequently under psychiatric disorders are depression, bipolar, schizophrenia, anxiety, ADD. Do you sort of see them as fairly similar in terms of their response to carbohydrates and the restriction of carbohydrates, or is there a little variation in them?

Georgia: There's a lot of variation because, you know, it's not all about carbohydrates, it's not all about metabolism, although I think that takes care of a lot of what we're trying to do in terms of address underlying causes. But there are also things like food sensitivities.

And in particular, with ADHD, there's really nicely documented studies-- none of them done in the United States and all of them done in the past 20 or 30 years-- where if you take children with ADHD and you put them on a very simple diet where you eliminate all of the potential common allergens and things like most of the processed food and you just put them on, you know, meat and poultry and rice and vegetables, you get a two thirds to three quarters response rate, you know, kids improving and many of them no longer meeting criteria for ADHD after just two or three weeks.

Bret: Wow, that's remarkable.

Georgia: And that's not a low carbohydrate diet.

Bret: All right, that's good to know. So, there's the treatment of "psychiatric diseases", where people are deemed to have a problem. And then there's this sort of I guess I'd call it emerging society or emerging population of people who just want better brain function, they want to be more alert, better cognition.

And, you know, ketosis has been promoted for that and some people are using Ritalin for that or nicotine patches for that. Did you have experience with that? Would people come in to you for that and wanting their Ritalin?

Georgia: Oh, yes. So, as a college psychiatrist specializing in college mental health, every day more than once a day. Students coming in and saying, "I can't concentrate, I

can't get my work done, my memory isn't as good as it used to be in high school." And most of these students were earnest, not all of them but most of them. And I believed them and stimulants really do help most of those people very quickly.

They often have side effects, you can develop tolerance, you can even develop a certain type of psychological dependence on them. But by and large, they can be very helpful. The problem is again, they're not addressing the root cause. And so, you know, long term, you're just going to take that medication for the rest of your life and again, they come with side effects.

What happens mostly with these stimulants is that you get kind of these peaks and valleys in your attention and so, you get hyper focused and then you'll crash. So, and there are other side effects that happen as well but, you know, again what's causing it, why can't you concentrate, that's what I'm interested in.

Bret: So, you're not sleeping well, you're not managing your stress well and you're eating too much junk food because you don't have the time to prepare your own meals and think about the quality of your food and you know, I mean those have to be the top three in most college kids right.

Georgia: Absolutely. They're not getting enough sleep, they're eating the wrong food, they're under a tremendous amount of stress.

Bret: Okay, so well then after your time at Smith, you've made another transition, so tell us about your latest adventure and what you've transitioned into.

Georgia: Yeah, so I made a very difficult decision to leave Smith at the end of Spring last year, so I guess it was May or June. And the reason I did that-- there were many reasons-- but the primary reason was that the nutrition work that I was so passionate about, the writing and speaking and studying nutrition, the advocacy work, it just became very time consuming and I loved doing it and it was like I had two full time jobs and so I had to make a decision.

And, you know it was very difficult as you mentioned, sort of eluded to before, it's hard to do really good nutrition work on a college campus. The environment really works against you. Not just against me, but against the students' best efforts as well. Students are required to eat in dining halls, there's not even a whole-foods dining hall let alone a low carb dining hall. There are vegan dining halls and there are gluten free dining halls and kosher dining halls, but there's no, not even a whole foods dining hall if students want to improve the quality of their diet. So, now what I'm doing is a mixture of things.

More writing and-- so more writing, more speaking, I've started an online consultation service for people who are interested in talking to me about diet and mental health and any other aspect that they're-- nutrition that they're interested in. And I'm working on a book about nutrition and mental health, many other little projects on the horizon but I'm really enjoying it so far.

Bret: Well, that's great because it shows you're sort of two hats, you're multifaceted because you are an expert in psychiatric diseases and treating them both with medications and with nutrition. But you're also an expert in evaluating nutritional science and evaluating nutritional reports and I think that's where you've also shown your expertise and where people really look to your writings for guidance.

And part of that is represented in the talk you gave here at the conference at Low Carb Denver about the EAT-Lancet report. So, this has been a huge topic in the news over the past I guess month or so. So, give us a 30 second snippet of what the EAT-Lancet report is and then we'll go into your analysis a little bit deeper.

Georgia: Sure. The EAT-Lancet report was published in January in a very prestigious medical journal. It was commissioned by Lancet and it was written by 37 researchers, headed by a Harvard nutrition professor, Dr. Walter Willett, who is arguably the most influential nutrition researcher in the world. And basically, what it is, is a document that lays out the argument for a very low meat or perhaps even zero animal food diet in order to improve our health-- they claim to save a million lives per year-- and to protect the planet.

Bret: And the way this was publicized was that there was a science/evidence-based report on how meat is deleterious for our health and for the planet.

Georgia: Exactly.

Bret: And are the claims backed by the information in the report?

Georgia: Why, they are not.

Bret: And we laugh but we see this time and time again, you know, that the media overplays the results of a study or, you know, the social media just takes a snippet of something and then runs with it. But this was a bit different because this was actually promoted by the people writing it, by the authors as being sort of the be-all, end-all conclusive report. And that's a little frustrating if the science doesn't back it up, so give us a couple of examples of where you see the science falling short to back up that claim.

Georgia: Yeah, so there are many examples but I guess what I would say is that when they use the word "Science", "scientific evidence" that's where I would take issue because the report relied very heavily-- not exclusively-- but very heavily on a certain kind of nutritional study called an epidemiological study. Professor Willett is a nutrition epidemiologist.

He is actually considered to have invented this methodology as it applies to nutrition and so, he obviously believes in the power of these studies, but most of the studies used to back up the anti-meat claims are epidemiological studies and these are not nutrition experiments. These are questionnaire-based guesses about food and health that then need to be tested in clinical trials but unfortunately, they're usually doubted as fact and published in headlines and written into our guidelines before they're even put to clinical trials.

And when they are put to clinical trials more than 80% of the time those guesses about food and health were wrong. So, you'd be better off flipping a coin. So, that's my main issue with the type of evidence they used. They did use other evidence but whenever it contradicted their low meat/no meat plan, they dismissed it.

Bret: Yeah, so you used a couple of examples, I mean eggs being a big one, poultry being another one. I mean, they would cite evidence to their credit, they would cite evidence that's not been shown to be harmful in most populations. So, eggs being a big one. Their only caveat was in diabetics where you could say they cherry-picked one study and they ignored others.

But they did say there is other evidence showing up to you eating one egg a day was not harmful to your overall health. But then the recommendation was to eat one egg a week, right. So, how do they go from acknowledging the evidence that it's not harmful to then making such a low recommendation? It doesn't even fit.

Georgia: It does not fit and it's just a really good example of bias. How can you in the same breath, say all of these studies show that this was perfectly fine but we're going to recommend a lot less than that?

Bret: Right. And then there was this other conflict about is this about health or is this about the environment? And it certainly seemed like they were saying both, that this is what's necessary to sustain health and sustain the environment. But then yet now there's this quote from the scientific lead I guess, saying that it was never about the environment. Do you know about that? Because I find that more confusing.

Georgia: I do. So, the report is 47 pages long, only 11 pages are dedicated to nutrition and then the rest is dedicated to environmental impact, so if they're saying that it wasn't about the environment then that doesn't square. But you know, what happened

was-- you know, I'm not qualified to talk about sustainability, it's a very, very complicated topic so I reached out to other people who might know something and I reached out to people with different biases. And what they pointed out to me... one particularly Dr. Frank Mitloehner from UC Davis...

He pointed me to the table in the sustainability section of the report that was trying to show that eating less meat or perhaps no meat would be better for the planet. And they looked at all these environmental outcomes. The only - and these are estimated projection because we don't know what would happen of course, these are models, again these are sort of guesses.

And so, they were guessing if they did everything just right and you ate this different diet, that greenhouse gases would go down. And then all of the other things-- they looked at water quality and pollution and things like that-- nothing else changed when you lowered your meat intake. But greenhouse gases seemed to go down. And we want that right? That's good.

So, when Dr. Mitloehner wrote to the scientific director from Lancet and said he was taking issue with the way the calculation had been done and he wanted to know what model they were using because he wasn't sure if it was correct. And instead of answering him, they wrote back and said, well, we didn't base our dietary recommendations on sustainability, this is completely about nutrition and health. So, that was concerning.

Bret: That is concerning. And gosh, I mean, I don't want to fall into just everything is biased and they just had a mission from the beginning and they were you know, they were just trying to confound people and confuse people into believing. But it seems like that was a big part of their mission and I wish it wasn't but it's hard to find the other side of this.

Georgia: It is hard and it's probably because they're not transparent. So, I have a bias, you have a bias, we all, you know, all of us as human beings are biased. There's nothing wrong with that and you know, you actually can't avoid it. But you should be aware of it and you should be transparent about it because that way, people know where you're coming from.

So, if you are Dr. Walter Willett and you say, all right, I'm not comfortable with the idea of eating animals, I don't eat animals myself-- I mean, I don't know if this is true of him, I'm just saying hypothetically-- if this were the case, couldn't he say well, you know this is what I believe best. This is what I worry about, I'm worried about how animals are treated, I don't personally believe that it's good for us to treat animals.

I worry about, you know, how they might be affecting our health even though I can't, even though I'm finding lots of evidence of the contrary. Wrestle with it openly. And you know, I think the emotional argument is a valid one. So, I don't know why they feel the need to at least seemingly hide behind nutrition science when there really isn't any nutrition science there.

Bret: Yeah, that's the most troubling part of this whole thing, it's displaying something as factual, displaying something as conclusive when really, it's anything but-- And that confuses a lot of people, I'm sure you've seen this. I've seen some people who just come to you like desperate and I'm so confused because I've seen so many contradictory things and this is part of the reason for that. This is overstating the quality of evidence or the certainty of evidence.

Georgia: Yeah, when you were mentioning that the media plays a role in this and I agree that they do, because often, they'll just repeat the headline or the press release that the author or that the journal have given to them. But and certainly, how would they do it all--?

I mean, it takes so long to read, it took me a week to read the 11 pages-- a full week, full time, a full week's work to read those 11 pages and to try to understand what the arguments were. No journalist has that kind of time or the ability to do that.

Bret: And if you were still practicing in full time psychiatry, there's no way you would have had time to do that. So we're lucky to have you, that you were able to do it.

Georgia: Well, it was fun.

Bret: You have a twisted sense of fun then.

Georgia: I do, I need to get out more.

Bret: So, what would you recommend to people? I mean, what can we do now that this is out there and it sort of has this steam behind it? But yet, what can we do to help ourselves interpret what it means and kind of help counteract it?

Georgia: That's the million-dollar question. I really don't know. I'm not somebody who knows a lot about politics or power or how financial power works. There are other people who do understand those things or even the legalities in politics of this. I really focus so much on the science that it's really hard for me to even ask those questions. But what I do notice is that this effort to reduce or eliminate animal foods from the diet of everyone living on the planet is very well funded and very well organized and very powerful.

And so, you know, it has the potential to affect everybody's food choices, how much food costs, what foods are available. If they're successful, this could have major consequences for us. For everyone, whether you eat plants or animals or both. And so, I do think that people who care about nutrition science, not just low-carb people because this isn't about low-carb and high carb, this is about public health and this is about social justice.

And so, if you care about this, we need to find a way to organize better, join forces with other communities, not just the low-carb community but other communities which are interested in health, and find a way to send a more cohesive message and spread more information and sort of at least be able to lay out arguments to the contrary so that people can see both sides of it and decide for themselves.

Bret: Yeah. That's a good point. And you know, you hinted on this, I meant to bring this up. The point about nutritional completeness. So, we need to organize better like you were saying and not just low-carb. I think that message is so important. But one of the messages can be "what diet is more complete?" and "is this a complete diet that we can all thrive on?" And the answer there is no, I mean, it's a really incomplete diet, isn't it.

Georgia: By their own admission, and repeatedly throughout these 11 pages and I would encourage people who are curious to just read them. But repeatedly throughout the report they acknowledge that the diet that they're recommending, is between-- let's say, let's give an example. Seven grams of red meat per day, which is a quarter of an ounce.

Bret: Quarter of an ounce.

Georgia: That's the size of the top of your thumb. Or less than that. So, you could have up to two-- you could have up to a whole thumb's worth or you could have no thumbs at all... worth of red meat. So, you know, that diet that they're recommending... I lost my train of thought on the-- I forgot the question Bret, because I was so excited about describing this piece of meat.

Bret: It was about the completeness of the diet.

Georgia: Oh yes.

Bret: It was a good description about the piece of meat though, you can picture that.

Georgia: So they repeatedly acknowledge for pregnant women, for infants, for growing children, for the malnourished, for the impoverished, for teenage girls, that this diet-- for aging adults who are losing muscle mass, all of these people - that the

diet, even their middle diet with the not zero meat but a little meat is nutritionally inadequate and inappropriate.

And that you need to take not just B12 supplements but other supplements on top of that like iron and B2 and perhaps Omega 3. And so, by their own admission, their diet is insufficient and then of course there's insulin resistance, which in the United States and this is around the world in many places as well only one in eight of us are metabolically healthy now. So, the Lancet diet recommends a very high carbohydrate diet with on average 330 g of carbohydrate per day.

Bret: Wow.

Georgia: And for somebody with insulin resistance, that's going to be a dangerous diet. So, this diet really isn't appropriate for anyone I can think of.

Bret: So, it would be the 12 % of the population that's metabolically healthy but who is not an elderly adult or who is not pregnant or who is not a teenager, who is not growing, nobody who wants to grow or be healthy essentially.

Georgia: That's right and for those people that you mentioned, that very small slice of the population, even they would have to take supplements, particularly a B12 supplement. And that's a choice that you can make if you wish to. But you should know that first of all, there are other supplements you'd need to take.

They really downplay the nutritional deficiencies but you should know that's, in my opinion based on everything that I have read, a vegan diet is not a healthier diet. Simply removing the animal foods from your diet, there's no proof, there's no evidence that only removing the animal foods from your diet will get you healthier in any way.

And what we know is that when you remove all the animal foods and you remove all of the processed foods, then you get a little bit healthier.

Bret: Right, that's a very important point because people will cite evidence saying going on a vegan diet or vegetarian diet is proven to be beneficial for our health. But that's the caveat. You're not just removing the meat. You're also removing the processed food, the junk food the refined sugars. Hard to argue with that. But the question of if you're just removing meat that's unanswered.

Georgia: It's never been tested, so we have absolutely no idea what happens if you simply take whatever diet you're eating now and just remove the animal foods from it. We have no idea if you would see any health benefits whatsoever.

Bret: Well, it's certainly disturbing to see the way things are promoted with the lack of scientific security behind it, or scientific certainty I should say behind it. Well, on that depressing topic, let's transition to another exciting topic - Alzheimer's disease and dementia, all right. So, the baby boomers are aging.

They happen to be a higher percentage of overweight and insulin resistant baby boomers and there is this fear that Alzheimer's disease is going to skyrocket and it is a devastating disease not just for the person affected but the loved ones, the caretakers, the family and of course, economically. So, it's a brain disease. You are an expert in brain diseases. What do you see as again a kind of root cause, common theme with Alzheimer's disease and a way to potentially attack it?

Georgia: So, you know, we were talking before about psychiatric disorders and low carbohydrate diets. We have very little evidence there. It's emerging about insulin resistance and psychiatric disorders but when it comes to Alzheimer's disease, we have multiple lines of high quality mature scientific evidence, all pointing in the direction of insulin resistance being not just associated with Alzheimer's, an innocent bystander, but also being a driving force behind most cases of Alzheimer's disease. This is, most brain experts now agree on this point.

Bret: Now, what level of evidence is that? Because it's hard to do a randomized control trial, right. So, that's the highest level of evidence. I guess it's not quite to that degree, so what do you think what level of evidence supports it?

Georgia: Right, so we're not talking about epidemiology, we're talking about mechanistic studies, we're talking about imaging studies, we're talking about clinical studies; humans, animals, mechanistic studies, basic science experiments. Every kind of evidence, every type of evidence that you can have that isn't a randomized clinical trial is there.

And it's not-- you wouldn't want to point any one of these types of lines of evidence because all of them point in the same direction and they're all very strong types of-- the study results are all very strong. Then you have a good case. And it has started to be tested in clinical trials. We have a few studies that have come out showing that if you eat a low-carb diet, even if you have early Alzheimer's disease, you can start to see little changes in cognitive functions.

And there are a lot more studies to come, it's an really active area of research. But it really makes sense because Alzheimer's disease is basically-- the brain is dying and it's a metabolic disorder, the brain's not getting enough energy. It's an energy crisis. So, the funny thing about it is that yes, the brain needs sugar and even if you've got a lot

of sugar, if you've got high blood sugar, that's all going to-- sugar has no problem going into the brain.

It flows in, no questions asked. If your blood sugar is 400, you have plenty of blood sugar, nothing's going to stop that. The problem is that if you have insulin resistance of the body, you will also have it at the blood-brain barrier. And then the insulin won't be able to cross into the brain. And you need insulin to process glucose and turn it into energy. So, the brain is suffering from an energy deficit.

Bret: An energy deficit despite the sub streak for the energy, the glucose being prevalent everywhere.

Georgia: Exactly. It's flooded with glucose and yet it's still starving to death. So that's the thing that people don't understand. They think the brain needs sugar, well yes, the brain needs some sugar, but you know, getting it up there isn't all that needs to happen.

Bret: Right, and yet, there have been hundreds of millions of Alzheimer's drugs and medications but none of them looking at insulin resistance. Do you see the tide starting to change? Do you think there's going to start to be a shift?

Georgia: There have been actually some studies. As soon as scientists in the communities have noticed this connection between insulin resistance and Alzheimer's, the first thing most of them did was to think, oh, we need a drug for that. So, they started to test insulin resistance medications that can lower insulin resistance.

And so, some of them have worked and some of them have not. This is very, very early but there are actually studies out here looking at this. But what I would argue now and again is why don't you in the first place rather than use a drug? Why don't you lower these insulin levels naturally by changing your diet?

Bret: Right. Just makes so much sense doesn't it?

Georgia: It just makes so much sense.

Bret: Now, would you recommend that someone has to be on a ketogenic diet to prevent Alzheimer's or to treat Alzheimer's or again just getting off of the high carbohydrate, low glycemic index, refined sugars is enough to make an improvement? How do we know when we're getting a benefit and how much effort is needed?

Georgia: We don't know. It's a really good question. So, it really is a matter of degree or how insulin resistant you are. I mean, this is my hypothesis. I want to make clear that this is my hypothesis, this is not fact. I don't know for sure.

But what I see when I follow the trends of other diseases as we look at sugar metabolism and ketosis is that the more insulin resistant you are, the more strict you're likely going to be. And so, it's not a one size fits all. But if you have pre-Alzheimer's which is mild cognitive impairment or early Alzheimer's, chances are-- and you can get tested to find out because not everybody with Alzheimer's has insulin resistance, just 80% of them do.

Bret: Only 80%.

Georgia: If you have resistance it's probably pretty significant. And you know, you can start wherever you can. If you can do ketosis, do it. If you need to work your way down to that and see a little - you know, I think everyone is a little bit different but I think that it's really important to make the changes that you're capable of making because it really can hurt.

Bret: I think that's refreshing to hear the way you explain things because you admit when you know what you know and you admit you don't know what you don't know and you admit where you're not an expert and where you need to rely on others.

And it's refreshing to hear that because especially something like the EAT-Lancet or you know, other people who sort of espouse about a lot of different topics where maybe they're not an expert or are saying things with the certainty that doesn't exist, so it's refreshing to hear that acknowledgement about what you know and what you don't know.

Georgia: There's a lot I don't know.

Bret: Humility is a good thing, I think.

Georgia: Oh, yeah. It's fun to let people learning though, it's the, you know one of the things I love about it is there's so much more to learn. Every day there's something new and I can discover.

Bret: Well, we've walked through a number of brain-related conditions and then quality of science related conditions, which both I would definitely consider you an expert on. So, what's next for you? What else do you think needs exploring here?

Georgia: Well, actually what I'm learning about now, I just spoke yesterday at the world's first carnivore conference and so I spoke about the potential for-- well why might carnivore diets be good for the brain. We hear anecdotes all the time. People say that their long-standing illness of whatever type mysteriously disappeared on a carnivore diet or significantly improved. And so, you know the question is-- if we believe these people - why would that be?

Bret: Why would that be?

Georgia: There's a lot of things and I'm looking into that.

Bret: Well I had Amber O'Hearn on the podcast and she gave a wonderful discussion about the carnivore diet. So, what are some of your theories? What are you playing with at the moment for why it would work?

Georgia: Yeah, so my talk yesterday was exploring all of these things but as I was preparing for it, I realized how much I didn't know. You know, there are so many other things I'd like to learn. But what I presented yesterday was sort of the-- there are three underlying reasons for pretty much any illness, right. Their toxicity, deficiency and what I call metabolic mayhem right. And so pretty much every disease can be boiled down to one of those three or all three.

And so, if you're eating only meat, what you're doing is you're eating a food that contains every nutrient that we need in its proper form. Without any anti-nutrients, all-- many plants contain substances which interfere with our ability to use nutrients and all plants are missing certain essential nutrients. There is no such thing as a complete plant food that gives you all the nutrients that you need.

So, you're getting all the nutrients you need and you're not getting any anti-nutrients so that's good. So, nutritionally you're good. But you're also reducing drastically the number of toxins in your diet because plants defend themselves using chemical weapons. Those are natural toxins. I want to make this clear. We have evolved mechanisms to deal with those toxins in many cases-- not all, in many cases.

And so, it's not as though you know, everyone's going to die if they eat plants. But for so many of us we have sustained damage in our gut or immune system over time, from who knows what environmental insults, toxins, pesticides, antibiotics, drugs, who knows what things are in the environment? And we've lost our ability to manage those toxins because in most cases, we've evolved to either not absorb them in the first place or rapidly detoxify and eliminate them very, very quickly.

So, if that's not, if you're not able to do that, those toxins get in and there are some really powerful toxins in plants that can penetrate the blood-brain barrier. And then, the third is what we've been talking about; this metabolic mayhem. So, if you eat an all meat diet, you're not eating-- you're eating very, very little carbohydrate if you're eating an all meat diet.

And so of course, that really, has been shown by many of us including the wonderful Dave Feldman, in meticulous experiments, and I've done this myself, blood sugar is

stone cold flat and nice and low, you know 60s, 70s, 80s on a low-carb - on a carnivorous diet, which actually was not the case for me on a ketogenic diet.

Bret: Interesting.

Georgia: So, it's very good for when you've got fluctuating blood sugar and insulin.

Bret: Yeah. So, it suggests though that there could be a damage process in the gut that could heal and then potentially we will be able to tolerate plants in the future. Potentially. I think that's something I'd be interested in seeing as this sort of carnivore community grows and if some people try to go back to a keto diet or you know, lower carb but still with plants if they do better on it.

Georgia: Exactly. I wish-- if you ever find out how to do that, you know, to improve my metabolism and my health so that I can expand my diet, please let me know.

Bret: Yeah. And I mean, it's limiting. It can be very socially limiting and difficult in certain situations but still perfectly doable because there's a growing number of people doing it.

Georgia: Yeah. And you would ask what's next and so, intellectually it's an area of interest for me. I'm learning more about the biochemistry of the brain and the endocannabinoid system and just things like that, just my own interest. But I don't know if you know about this but there's going to be the first ever low-carb conference in Asia next month in Indonesia in Jakarta.

Bret: Oh, right.

Georgia: So, I'll be there, Dr Westman will be there, Gary Fettke will be there in Tasmania. And then in Switzerland, there will be a conference, a keto live conference in Bergün Switzerland and Dr. Thomas Seyfried will be there, Ivor Cummins will be there. Many, many people, so it will be wonderful.

This low-carb science community is really growing and the message is spreading to more and more places around the world and more and more people are learning about it as an option, so I think it's great.

Bret: I like how you said that "as an option". It doesn't mean it's right for everybody. But certainly be a potential tool in the toolbox doesn't mean it's right for everybody. Well, I really appreciate your approach and the way you see things and explain things. So, thank you for all you're doing and thank you for all your work and thank you for continuing to try and learn more and sort of be better and help educate the rest of us.

Georgia: Thanks for a great conversation and your excellent questions.

Bret: All right, Dr. Georgia Ede from diagnosisdiet.com.

Georgia: Thank you.