Ivor Cummins 00:37 Dr. Georgia Ede, we meet again.

Dr. Georgia Ede 00:39 Mr. Ivor Cummins, a pleasure to be with you again.

Ivor Cummins 00:42 It is indeed. And we're here in Denver at Low Carb Denver, 800 plus people.

Dr. Georgia Ede 00:47 Yeah, amazing.

Ivor Cummins 00:48 It's an amazing one. And you know, I thought I'd take the opportunity, I'm delighted you could do it, is to talk about kind of low carb and health and all that kind of stuff but in the context of mental health Which we often don't talk about. We talked about obesity, we talked about cardiovascular disease, even cancer, but mental health and dietary interventions that can help. You're a psychiatrist, and you know a lot of this stuff. So I just gotta let you start.

Dr. Georgia Ede 01:16 Studies have conclusively shown that the head is part of the body.

Ivor Cummins 01:20 Yeah.

Dr. Georgia Ede 01:22 Yeah, no. So I mean, what I really want people to understand if they take nothing else away that they've so much more control over how they feel than they realize, and that medications are not the only option.

Ivor Cummins 01:35 Yeah, and medications, it become huge. I think the increase in medications over the last 30, 40 years is enormous and I'm sure they offer some benefits. But to tackle the root cause of the problem I think is more would you could inform us on through nutrition and lifestyle but I'm guessing more nutrition and then general lifestyle, that's probably the big factor that people can change.

Dr. Georgia Ede 01:59 So people take medications and psychiatrists are trained to prescribe medications because we're taught that psychiatric disorders are essentially chemical imbalances in the brain. Primarily having to do with the neurotransmitters, you know, the chemicals in the brain that the cells use to communicate with each other, things like serotonin and dopamine and norepinephrine, and glutamate and GABA, and all of these neurotransmitters have drugs that

target them. And sometimes these drugs work and sometimes they don't, and sometimes they work and then they stop working. And sometimes they work and they give you side effects. And they cost money.

02:41 They're really frustrating to work with and their failure rate is pretty high. The traditional antidepressants, the most popular antidepressants, things like Prozac and Zoloft and Celexa, those medications, they only work about 10% more than placebo than a sugar pill, you know? So that's not very helpful for a lot of people. But you can target those same neurotransmitters through diet. And one of the things I like to say, I hope you're not too tired of having heard me say this before, but the most powerful way to change your brain chemistry is through food because that's where the brain chemicals come from in the first place.

03:20 Let's go to the root cause, "Why are the neurotransmitters unbalanced?" Maybe there is a neurotransmitter problem, although that's not the only thing that can cause a mental health problem. But why are they out of balance?

Ivor Cummins 03:32 For sure. And actually, we have a psychiatrist in our Irish kind of medical organization we're setting off and a vegan actually. So we're all joining forces, but she has expressed incredible frustration. She said, "Nearly every one of my depressive patients has metabolic syndrome, insulin resistance." She said it's crazy and none of them have any idea that you can address that with diet, and if not resolve a completely massively mitigated. So I'd agree completely, yeah.

Dr. Georgia Ede 04:02 Yeah, no, that's really interesting that she has found that and that's what I find too. And, you know, for most of the recent years of my career, I've been working in student mental health college and university mental health. And so many students already, they're only, you know, 18 to 22 years old, they already have metabolic syndrome. Some of them already have Type 2 diabetes. Some of them have struggled with obesity, 200, 300 pounds. And what a lot of people don't understand is that there's a huge connection between the health of your body and the health of your mind. It's all connected. My reading of the science is that the majority of mental health problems are driven by metabolic mayhem.

Ivor Cummins 04:44 And actually, I love that phrase. I think Dr. Garber first used it in our slides a few years ago. But that's essentially what it is. I think of the body as an extremely complex machine. And as a complex machine, you need to be really careful with all the inputs and the lubricants. Because if you're not really careful, the machine will just go out of control. And this connection between physical health or metabolic health and the brain and psychological health is huge. So what kind of benefits would you see when you take someone with a metabolic issue, like insulin resistance syndrome, which is beyond epidemic to be quite as we agree, and when you put in a lower carbohydrate diet and lower people's insulin and their liver enzymes and ectopic fat and all the things we talked about, what kind of responses will you tend to get in people who have significant mental challenge?

Dr. Georgia Ede 05:38 People often feel better even just within a few days of correcting their diet or improving their diet we say especially low carbohydrate diet. Because if you have insulin resistance of the body, you almost are guaranteed to have insulin resistance of the brain because, again, the brain is part of the body. So the blood brain barrier which separates the blood vessels that connect all the rest of your body together, the blood vessels that are inside your brain that are trying to deliver nutrients to your brain, they're surrounded by a blood brain barrier, very special membrane, sort of a system that decides what's going to get went into the brain and what's not going to get went into the brain. So the blood brain barrier becomes insulin resistant. And what that means is that it's still going to let all the glucose in, you won't have any trouble getting sugar into your brain. Your blood sugar can be 400, you can have terrible Type 2 diabetes, you can be insulin resistant as all get out, and blood sugar will still flow into your brain, no questions asked. It's insulin that will have a hard time getting in. And that's a problem. Because in order for your brain to turn glucose into energy, it needs insulin to process it. So you've got plenty of sugar, not enough insulin, and so your cells in the brain can be surrounded by a sea of glucose sugar and it can still be starving to death.

Ivor Cummins 07:02 Right. And that reminds me of conversations I had with Amy Berger on Alzheimer's, and how essentially it's being called now by certain people and people in the know as Type 3 diabetes.

Dr. Georgia Ede 07:14 Yes.

Ivor Cummins07:15And the problem being that it'sessentially insulin resistance of the brain.Dr. Georgia Ede07:19Yes.

Ivor Cummins 07:20 Rather than manifesting in diabetes or heart disease, which is almost synonymous with diabetes, it's the brain that suffers most.

Dr. Georgia Ede 07:30 Yeah. You know, high insulin levels can damage every organ in the body. So you've got your wonderful book with with Dr. Jeff Garber, and basically you're describing diabetes of the heart. And you know, if you're looking at Alzheimer's disease, you're describing diabetes of the brain. You know, no organ is left untouched. So it's really important. I mean, many people consider their brain one of the most important organs, so...

Ivor Cummins 07:53 For most people, I'd hope so. Well, if the heart stops, the brain's kind of gone. Now that we say it, the liver those nearly everything.

08:05 So I've heard it said somewhere or a paper I saw around six or 12 months ago, and I don't think I can find it in my archive, just a very small source began to talk about Parkinson's as being Type 4 diabetes now.

Dr. Georgia Ede 08:20 I haven't looked at Parkinson's, although I'm about to look at that to prepare for a presentation I'm giving at Keto Live in Bergun, Switzerland in June, which I know you'll be there, too. I'm really looking forward to that. So I've been asked to give a presentation about psychiatry, but also about neurology. So I'll be reading up on that. I don't honestly know a lot about that yet, but I wouldn't be surprised if there's a strong connection.

Ivor Cummins 08:45 Yeah, well, in fairness, it was the only time I ever saw this ad and it was one little article. And I wondered, was there something in it? And I guess there probably is, but I wait for that.

Dr. Georgia Ede 08:55 Okay.

Ivor Cummins 08:56 So you basically have a practice now consulting with people, and I guess you're overwhelmingly using diet and good diet advice like low carb, healthy fats, etc. more

so maybe the medications now. You're kind of switching more to getting more effectiveness that way.

Dr. Georgia Ede 09:15 Right. I mean, you know, after many years of working in lots of different types of settings, but primarily recently in college, mental health university and college students, for the past 13 years, I really wanted to change the nature of my practice so that I could work entirely with people who were motivated to change their diet, and who were trying to reduce or eliminate their need for medication. Because there are plenty of psychiatrists out there to prescribe medication. So if I stopped doing that, you know, nobody will miss me. Whereas there aren't enough of us doing nutritional intervention. And in a college setting, it's really difficult to be able to provide the kinds of services and supports that students need in order to make these dietary changes. And they have to eat in the dining halls and, you know, it's very, very difficult for them to change their diet in that environment.

Ivor Cummins 10:02 Yeah, well in the US, of course, is kind of a toxic food environment and it takes real willpower. And I guess people who have mental challenges or psychological challenges, they're even more constrained in a way because to apply the discipline, you know, if you're not feeling mentally well, it can be even harder, I guess. I guess there's also conditions where the medications really don't work that well. I saw stories recently coming out. And I think there's more anecdotes coming out. Even someone with bipolar who had 20 years of hell, has done a keto diet lost 100 pounds, and is literally saying his medication needs have collapsed and he's better than he ever was on the meds.

Dr. Georgia Ede 10:45 Absolutely. These medicines do not cure diseases even into remission. Even when people are doing really well in a medication. It's rare to see somebody feel as though they are completely free of symptoms. You're just masking the underlying condition for the most part, and many people don't get anywhere near, you know, even 50% relief. And they often have side effects and many people end up on more than one medication.

11:12 It's a vicious cycle. Some of these medications worse than the underlying condition. So for example, the antipsychotic medications which are being used and marketed more and more heavily now for depression, an antipsychotic medication for depression, they're used for anxiety they used

for depression, they used for sleep. They're not just used for serious psychotic disorders anymore. These medications cause insulin resistance. So you're taking the medication to try to help yourself with psychotic symptoms, and you're actually making your insulin resistance worse. And we know that insulin resistance plays a large role in the origin of the psychotic symptoms in the first place.

Ivor 11:55 There's a huge irony there, and this does come up. It's a bit like the use of insulin in Type 2 diabetics who have run out of the ability to produce insulin. So you inject them with exogenous insulin to shove the glucose down. But that, of course, is heightening their insulin resistance and making their disease worse. It's kind of, there's a fundamental tragedy nearly always in treating more the symptoms than the root cause. It shows benefits and you prove things in a trial, but in the long run, people are not very well served.

Dr. Georgia Ede 12:27 It's true. And you know, you were mentioning bipolar disorder. And you know, we've known for almost 100 years that you can stop seizures in their tracks with a ketogenic diet, a low carbohydrate diet, which if that doesn't tell you that a low carbohydrate diet can have powerful effects on brain chemistry, then I don't know what would. I mean, that's big, right?

Ivor Cummins 12:48 That is the flagship example. And you know what, the funny thing is that, although that's known and it's in the literature, and it's being used clinically a keto diet for drug resistant epilepsy. So the worst kinds of epilepsy can respond maybe 50, 60 or 70% perhaps. The worst drug resistant epilepsy can respond fantastically to a keto diet. So it just shows the power for epilepsy. But of course, no one is looking at it for all of the other neurological diseases.

Dr. Georgia Ede 13:20 Right. And bipolar disorder and epilepsy have a lot in common. We use the same drugs. We psychiatrists steal drugs from neurologists all the time, and use them for psychiatric disorders. So we use anticonvulsant seizure medications to treat bipolar disorder. We call the mood stabilizers but they're this very same medications in most cases that are used to control seizures. And so there have been many papers written about this, that the underlying mechanisms of bipolar disorder and epilepsy are very, very similar.

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13:54 One example is that both people with bipolar disorder and people with epilepsy tend to have too much sodium inside their brain cells, the sodium levels too high. And when the sodium levels too high, the brain cells are too reactive. So if you either take an anticonvulsant, antiseizure medication like Depakote or topamax or Lamotrigine, or you start a ketogenic diet. Both of those interventions lower sodium inside cells. Stabilize and calm down the brain cells, you're less likely to have a mood swing.

Ivor Cummins 14:29 Wow, excellent. Are there any other neurological kind of issues that spring to mind that would equally benefit or is there an element of, a blanket benefit which will broadly apply to any neurological issue? I don't belaying claims too far for the listener, but you know, many of them may very well benefit a lot.

Dr. Georgia Ede 14:52 Well, you know, the brain, everything's kind of... it's not as though this part of the brain is about depression and this part of the brain is about bipolar disorder, and this part is for schizophrenia. You know, the brain is one organ and everything is connected. If you try with a medication to tweak something over in this side of your brain, the rest of the brain responds. So you really can't target it like that. You have to address whole brain health. And if you're eating a diet that is healthy for your whole brain, all of the brain diseases should be, in my opinion, less likely to occur, because your brain is now in a healthier metabolic environment. So doesn't mean you can prevent everything but I would imagine you would reduce your risk quite a bit if you're feeding your brain properly.

Ivor 15:32 Yeah, so that's the key takeaway message here. If you have mild depression or other issues, you're not doing something dangerous or kind of crazy, like taking crazy drugs, to try a healthy low carb healthy fat diet, you can see massive improvements and there's no downside but you'll also probably start losing weight and getting a lot of your other physical issues resolved in parallel.

Dr. Georgia Ede 15:55 Yeah, you know, instead of side effects, you get side benefits.

Ivor 15:59 Exactly. I love that, Georgia. That's fantastic. So I wonder how we wrap it up then. One thing occurs to me because I know we're tight on time here, at the ketones and the

ketogenic diet that helps so much with drug resistant epilepsy, and by extension, and by anecdote and lots of experience with many other neurological problems. Is it true, and to what extent is that true, the brain being supplied now, not just with glucose power, but we do know that 50 or 60% of the brain's energy may be derived by ketones on this diet. So are the ketones like beta hydroxybutyrate themselves causing benefits and brain function?

Dr. Georgia Ede 16:42 It's difficult to tell how much of this has to do with the presence of ketones and how much of it has to do with the lowering of glucose levels, and how much of it has to do with the lowering of insulin levels. Because you have all three of those things happening at the same time, you can't separate them. Now there are some people who are studying exogenous ketones, you know, ketone supplements to see if they can tease that apart. Because if you take a ketone supplement, your blood glucose is not going to change that much and your insulin levels not going to go down, it might even go up a little bit.

17:12 Those people are looking at that. But that's not interesting to me. I want to know what happens when you do the diet. Because if you take an exogenous ketone, you're not lowering your insulin levels, which is I believe, the major driving force behind all of the problems that we're seeing in the brain in the body. So we do know that if you, for example, take the refined carbohydrates out of your diet, you're lowering... either do that or go even further and do a low carb or ketogenic diet. One of the things that happens is your brain will burn more ketones, a higher ratio of ketones, you'll lower the amount of oxidation and inflammation that's going on in your brain. And those are key driving forces behind most brain and body disorders including depression, and bipolar disorder and psychotic disorders.

17:59 So if you can reduce oxidation inflammation, that rebalances your neurotransmitters, reduces the amount of damage that's happening to your brain because ketones burn cleanly and more efficiently without a lot of drama. So everything's good.

Ivor Cummins 18:13 Everything's good. I love that. And you know, I love as well the Holy Trinity, lower insulin, lower glucose, higher ketones, as you pulled together there. And by extension, not just for brain health, but obviously for all of the

people with subclinical diabetes or diabetic dysfunction who are heading straight for heart attacks, thin outside fat inside people, all those people if they do this, you've got all those benefits as well and promoting of weight loss.

Dr. Georgia Ede18:42Yes.Ivor Cummins18:42So it's like, it's all to play for with a<br/>healthy low carb, healthy fats diet.Dr. Georgia Ede18:47I couldn't have said it better<br/>myself.Ivor Cummins18:49Yeah. Well, thank you very much,<br/>Georgia.Dr. Georgia Ede18:51Great. Thanks a lot, Ivor.

Ivor 18:52 Great stuff.