

Announcer:

Bulletproof Radio, a state of high performance.

Dave:

You're listening to Bulletproof Radio with Dave Asprey. Today's guest, she is a physician who focuses on something called muscle-centric medicine and a functional medicine doctor who says, "Look, your muscles are the organ of longevity and they're not about just moving you around or making you look cut. They're an endocrine organ more important even than your fat, that they're a metabolic currency."

So, we're going to talk about carnivore diet, why plants are actually little assholes trying to kill you. Man, I'm already swearing. I'm not supposed to swear. Why plants are bad things trying to kill you? Which I generally agree with, with some exceptions. I'm not a carnivore by any measure but you're going to learn a lot here and you're going to learn some stuff about the environmental side and the health side of relying too much on plants or certainly on the wrong plants.

On top of that, this is someone I wanted to interview because in addition to having the medical credentials, she is a former, very accomplished fitness model. So, when you're talking about a doctor who's actually hacked their own biology, it's a different discussion than when you talk to someone who's a doctor who was in a lab or in a clinic. There's value in all of the above but the people who hacked themselves always get an extra bit of attention from me.

So, Dr. Gabrielle Lyon, welcome to the show.

Dr. Gabrielle Lyon:

Hi, thank you for having me. Excited to be here.

Dave:

Have you just taken a lot of crap for standing up and saying, "Eat more meat with faces?"

Dr. Gabrielle Lyon:

I have. It's interesting because protein is one of the most controversial macronutrients people are very emotionally attached.

Dave:

Since when? Like when did this become a thing? People have not been emotionally attached to their burgers.

Dr. Gabrielle Lyon:

It's so interesting when you think about fat and you think about carbohydrates. Some people will say fat is good for you. You've got other people that will say that it's not, and sugar. No one will argue that Twinkies are bad for you. But when it comes to dietary protein because it has a face, people make very emotional decisions and totally ignore the science.

Dave:

Oh, man. I feel like I can really be myself with you, Gabrielle. So, are you saying just straight up that plant proteins do different things than the human body than animal proteins?

Dr. Gabrielle Lyon:

Well, actually, you are absolutely correct. There is a difference between animal protein and plant protein. And listen, these are hard fast biological numbers. You can't change this. We cannot argue that plant protein and animal protein are the same.

Dave:

Wait a minute. What if it tastes like a hamburger but it's made out of plants? As long as it taste like hamburger, it's the same, right?

Dr. Gabrielle Lyon:

Arguably, if there's more than one ingredient in your burger, you're eating the wrong thing.

Dave:

Okay, what about salt? Tell me I can have salt in my burgers.

Dr. Gabrielle Lyon:

I mean, listen, you can salt your burger but it shouldn't be a necessary part of the meat that you're eating.

Dave:

I guess I'm being a little facetious here, but you are making the case, one that I do support. Everyone who listens to the show already knows that but I want to pick your brain a little more deeply. The case that, look, they're not the same. First, tell me how you became aware of this because I know they didn't teach you that when you were studying medicine. So what was your dawning awareness that, "Hey, wait a minute, plant burgers is not the same."

Dr. Gabrielle Lyon:

Right. I actually was very lucky to have an interesting path. In my undergraduate at University of Illinois, I studied human nutrition, vitamin-mineral metabolism and I was fortunate enough to be trained by one of the world leading protein experts. To this day, he's still one of the most well-established, well-respected clinical researchers that exist and his name is Dr. Donald Layman. So that really changed my whole trajectory from undergraduate and vitamin-mineral metabolism, that became my perspective.

Dave:

So, was his research funded primarily by the big commercial feedlot company that's trying to make people eat more meat?

Dr. Gabrielle Lyon:

So, actually, no. He's had been in research for 30 years. So, he's done 30 years of research and he actually ... When you talk about the difference between animal and plant protein, one of the big differences is there's a branched-chain amino acids, and in particular leucine. And he happened to be a leucine expert.

Dave:

Tell us more about leucine.

Dr. Gabrielle Lyon:

Yeah. So, leucine is one of the essential amino acids. When we compare plant protein to animal protein, the big difference, one of the biggest differences, is the amount of the branched-chain amino acids. And of course, there's also limiting amino acids, but the branched-chain amino acids in particular leucine is what actually stimulates your muscle. And we all know that muscle is the organ of longevity and your survivability is directly related to the quality of your muscle tissue.

Dave:

But there's other amino acid. I mean, leucine isn't the muscle amino acid. We'll all be pumping leucine. Glutamine is kind of an important amino acid. It's feeling left out right now. So, what's so special about leucine?

Dr. Gabrielle Lyon:

Yeah, leucine is actually one of the key ...It is the key amino acid as it relates to muscle protein synthesis. So, it triggers this mTOR signaling so mechanistic target of rapamycin. It triggers this and subsequently you have muscle protein synthesis. And that's why leucine is so important and in particular, the dosing of leucine is so important.

Dave:

Now, we're getting somewhere. So, in my most recent anti-aging book in Super Human, I talked about, all right mTOR. It's actually bad for you. It causes cancer and chronic inflammation except it's also really good for you because it gives you muscles. So, if it's about can you have large amounts of it sometimes and none of it the rest of the time? But if you eat a bunch of meat every day, you get too much methionine and too much leucine and your mTOR is always high and your cancer risk goes up.

Dr. Gabrielle Lyon:

I'm so glad you brought this up, this mTOR issue. It's really interesting. There's mTOR in every tissue and the mTOR in the muscle is different than mTOR in the liver and mTOR in the pancreas and mTOR in the brain.

Dave:

When you say it's different, different levels or it's molecularly different?

Dr. Gabrielle Lyon:

This is so great. It's the stimulus that is different. So, in skeletal muscle, mTOR is exquisitely sensitive to leucine. But let's say in the liver, mTOR is more sensitive to insulin. So the biggest issue with mTOR is overall calories, in particular excess carbohydrates.

Dave:

You're saying it's sensitive to overall calories? No, I mean, carbohydrates? Because it seems like-

Dr. Gabrielle Lyon:

Insulin. The training stimulus but as it relates to longevity, protein and stimulating mTOR, there's never been any indication that there's a relationship to cancer, ever.

Dave:

With mTOR and cancer?

Dr. Gabrielle Lyon:

That's correct. When it comes to mTOR and protein. So, mTOR is stimulated by multiple ways.

Dave:

You're saying it's not leucine that's raising mTOR so much that it's sugar that's raising mTOR?

Dr. Gabrielle Lyon:

Exactly.

Dave:

Okay. That is a true statement that mTOR is raised by sugar and people ate way too much sugar. So, oh, my goodness, if you were to eat a diet that was incredibly high in leucine and not incredibly high in sugar, what happens?

Dr. Gabrielle Lyon:

Well, I mean, I can only tell you anecdotally that you would probably gain muscle if you have all the other amino acids. But I wouldn't be concerned about losing and taking mTOR stimulation.

Dave:

What about methionine and the other aminos that also raise a-

Dr. Gabrielle Lyon:

So, I think that we don't know enough about that. I don't think that the data is very clear in humans. There is quite possibly some evidence for methionine restriction but as it relates to humans ... It's interesting, the studies with methionine restriction are done in rats. And because rats have hair, the methionine requirement is different.

Dave:

Plus rats are little jerks. I mean they'll eat their babies. I mean you shouldn't trust rats.

Dr. Gabrielle Lyon:

I actually heard guinea pigs do the same thing.

Dave:

We talked about methionine restriction and these amino acids, if you're listening to this going, "What are these guys talking about? Amino acids are just the building blocks of protein." So, they're basically like a different colors of bricks and you stack them in different orders and you get different proteins.

How many total amino acids are there?

Dr. Gabrielle Lyon:

There's 20. Nine are essential and really the key that I'm most interested in are the branched-strains and really in particularly leucine but I'm slightly biased.

Dave:

Now, I'm slightly biased with glycine. I'm like a glycine fan boy.

Dr. Gabrielle Lyon:

I wonder, I can appreciate as to why that would be.

Dave:

Yeah, given that I'm all about collagen and collagen is the highest in glycine. What I found was to your point, it may not be the amount of methionine that you have in total but it maybe the ratio of methionine to glycine. And when I talked to James Saladino about the carnivore diet on the show, he's saying, "Yeah, Dave. As a matter of fact, I take the Bulletproof collagen and I pour it on my steaks before I eat them."

And I'm like, "That's gross. You should mix it with water or coffee and drink it and then eat the steak," because collagens actually taste pretty good if it was done right. But compared to a grass-fed ribeye, for God's sake, don't mess up the steak.

Dr. Gabrielle Lyon:

But it is a very interesting point and clinically, I've actually seen benefit of combining collagen protein with actual skeletal muscle because now essentially you're eating the whole animal. Well, I mean, throw in some other organ meats.

It's interesting when you think about the difference between animal proteins and plant proteins. When you think about trying to reach that leucine threshold for muscle protein synthesis, you require about six cups of quinoa equal one small chicken breast or one small beef patty.

Dave:

I don't think that's true.

Dr. Gabrielle Lyon:

It is. If you want to get that leucine threshold up to about 2.5 grams, you need about four to six cups of quinoa.

Dave:

No, totally not true. It still won't work. You know why? Because of all the protein inhibitors that are in the quinoa. These are what lectins do and the other anti-nutrients in there. So, even if you got your leucine levels to that level, you would have to eat even more protein from somewhere else to overcome the enzyme inhibitors that are in there. But you cannot win with quinoa.

Dr. Gabrielle Lyon:

It's a terrible idea. It's calorically devastating. So, you're talking about so many carbohydrates. You're talking about ... There's a meal threshold for carbohydrates and you have way blown past that with four

to six cups of quinoa. It's a really bad idea, and that's really where I have the problem with the vegan-vegetarian narrative. Talking about plant and animal protein being the same because I trained as a geriatrician at WashU and for those people that have never heard of what geriatrics is, it's kind of exactly that. It's an aging population.

So, I've seen the spectrum of longevity and midlife to later life, if your muscle tissue is not adequate, your survivability and your quality of life is incredibly diminished.

Dave:

That makes so much sense. We know that as you age, you need more protein. In fact, even the anti-aging recommendations that I have which are ... It involved some fasting. It involved cycling your protein and some days of not having any protein to turn on autophagy and all the detailed stuff you could do. Hey, as you age or if you're working out heavy, then you need to bump up the protein to stop sarcopenia when your muscles start to go down.

Dr. Gabrielle Lyon:

It's totally true.

Dave:

And so, you're seeing that in older people all over the place, but so many people that hit 50 and I mean, I've seen this even in some family friends. They say, "I'm going to go in a vegan diet." I'm like, "Oh, dude. I know you got a few extra pounds, but when you do this, let me tell you what happened when I went on a raw vegan diet." And I have this background of being really fat and all that.

"Here's what's going to happen." And they say, "Oh, no, it's going to be fine." And then pretty soon, it's like, "Oh, my goodness," like they're Mr. Cranky Pants. Oh, joints hurt. Oh, sleep quality goes down. Libido goes down. Hair starts to fall out. Hashimoto's kicks in. And I'm like, "Man, have you had enough yet?" And they say, "No, it worked for a little while. I must continue working." "By the way, this was me when I was a raw vegan."

Dr. Gabrielle Lyon:

So, how long were you raw vegan?

Dave:

I was raw vegan for about eight, nine months. And then I started like my teeth were breaking. I was cold all the time.

Dr. Gabrielle Lyon:

Oh, my gosh.

Dave:

But I was so convinced that it works. I'm like, I need an even bigger salad bowl. And I had these like two gallons salad bowls and then I blend and soak. Man, I was really into this. And I was absolutely convinced this was the way to do it. And then, finally, I said, "Okay, I need some meat. So, I'll just be a raw omnivore." So, I take a little strips of steak and I would dip them in vinegar in my salad.

Dr. Gabrielle Lyon:

Wait, a raw omnivore?

Dave:

Yeah. I would just eat sushi and pieces of raw red meat and egg yolks. And I can tell you, raw egg yolks are pretty good. It's called Caesar salad dressing. And raw steak is called carpaccio and it's pretty good on salad. It's not that big of a deal.

Dr. Gabrielle Lyon:

So, my visual of all these was quite different.

Dave:

Yeah, I know. I didn't eat like cow on the car where you just go and pick up a cow and take a bite. They don't like that.

Dr. Gabrielle Lyon:

Right, no.

Dave:

But it did really become when things where I felt nourished and very full from a small amount of raw meat and then I went up to Tibet, I'm like, "I'm not eating raw yak that's been hanging for three months from someone's rafters. I'm just going to go back to eating cooked food." But the reason I'm just talking about that is for the people who are saying this plant-based, what you call, narrative. It's been around for a long time except not.

There's a vegetarian thing that's been around forever, but you can still have eggs and cheese and stuff.

Dr. Gabrielle Lyon:

It's interesting-

Dave:

The vegan thing is brand new, right?

Dr. Gabrielle Lyon:

It is. And it's kind of like the mouse with the microphone. So, if you look at the NHANES data which is the largest collection of diet information that we have, about 2% are considered vegetarian. And out of that 2%, it might be, I don't know half of a percent are considered vegan, would consider them from the data vegan. But they're the loudest group. So, you have the smallest percentage of individuals being the loudest.

Dave:

You know where else that is? Online, when you look at just the breakdown of human psychology about somewhere around 4% to 6% of people are sociopaths and psychopaths and they're the trolls. And so, they're the loudest ones because they're the trolls. But generally, most people aren't like that. So you get a few screaming jerks who just, they have to go, "I'm going to take this person down," and whatever.

And it turns out that's not really a reflection of society. Are you saying the vegans are trolls? Did I hear you say that?

Dr. Gabrielle Lyon:

No, but I think actually what you're saying is totally right, is that it's not a big reflection of what society really is. But it's the unintended consequences of the information that's being put out there is devastating, truly.

Dave:

Now, let's say we have two people and one of them is like me. I'm going to be a raw vegan for a while again. And the other one is going to go on a diet that you'd espoused that's high in animal muscle meat, although you like getting the whole animal as well. So, you got like, we'll just say carnivore. You're called someone who's on a carnivore diet or maybe nominal vegetables and someone who's all vegetarian even with high tofu and other plant-based protein. What changes are each of these people going to see?

Dr. Gabrielle Lyon:

So, I'm going to tell you what I have seen in my clinical practice?

Dave:

Yeah, do that.

Dr. Gabrielle Lyon:

I do have vegan and vegetarians that usually convert by the time they get into my practice. As a group, they have the worst dentition that I've ever seen. So their teeth and their gums, hands down the worst. Multiple root canals, just gum recession, plaque, gum recession, really have issues with their teeth. They also have the lowest bone density and they're most likely to fracture something.

I've also seen B12 deficiency. They have issues with memory. They have issues with nerves. Their omegas are very low.

Dave:

Anxiety?

Dr. Gabrielle Lyon:

A ton of anxiety, a ton of digestive problems. This group of patients is my sickest.

Dave:

All of this described me and I did this to be healthier.

Dr. Gabrielle Lyon:

They have the worst sleep patterns. In addition, and this is interesting, their capacity to deal with external stress, their threshold for resiliency is often the lowest. And I don't have any evidence for that, but this is just what I see in clinical practice.

Dave:

Well, there is evidence for it. And one of the basic cheapest measures of resilience is, "Hey, here's a pole like a pull-up bar, hold on." The longer you can hold on, the more resilience you have. Ask any CrossFit trainer. My old friend Kirez Reynolds would say the same thing. He said, "Anyone who's vegan, I don't have to know what they eat when they come in the door for the first time. I have them hang on. Vegans drop off the first. They last three seconds. People who eat French fries all day long and cheeseburgers can hang on for 5 or 10 seconds.

Dr. Gabrielle Lyon:

And it's interesting-

Dave:

Yeah. There's a measure of resilience. Can you hold on?

Dr. Gabrielle Lyon:

Yeah, it's really interesting and veganism in and of itself is what, a 100 years old? I mean, we weren't designed to do that. I mean, we simply weren't designed to do that as it relates to muscle tissue, as it relates to aging and it's just not how we are biologically designed.

Dave:

What about for like a month of being a vegan?

Dr. Gabrielle Lyon:

A what?

Dave:

Just a month of being vegan.

Dr. Gabrielle Lyon:

I think that's actually ... Some of my mentors are going to kill me, but I think that there's some benefit to that. And I think that there is this idea of cycling protein, which may have some benefit truly.

Dave:

It turns on autophagy according to my research and even back in 2011, the Bulletproof Diet, the first infographic comes out, there's one day a week of don't eat more than 15 grams of protein. I don't care if it's plant or animal, no protein. And magically, you just get autophagy or you could fast. So, all the fasting for more than an intermittent fast today, really a lot of it is working because of autophagy. You can still eat some stuff and have autophagy.

Dr. Gabrielle Lyon:

And autophagy is very important. There's mTOR and the concepts of autophagy are really at odds but autophagy allows for cellular repair and then the quality of proteins that then become laid down are typically better. So, there is some benefit. But I want to tell you about the patients that I see that improved their protein intake, just because you ask.

Dave:

Well, hold on. We didn't find out what's going to happen if someone goes on to the Carnivore Diet.

Dr. Gabrielle Lyon:

I'm about to tell you. I can't wait to tell you right now.

Dave:

This is the other part of that question just to make sure we're-

Dr. Gabrielle Lyon:

This is my subtle lead into the Carnivore Diet. How did I do? Good? All right.

Dave:

That was pretty good.

Dr. Gabrielle Lyon:

So, first of all, I am largely carnivore in nature. I'm not fully carnivore, but my dietary intake is largely protein. And when I say largely protein, it's about a 125 to 150 grams a day which-

Dave:

What about fat?

Dr. Gabrielle Lyon:

So the rest of my diet is made up of fat. My fat might be 80 grams a day, easily. The carbohydrates are really on the lower end. It's 50 grams or less and that's maybe divided in two meals if I'm going to have any. It's a protein-forward style diet.

Dave:

The more of your calories are coming from fat than from protein on your diet.

Dr. Gabrielle Lyon:

I mean, the grams are much higher as it relates to protein.

Dave:

Yeah, but the calories from the 80 times the amount of calories in fat I think is higher. So, by weight, it's that way and by calories, you're getting more calories from fat. I got you. Just so people have a picture of what you're eating.

Dr. Gabrielle Lyon:

Yeah. And I will tell you that ... And this is for me and my other patients, they are able to maintain satiety-

Dave:

You're never hungry? That's kind of nice.

Dr. Gabrielle Lyon:

You're never hungry. And this is interesting. This is in the literature. So, the research actually supports this. This is, I don't know, 30 years of research behind optimizing protein in the diet. So, never hungry. Muscle mass is very easy to maintain. Body fat-

Dave:

You don't have to work out. It just happens, right?

Dr. Gabrielle Lyon:

I mean, I don't know. I just had a baby. I have to work out. But otherwise-

Dave:

Oh, yeah.

Dr. Gabrielle Lyon:

Yeah, yeah. There's that. So you have satiation, you're much less likely to go for a carbohydrate or some kind of craving. The muscle-protein synthesis, muscle tissue is optimized. Of course, no one knows what the optimal protein, the optimal muscle mass is for anybody. But if you are taking in enough protein, distributed throughout the day, so if you're actually hitting ... The reality is that you should be hitting 50 grams to optimize the system per meal.

Dave:

50 grams per meal, okay.

Dr. Gabrielle Lyon:

So, when we talk about anti-aging, there's a trade-off. My perspective is how do we optimize muscle tissue and do you need that much protein? You don't. So, this is on the higher end but if we were to have a choice, I'd much rather increase my protein and lower my fat for body composition.

Dave:

Oh, if you're looking to have leaner body, yeah.

Dr. Gabrielle Lyon:

I would say the majority of individuals are not going to eat 1 gram per pound ideal body weight.

Dave:

It's kind of hard to do that.

Dr. Gabrielle Lyon:

Exactly, and a lot of people find it. And the literature doesn't support that high of amount. But in clinical practice and what I've seen in a decade, this is what I've found to be ideal. The recommendation really needs to be thought of and the amount of protein that you need. And you can get away with 1 gram per pound lean body mass. And listen, you could get away, the recommendations for aging, for those

individuals who are aging, through the PROT-AGE study, you're looking at 1.2 to 1.6 grams per kilogram. So, it's probably along the lines of what you're recommending.

But I'm telling you that if people have tried everything and the one thing that they haven't tried is optimizing their protein per meal, a minimum of 30 grams of high quality animal-based protein and the reason is because you're thinking about those branched-chain amino acids, those amino acid levels. And then to really optimize the system, you're talking about 50 grams of protein per meal.

Dave:

Carbs, what are your favorite kinds of carbs?

Dr. Gabrielle Lyon:

Well, I don't really eat that many truly.

Dave:

Yeah, but you have favorites, come on.

Dr. Gabrielle Lyon:

I won't even count avocado as a carb. Do you count avocado as a carb? It's mostly fat.

Dave:

No. Avocado is just a lifestyle. It's not a carb.

Dr. Gabrielle Lyon:

That's right. So, if I was going to really eat some carbs, it'd probably be just some greens, nothing crazy.

Dave:

Greens aren't really carbs.

Dr. Gabrielle Lyon:

I mean, that's it.

Dave:

There's no carbs in there.

Dr. Gabrielle Lyon:

But listen, I haven't trained really intensely where I am needing to have extra carbohydrates. I mean, the way in which you would extra carbohydrates, your activity level, at least for someone my size. I'm 5'1" and 125 pounds. I have to be doing a lot of activity. I mean-

Dave:

I mean, you're super lightweight then. So, for the amount of protein you eat, that's even more like wow, super high.

Dr. Gabrielle Lyon:

It is. But it's how I get my carbs. So for every 100 grams of protein that you eat, 60 grams is converted through glucose through gluconeogenesis. So, the majority of my carbs come from protein.

Dave:

Now, I have worked with a lot of women over the years. I say worked with. I've coached and then I've also just talked with people online, but serious deep conversations and sometimes with clients where they're saying, "Dave, I went Bulletproof and I felt great for six weeks." I'm like, "Did you read the part about having some sweet potatoes on occasion or some white rice?" And like, "Yeah, I didn't really do that because I was feeling so good."

And then about usually six weeks for women and 9 to 12 weeks for men, they're like, "You know what? My sleep quality just ... By the way, I'm not having dreams anymore." And then, "Oh, my cycles are regular," and all these things. And magically when once a week, they have some carbs or if they have a tablespoon of carbs with dinner, they're on a low-carb, they can even still be in ketosis but some carb diet magically goes away. What's your take on that?

Dr. Gabrielle Lyon:

I've actually seen that happen often in my practice.

Dave:

What is it?

Dr. Gabrielle Lyon:

I mean, I can't tell you for sure, but I can certainly say that what I've seen when we add carbs in, and we might add it in. So, most of my patients are not nearly as extremely low-carb as myself. When we add in carbs like carb backloading or carbohydrates at night, what I have found is that the reverse T3 goes down. And this might purely be due to it being less stressful and I'm adding in more calories for them.

But I think that there's something inherently stressful for females in particular when they are carb-less for a long period of time.

Dave:

I think you're right. And for people listening, reverse T3 is one of the thyroid hormones. And if your thyroid is working right, you make T3 which turns up your energy in your brain and you feel good but if it goes reverse T3, it basically instead of turning up thermostat, it just does nothing. And so that's one of the big things that happens with what I call dirty keto. And I think everyone has been recommending, have some carbs in the evening like I talked about having honey which is, "Oh, my god, you can't have honey." Well, honey at least comes from animals." There you go.

But a little bit of honey for some people fixes their sleep, just right before bed. But we're talking about teaspoon or two and it has to do with glycogen in the liver versus the muscles. So, I always tell people if you're going to eat carbs, eat them for dinner and if you want to feel stupid and hungry all day, have them for breakfast.

Dr. Gabrielle Lyon:

That's a great plan. I think that that is 100% right on.

Dave:

Now, for your clients, because you are pretty extreme, I feel like most women who went on your level of carbs would probably run into problems. Does it matter in your clinical experience if they're either in the middle of like perimenopause or menopause, or premenopause? Does the carb versus protein ratio matter?

Dr. Gabrielle Lyon:

This is probably my favorite question.

Dave:

Does the carb versus protein ratio matter?

Dr. Gabrielle Lyon:

This is probably my favorite question.

Dave:

Awesome, I channeled it.

Dr. Gabrielle Lyon:

It's a really good question. There is a carbohydrate threshold that changes. Carbohydrate metabolism changes when women go through hormonal changes. The literature isn't great on it.

Dave:

No, it's terrible. I've looked at it.

Dr. Gabrielle Lyon:

But it's so interesting that when women hit the perimenopausal time, they all gain weight. They almost all gain weight, and it really I believe has to do with the ability to manage glucose because estrogen helps with glucose metabolism. It helps as it relates to glucose uptake in the muscle. All this stuff changes. So, if you're perimenopausal or going through hormonal changes, this actually is the time to reduce your carbohydrates.

Dave:

So, intermittent fasting and fewer carbs at perimenopause?

Dr. Gabrielle Lyon:

Yes, sir.

Dave:

But it feels like that's when people have the most anxiety and the most physical stress and the most sleep problems. It seems like all about carbs at dinner might not be a bad thing?

Dr. Gabrielle Lyon:

Or a little sprinkle of progesterone.

Dave:

Well, there you go. Now, you're talking about hormonal manipulation. That's probably not natural. I don't know if we can do that.

Dr. Gabrielle Lyon:

But if you weren't going to do that, they could definitely try a little bit of carbs at bed but really that's where they would think about adding.

Dave:

If you just google Bulletproof Radio and progesterone, I had a doctor on who talked about using it for PTSD, for neck pain and these all sorts of stuff even in men where you'd never imagine progesterone worked but it can have some powerful effects. So I'm glad you mentioned that here. So, have a few more carbs or progesterone.

Dr. Gabrielle Lyon:

There you go.

Dave:

Can you dip your carbs in progesterone?

Dr. Gabrielle Lyon:

That's a good question. Only if it's honey. So, if it's honey, maybe.

Dave:

It sounds disgusting and I don't think it's ... I guess you can take progesterone pills. I always see this as a cream, but I guess pills do work.

Dr. Gabrielle Lyon:

Actually, I recommend pills at night.

Dave:

Why?

Dr. Gabrielle Lyon:

Sustained release, that you have the capacity to [crosstalk 00:29:13], yeah.

Dave:

Okay. There's one answer. So when you're going through changes cutting carbs, now you're done with perimenopause and you're actually in menopause. So, what's the protein-fat-carb story there?

Dr. Gabrielle Lyon:

So, that's interesting. I think that if you are going to be adjusting that fat-protein ratio, I really think that keeping an individual on a more optimized protein diet is very helpful. And you could actually cycle that

with a more ketogenic style diet, so you focus on protein for a couple of months and then you take a month off where you're focusing more on higher fats and you can see how the body responds.

Dave:

That's interesting. No one has ever proposed that. James Clement, who's a good friend who wrote a book called The Switch around switch between autophagy and mTOR, came on the show and this was very well received by all the anti-aging gurus in my circle there. He talks about that and certainly, I've talked about switching in a different way but I've never heard someone say you should go on that protein with a big P and a little fat.

Dr. Gabrielle Lyon:

That's right.

Dave:

And then switch over to high fat, low protein. That's interesting thinking. What is the reason that someone might choose to do that?

Dr. Gabrielle Lyon:

Well, if you are going on a more optimal protein diet, which I think is so important as it relates to postmenopausal women because they are at risk for sarcopenia. So this group is the quickest group to have destruction of their muscle tissue. Sarcopenia is the loss of muscle mass and strength. Often we think about this as a disease of aging. But truthfully, it actually can start in your 30s and certainly postmenopausal, there is a rapid loss of muscle tissue.

So, really focusing on keeping that tissue optimized is number one. And so, going through a period of time where you're optimizing their protein, getting 50 grams per meal. And this is really based not on their 1 gram per pound body weight because those women never eat that, but really hitting 50 grams per meal and having at least two meals. So I would be happy with the 100 grams of protein, maybe 150. They don't have to go that high.

But if they wanted to, then what I have found and this is in clinical practice is that people get really sick of eating high protein. I have just seen it over and over again and to improve compliance, one of the things that they can do and actually just like what you're saying as it relates to autophagy. But of course we don't know the length of time as it relates to autophagy and humans because those studies haven't been done. But going for a month of a higher fat, lower protein, switching them to a more ketogenic style diet can absolutely work.

Dave:

It's really interesting. I got really sick of eating protein and most proteins were like thick. And what I do when I want to get extra protein and what I've advised to even a lot of movie star types to do is collagen protein. But if it's done right, it doesn't add any thickness to a beverage. So, is there any other way to get protein without just being I'm so tired of protein?

Dr. Gabrielle Lyon:

There are other ways to get protein in. The other way would be to add in a branched-chain amino acid to a lower quality protein. This is not my first choice. I don't really advise it but if an individual wanted to

have two ounces of fish, say, that's how they were going to eat and they added in a branched-chain amino acid to that, it would actually improve the profile of amino acids.

Dave:

Don't BCAAs sort of take you out of ketosis?

Dr. Gabrielle Lyon:

So, branched-chain amino acid is too much protein in general. Branched-chain amino acids are more ketogenic, but too much protein in general can take you out of ketosis.

Dave:

Got it. The other amino I mentioned earlier that I really like for people with gut problems or migraines or headaches is always L-glutamine. But that stuff, you just take a teaspoon of it and bye-bye ketosis. It's very, very strong. But it's funny if you eat steak which is full of L-glutamine, it doesn't do that at all. Talk to me about the role of prebiotics soluble fiber.

Dr. Gabrielle Lyon:

So, that is interesting. That probably has the best data, prebiotic fiber as opposed to the regular fiber as it relates.

Dave:

Yeah, sawdust. That stuff was kind of dumb.

Dr. Gabrielle Lyon:

Yeah. I mean, in terms of what actually should we talk about?

Dave:

Well, it doesn't come from animals even no matter how hard you squeeze them, no fiber comes out.

Dr. Gabrielle Lyon:

That's true. That would be weird.

Dave:

I tried putting a ham in my juicer, no carbs came out.

Dr. Gabrielle Lyon:

I mean, prebiotic fiber can be very beneficial for gut health.

Dave:

But it's not from animals, the whole carnivore thing. What's going on here? I'm feeling like you're betraying the cause.

Dr. Gabrielle Lyon:

I mean, I don't know what to tell you about the prebiotic fibers.

Dave:

Are they good?

Dr. Gabrielle Lyon:

I mean, I think it all depends on your gut health. I think it depends on your baseline gut health, truly. So I don't use any prebiotic fibers, really. Not very much, no.

Dave:

And things all ... Not very much-

Dr. Gabrielle Lyon:

Everything works.

Dave:

And so, everything works down there, all right. I talked with James Saladino about this as well. And I've been and I've been generally like, plants are good to a certain extent but not all plants by a long shot. And I feel like if I eliminate the plants that don't work for me, the ones that do work for me, there's good stuff in there.

Dr. Gabrielle Lyon:

So you know, I think that I'm not inherently against plants. But I think that most people are very ... Not most people, but a lot of people and a lot of information is saying anti-animal. And that's absolutely the wrong narrative. And that's really where I feel the strongest because based on my training, based on what I've seen as it relates to plants, as long as you're eating them "responsibly", fine. Eat them as you please as long as your protein is optimized.

Dave:

What we haven't talked about here is sourcing your meat. And I've done a recent podcast with Grass Roots [Farmer's Cooperative]. I run a grass-fed farm here and all, and the hard and fast Bulletproof rule for listeners is if it's not grass-fed, don't eat it. Industry-raised meat is just a big problem. It will make you sick if you eat it. Do you agree? Am I too extreme? I mean, is it okay to just eat a little bit of industrial meat?

Dr. Gabrielle Lyon:

Well, so if I had to choose between industrial meat and an impossible burger, I would definitely choose the meat.

Dave:

I would fast.

Dr. Gabrielle Lyon:

You know it, that's probably a better answer.

Dave:

Seriously, I'm like neither of those is food. I'm sorry, I look there I'm like, "No food on this plate. I mean if there was a rock there, I wouldn't eat that either because they're not food." Now, if I was going to be in a long-term famine situation, what would I do? Probably eat industrial meat but it does come at a cost. It comes at a cost to the planet. It comes at a cost to our own biology and it comes at a cost to the animal and all three of those are unacceptable.

And if we all do that for long periods of time, there won't be any people because we're destroying our top soil to feed the wrong foods to those animals, destroying our water, torturing animals and then feeding ourselves the crap that comes out of that system which makes us not feel good. But it's still better than if we ate the corn and the soy and all the other junkie carbs.

Dr. Gabrielle Lyon:

Absolutely. And the regenerative agriculture aspect is so important. But this blows my mind. So individuals say eating red meat is bad for the environment. If you eat red meat, it's going to kill the environment. The reality is the majority of all greenhouse gas comes from industry, electricity, travel. I'm talking about 80% plus.

Dave:

That's driving me nuts for a long time and people are saying, "Oh, I'm going to do my part." like your part is 0.0002% of the problem and if you lower your IQ by eight points which by the way is very easy to do, and if no one believes me, just get drunk tonight, wake up tomorrow morning and take an IQ test. You can lower your IQ pretty easily and pretty quickly with what you put in your mouth. You can also raise it with what you put in your mouth.

So, let's see. Let's increase our cancer risk, let's increase our diabetes risk, let's increase our risk of dying from falls and fractures and sarcopenia. Let's see if there's diabetes and Alzheimer's. Those are both diseases of plants, i.e. excessive carbs. So, you're going to do all those. Have you calculated the environmental costs of all the rubber gloves that the doctors are going to have to put on when they're treating you in the last 30 years of life, the cost of the adult diapers that you'll be consuming towards the end of your life because of your stupid dietary choices? If you don't calculate those, you are bad at math, so eat your steak.

Dr. Gabrielle Lyon:

Yes.

Dave:

Sorry, I think I just pissed off a few people. Sorry. Actually if you're mad about this, you could just unfollow or whatever. I'm totally okay with that. But if you're listening to this and going, wait a minute, Dave is either totally nuts or think about the system of your food and what it does to you and what it does to the world. There is very good science and research behind this. And here we have you, Gabrielle, talking about clinical results. You see it in old people. You see it in pregnant people. You see it in women. You see it before menopause. You see it after menopause. You see it in special forces and special operators.

Who do we not see this in? Here's the question. How about people from India? I hear this sometimes. By the way, Silicon Valley guy, most of the companies I've worked for have been founded by people from India. And I've gone on to Indian restaurants and like, "But, Dave, my people have been eating beans and lentils and rice and we're vegetarians." And they say, "This can't apply to us." Does it apply to them too?

Dr. Gabrielle Lyon:

I mean, if you're thinking about overall health, it totally applies to them. I mean, we're humans. We have some biological needs that should be met. And when you think about those cultures, they've very high rates of cardiovascular disease and diabetes.

Dave:

And cancer. That is very true. And when you actually go there, there's ghee in everything. They're at least getting their fat even if their protein numbers aren't where you would like them to be. And they are not vegan for the long shot.

Dr. Gabrielle Lyon:

It's interesting to say that we shouldn't eat meat is a total privilege. We are so lucky to have access to the food that we have. It's a privilege.

Dave:

It is a privilege. What do you say to guys like ... In fact, there's vanishingly few of the really radical doctors like (Dean) Ornish or a David Katz and people like that, or like, "I've been a cardiologist. I don't pay any attention to cancer even though my diet gave Steve Jobs cancer." We know how shocking that was by the way. "And I don't pay attention to any disease other than cardiology but I know that if people just eat plants and no fat and just carbs all the time even though they hate their lives, their odds of dying from heart disease go down." What do you say to those arguments?

Dr. Gabrielle Lyon:

I mean, that's just the worse piece of advice. And this is in the literature, excess carbohydrates, excess calories. This is an issue.

Dave:

But the Ornish Diet is the only diet that's ever been proven to reverse heart disease, according to Ornish.

Dr. Gabrielle Lyon:

I mean, that's just bad information. It's bad information, but how come when you look in the literature, you have randomized control trials that have optimized for protein and seen improvement in cardiometabolic function and lipid profiles? I mean, there's data there.

Dave:

That's inconvenient.

Dr. Gabrielle Lyon:

It's very inconvenient.

Dave:

So, really if you're a good scientist paid for by large soda companies like one that I just mentioned, what you do is you see more of the studies.

Dr. Gabrielle Lyon:

By the way, Dave, you are absolutely correct.

Dave:

About ignoring the studies or paid for by big soda?

Dr. Gabrielle Lyon:

Paid for. But I was on a TV interview with one of those physicians that you'd mentioned. And he said to me, "We don't need randomized control trials to tell us that running with scissors is bad for our children." I'm like, "What are you talking about?" We have randomized control trials that tell us that protein is good for body composition, for diabetes, for obesity. We have those trials.

Dave:

But you get protein from plants. I mean, isn't that what they're saying?

Dr. Gabrielle Lyon:

Only if you butcher the data enough that you can then change the hard fast biological numbers, which that was actually attempted.

Dave:

Okay, and it didn't really work very well, did it?

Dr. Gabrielle Lyon:

I mean, no.

Dave:

Okay. What about this? I mean we've all seen, or at least heard about the propaganda films from PETA, the What the Health and Game Changers. And they always reference this one book, one of the books that influenced my decision to become a raw vegan some years ago, The China Study.

Dr. Gabrielle Lyon:

Which we know is not even a ... I mean, it's not even a study. So this is handpicked epidemiological data where this guy decided to look at information from, I don't know, two different parts of China. One is totally polluted and populated and no sunlight, and all the bad lifestyle behaviors you could have. And the other is the other people are living outside free, eating clean, just again handpicked data. These are all epidemiological data.

It's interesting, people use low quality data to make vast, overt statement. And those unintended consequences are brutal. Game Changers by the way is a total, what's the word? It shouldn't even be called a documentary. It's entertainment. That stuff is so bad in that film starting from the gladiators who are freaking slaves. So they open the film saying about how the gladiators were largely vegetarian. Those chicks were slaves. They didn't get to pick what they ate. They fattened them up so any flesh wound wouldn't kill them. It was the dumbest thing I've ever seen.

Dave:

Oh, my god, I never even thought about it. That's true. They didn't have any freedom at all and they didn't get to choose their food.

Dr. Gabrielle Lyon:

No, and the guy who's sitting there saying he did a thousand hours of research, that's like the equivalent of a PhD. I mean, I don't even know PhDs that are doing that.

Dave:

You can do a thousand hours of research. You just watch stuff on Netflix. That's research, right?

Dr. Gabrielle Lyon:

That film was so bad. It's entertainment. People shouldn't even take it seriously.

Dave:

I read an analysis of I don't do takedowns because it's like I don't think that's how the world works. But I will say when something simply doesn't work or it's untrue versus you trying to put motives on the people who did it or personal insults and things. Those things do not contain science or facts that I can find but they do pull on heartstrings and pictures of cigars and hotdog buns and things like that. I didn't find any science in there and with the health, and I do know that some of the people behind the films actually went to jail for bumming people for the animal rights movement.

And I'm just saying, I kill less animals than people who are vegetarians with my diet that include animals because I can eat a pound of cow every day and killed 0.3 animals a year as long as the cow is grass fed. And there you go, guys, and the cow by the way, no one mistreated it. I know because it's my next-door neighbor's cow. So, it's possible.

But The China Study, I think we both agree on that and there's been countless people out there who've looked at the data. The most important piece on there is when I think you really like ... When I sat down and did a critical analysis after my first sort of wide-eyed reading of it, he says in the very first chapter. Well, there's an animal protein called casein. And if you take casein, which by the way this is a protein extracted from milk, and you give it to animals, it is the most potent carcinogenic agent that we have. It increases the potency of the most carcinogenic agent we have which is called aflatoxin. So, if you take a mold toxin, it caused liver cancer. With casein, you get more liver cancer. Therefore, this is what I call vegan logic. Therefore, all animal protein will kill you.

And you're like, "Hold on a second. Don't different proteins do different things to different people? Don't different amino acids do different things at different times?" All of those things are true and all of those were glossed over in the first chapter. And everything else throughout the book is based on the same illogical thing that all animal proteins are the same.

So, in that mind, a piece of seal blubber is the same as a piece of cheese. I'm like, "They're not the same thing." But in the book, they are and you just have to look at the book and say, "Wait a minute here. I'm being sold a bill of goods by someone who generally is trying to do a good thing." It's just wrong. That's probably my take on it.

Dr. Gabrielle Lyon:

I would agree with you. And it's wrong and it's so interesting that it's still being put out there as science. It's not science. That's not science.

Dave:

It's not science. Now, I want to ask you something that's rude. How old are you?

Dr. Gabrielle Lyon:

29 forever, how about that answer?

Dave:

I knew you're going to say that, because I can't tell. That's why I'm asking you that and you don't have to say. But you look phenomenally healthy and this is something that you see from people who are eating a good quality diet with enough protein. And I got to say with enough fat because your cells are kind of made out of that, those little cell membranes. But you can tell someone who generally has something good going on or someone who doesn't have a look of health about them. So, you're doing something right. And I'm guessing that you're probably older than you look because you're doing something right. And I was going to say, "Wow, I never would have guessed," but that's right. You don't have to tell me.

All right, Gabrielle, one final question for you. If you wanted people to remember two things, two major takeaways from your body of work, the most important ones, what would they be?

Dr. Gabrielle Lyon:

Optimize protein per meal distribution, 50 grams of protein per meal no matter your age, no matter what.

Dave:

What about body weight?

Dr. Gabrielle Lyon:

It doesn't matter. Great question. I know this is kind of the end, but it doesn't matter.

Dave:

So, my 90-pound Asian woman friend who's 60, and I should have 50 grams. We're both going to get that. What the heck? Okay, I know this is the end of the show but you got to tell me why it doesn't matter that I'm 200 pounds.

Dr. Gabrielle Lyon:

This is a really important point because protein is a base on the amino acids. We're really not eating for protein, we're really eating for those amino acids. Hitting that leucine threshold is the most important thing that you can do to maintain your tissue. As you age, the ability to sense leucine goes down. It's called an anabolic resistance. It's something that happens in the cells. It just happens.

So, in order to overcome that threshold, you're actually become resistant to protein. When you hit 50 grams per meal, you likely overcome that anabolic threshold, that anabolic resistance. It has nothing to ... Yes, you could.

Dave:

Just take a bunch of leucine with my meal and just be done with it?

Dr. Gabrielle Lyon:

But then you're out of balance. You're now taking leucine, you've got the other branched-chain amino acids, that's not ideal.

Dave:

Okay, so you're looking at the ratio of all the amino acids and you're saying 50 grams no matter your body weight. Okay, that's your first of your recommendations. That is more than I typically recommend based on body weight but we are learning from your knowledge. I'll even try it, see what happens.

Dr. Gabrielle Lyon:

Oh, my god. I would love it. I want to hear. The second most important thing is train hard enough to get a metabolic adaptation. Interval training is absolutely key because muscle is the organ of longevity.

Dave:

Love it, interval training.

Dr. Gabrielle Lyon:

Yes. You have to stimulate the tissue.

Dave:

Okay, so good. We can get rid of the eat plants and run long distances like you're being chased by a carnivore trying to eat you. It doesn't work.

Dr. Gabrielle Lyon:

Do not train to retreat.

Dave:

So, train to eat the carnivore trying to eat you? Got it, okay. Your website is Dr. Gabrielle Lyon, that's L-Y-O-N despite the fact that you might be training to be a carnivore. And I got to say, I appreciate your clinical perspective on this stuff. You clearly have done your research and it's very intriguing to think about shifting. This month, that would be high protein, moderate fat and then next month, high fat, moderate protein and sort of going back and forth. Never tried that, never thought of that. Now, you get my mind spinning and the same thing, 50 grams of protein per meal is also an interesting thing. So, I may just add, I think that would probably be like three scoops of collagen per meal just to make sure for my lunch and dinner.

Dr. Gabrielle Lyon:

So, I would actually try to get it through skeletal meat. I would try.

Dave:

That won't be a problem. You know how much really high quality pork we have? It sells out at all the local stores because it's our pigs and our pigs eat the Bulletproof Diet. They intermittent fast, they get brain octane and charcoal, so I have no shortage. I'm in. Some of that stuff-

Dr. Gabrielle Lyon:

I mean, I would love to see. So, 50 grams is what? Seven times, so it's around seven ounces. You could easily crush that per meal.

Dave:

It won't be a problem. Rib eye, here I come. All right, thank you for being on the show. Thanks for your work. I mentioned your URL already, but DrGabrielleLyon.com. You have a weekly newsletter and all that kind of stuff.

Dr. Gabrielle Lyon:

I do. And if they're interested in the work that I do with Special Operations, they should definitely check out Task Force Dagger.

Dave:

Task Force Dagger. You mentioned that before, what is that?

Dr. Gabrielle Lyon:

So, Task Force Dagger is a non-for-profit organization that helps Special Operations as it relates to functional medicine.

Dave:

Oh, very cool. All right.

Dr. Gabrielle Lyon:

They're amazing. So, if you are interested in the work that I do there and interested in them, that's an amazing organization.

Dave:

Well, thank you for helping the people who help. And have a wonderful day.

Dr. Gabrielle Lyon:

Thank you.

Dave:

If you like today's episode, you know what to do. Eat some protein already. Oh, and make sure that it had a face.