Introduction and Guest Background

Welcome to the Reverse Alzheimer's Summit. I'm so excited to have Max Rivera. He's a filmmaker, health and science journalist, and the author of the New York Times bestseller Genius Foods become smarter, happier, and More productive while protecting your brain for life.

You can understand why I've invited him to the summit. He's published this book in multiple languages around the globe, helping other people improve their cognitive function through food.

He's also the host of the number one iTunes health podcast, The Genius Life. Mugabe has appeared regularly on The Doctor Oz Show, The Rachael Ray show, and The Doctors.

He's contributed to Medscape via Fast Company, CNN, The Daily Beast, and has also been featured on NBC Nightly News, The Today Show, and The New York Times and People Magazine.

He's an internationally sought after speaker, and he's given talks at South by Southwest, TEDx, the New York Academy of Sciences, among many others. His new cookbook, Genius Kitchen over 100 Easy and Delicious Recipes to Make Your Brain sharp, Your Body strong and Tastebuds Happy is out now.

I have a copy and it's been inspiring me in the kitchen for the past few weeks. Max, welcome. Thank you so much for having me. It's an honor to be here.

So I want to dive right in. Why did you write Genius Kitchen? You have a very personal story around this topic. Yeah, so I didn't, come to writing a book about nutrition and brain health via the the traditional route.

I, I guess, started as a journalist. I was a, a generalist journalist working for a TV network in the United States for many years when, my mother at a very early age, started to display the earliest symptoms of what would ultimately be diagnosed as a form of dementia called Lewy body dementia, which is a progressive, incurable condition that feels akin to having Alzheimer's disease and Parkinson's disease.

At the same time, it's your witnessing. It's like you have experience with it. It's it's a terrible condition. It's absolutely heartbreaking. And a lot of it is because you see the personality change so much.

It's it's a torturous way to lose a loved one. And so I can imagine. Yeah. This inspired you to make sure that other people didn't have to go through that suffering.

Yeah. So, so, I mean, I come from an extremely small family.

Personal Motivation and Motheru2019s Dementia

I'm the oldest child, of three. And, my mom is the most important person in my life at this point. Right. So, for me, having spent the past few years as a, an investigator of sorts, not a not a PhD, not a medical doctor, but somebody who, is really trained and had worked full time.

With this sort of unique skill set of, of knowing how to identify a question and then look for answers. I also had media credentials at that point, which had given me access to experts in the field that, most civilians wouldn't, wouldn't, would not have access to.

So when my mom became sick, I exploited the skills that I had learned, and my, my status as a quasi public figure to my family's benefit. And so I started to do research.

And, you know, I think a lot of people, when they say that they're doing research, it's for for most of the time it's a Google search. So, for me as a layperson, I started there, I started reading anything that I could get my hands on, whether it was Wikipedia, lay, focused books, tedtalks, what have you.

But then I started diving into the medical literature, the primary literature, the literature that's published on PubMed that, now, thankfully, we live in a time where everybody has access to.

And it wasn't easy to understand at first. But, I mean, this is a decade long process that, you know, I believed very strongly that helps. Literacy is something that that we had outsourced and that, my, my experience at the time of feeling completely in the dark about what it was that my mom had had, it was a consequence of that.

And so I felt very empowered to, learn and teach myself as much as I possibly could about the role that nutrition plays in brain health. And then I began reaching out to, experts all around the world.

I actually had the privilege of visiting, some really incredible clinics, to see what their, what the, what they're doing there. And my goal really was, it was twofold.

It was one to see if there was anything out there that could be done to help my mother, who was, progressively declining with this, with this condition.

But on the other hand, it was to see, and to understand if there was anything that I could do in my own life that could then prevent, myself from ever having to, incur what it was that my mom had developed.

Because I realized for the first time that I had a risk factor. And this is not something that doctors tell you, right? Like, as the patient wing person, when you're sitting in the clinic with a with a loved one with this condition, they're not like they don't ever turn the spotlight over to you, right?

And say, well, what are you doing, Max, now that you have this, you know, like you've hit the jackpot, you now have this, this risk factor, right? For this awful, condition.

What are you doing in your own life to to lower your risk. Right. But thankfully, I had the foresight to know that this is now something that I had to seriously start thinking about.

I also discovered that dementia often begins in the brain decades before the first symptom. So for me, this is not a this was not a condition that was an old person's condition.

This is something that we all needed to be thinking about, no matter how old we are. And finally, I guess my mom, was the first person, at least that I'm aware of in our lineage that had a neurodegenerative condition.

So, I realized that it's not even genes that determine one's fate, right? Because genes play a role, they certainly, influence one's risk, but they're not determinant factors.

So for me, it was really to understand. And then ultimately to communicate out, to share the various diet and lifestyle factors that might lower one's risk so as to, you know, ensure or at least, yeah, to, to reduce the odds that one will develop this condition, whether or not one is genetically predisposed.

So you came at this with the perspective of a journalist, which is typically highly skeptical, right. Like we've got to convince a journalist that something is true.

And you also arrived that food can influence cognitive function and brain health. So, when I talk to journalists, they're sort of surprised. And again, very skeptical that there is an interaction.

And a lot of that, I think, comes out of the conventional paradigm that nothing can help dementia. And that, that food has nothing to do with it. If you many people who've talked to a neurologist will have heard that, we'll have heard a neurologist say, there's really nothing you can do, go ahead and get your affairs in order and so how did

you, as a skeptic who was researching this, arrive at that?

What was the moment? Yeah, that's a really good question. Well, I mean, I think I think I what I learned is that there are different kinds of risk factors for dementia.

And most of what we know about dementia, we know about Alzheimer's disease, which is the most common form of dementia. Right. Lewy body dementia is a much more rare condition.

We have not even scratched the surface with regard to the diet and lifestyle risk factors that might, predispose one to that condition, right? Parkinson's disease is the second most common neurodegenerative disease.

But, even for Parkinson's disease, I mean, we know we know tragic, a tragic, smaller amount. There's a much smaller body of literature, with regard to, the etiology of that condition.

So for me, it really was about, okay, well, what's going to be good for the brain? What does the brain need to thrive as opposed to suffer in the modern world?

Right. And we know that when it comes to developing Alzheimer's disease, which is the most common form of dementia, as I mentioned, but not the only form of dementia, there are different kinds of risk factors.

And the two categories that I would highlight are the modifiable risk factors and the non modifiable risk factors. So we know that a non modifiable risk factor for Alzheimer's disease is your genes right.

If you are genetically predisposed say you're you carry the ApoE4 allele. That is a non modifiable risk factor. You can't change your genes. You also can't change your age which is still a very strong if not the strongest risk factor for developing Alzheimer's disease and, and other neurodegenerative conditions.

Right. You can't change your gender unfortunately, if you're female, you have twice the odds of developing Alzheimer's disease as compared to men. Right.

So those are the non modifiable risk factors.

Dementia Risk Factors and the Role of Nutrition

However there's a slew of modifiable risk factors that range from environmental exposures. Right. Whether or not you are spending adequate time outside and getting the requisite amount of vitamin D that your body and brain need to thrive, there is your diet, which is a modifiable risk factor.

Are you predisposing yourself with your diet to type two diabetes, which increases your risk for developing Alzheimer's disease? Anywhere between 2 and 4 fold?

There is your education level, your activity level, your sleep. We're now learning that sleep plays an important role in fortifying and protecting, brain health.

So, the reason why I started with food is because I had had a lifelong passion for nutrition. I was really interested in nutrition and fitness, growing up, in fact, it's one of the reasons why I started college on a pre-medical track.

So I'd always had this passion for nutrition, and I had a sort of foundational knowledge with which to understand it. I wasn't coming into it, coming into it in the dark.

And I also realized that nutrition is such a powerful leverage point because it's something that we all do three times a day. We don't all exercise, right? We don't, unfortunately.

We don't all, treat sleep as sacred as I feel like sleep needs to be treated, but everybody eats multiple times a day. And so for me, I started to look there.

And we also know that diet plays an important role in, swaying one's metabolic health, both in terms of, in terms of, health and disease. And unfortunately, today we live in a time where, metabolic illness is widespread.

9 in 10 adults have some component of the metabolic syndrome. So even though my mother was not, was not obviously unwell, visibly, she wasn't overweight.

There is a very high probability that even somebody of normal weight is suffering from some, some kind of metabolic illness. And food plays a large role in that.

It's not the only factor that influences one's metabolic health, but, it plays a large role. And so I started there and I started looking at dietary patterns that reduce one's risk for developing these conditions.

We know that the Mediterranean dietary pattern, is sort of the most well studied, in the in terms of the mainstream medical literature. It's not the only dietary pattern that's associated with longevity, but it is the one that seems to be the most lauded by, health care professionals in the United States.

So I started there. And the Mediterranean dietary pattern has a has has a few components to it that really make it, stand out with regard to its, its healthiness, especially when compared to the standard American diet, which is for the most part typified by a preponderance of ultra processed, refined grain products, unhealthy oils, and the like.

So I started there, and then I continued to go down the rabbit hole, and I've identified what I call the genius foods. So ten foods that are widely accessible generally, low cost and are going to provide your brain and body with the most bang for the buck with regard to building building block molecules that can fortify, neural tissue, we now know that the brain continues to grow new brain cells up until death, which is really important.

It possesses a, characteristic known as neuroplasticity, which for many decades was considered an impossibility, actually, but we now know that the brain can continue to shape itself, throughout life.

And also foods, provide protector molecules that help the brain, defend itself against stress. Now, stress is something that's incredibly common. And I'm not just talking about the kind of stress that we face when we are tasked with something difficult at work, or when we're in a relationship that's gone sour.

Our brains are. We, our brains. Stress comes in many different forms, whether it's environmental. Exposure to environmental toxicants, being underfed, being malnourished, an overly sedentary lifestyle.

And so there are actually molecules in our food that our brains use as a sort of armament against these stressors, which today are ubiquitous. So we can sort of start there and then, unpack the what, what those foods are.

But, I'll leave it to you to decide. Yeah. I want to dive into the you talk about some of the controversy. Sure. Foods and, so oils, fat, dairy and then meat.

And I think there's a lot of good discussion in the fields and certainly on this summit about whether or not those things are good for you or bad for you.

And so let's go there right away, because I think it's so confusing for people. And I really appreciate that you break that down and help people make sense of whether or not they should be consuming these things, and if they are, what sort of things to think about when they go to select something at the grocery store. So let's start.

Let's go through all of them. But let's start with the oils. Yeah. So your brain is made of fat. That's a, that's I'm sure, being mentioned by many, many people, on this summit.

But your brain isn't just made of any type of fat. Your brain is made of a particular category of fats called polyunsaturated fatty acids, which are particularly, delicate and damage prone, particularly in the context of the brain, which utilizes 25% of your body's, oxygen, right, in a container the size of a grapefruit.

So oxidative stress runs rampant in the brain. And it's actually a defining characteristic of, of many, neurologic conditions, whether we're talking about Alzheimer's disease, Parkinson's disease, even autism spectrum disorder.

And I think the fact that the brain is constructed of these fats, which are highly, chemically unstable, I think that's one of the major, features, one of the major factors that, predispose the brain to oxidative stress.

Polyunsaturated fats, for that reason, are an essential part of our diet. So essential fatty acids include omega three fatty acids, alpha linolenic acid, which is found in plants, or docosahexaenoic acid, DHEA fat, which is found in primarily animal products, or eicosapentaenoic acid or EPA fat, which is also found in animal products.

We also require omega six fats. So omega six fatty have been demonized, by the wellness industry. And those include linoleic acid, which are found in nuts, seeds, vegetable products, things like that.

And also arachidonic acid, which is found primarily in, in animal products. Now the brain needs both of these relative trace amounts. Admittedly, but we need to consume these kinds of fats from our diets every day.

Those are the only essential fats that we know that we need, right? We don't need to consume saturated fat. We don't need to consume monounsaturated fat.

However, when you look at the food supply, monounsaturated fat is the most dominant fat in found found in healthy foods. It's actually the most, common fat in nature.

Were composed in many ways, of of monounsaturated fat, in particular oleic acid. The myelin sheath is actually comprised of oleic acid. And when you look at some of the healthiest foods in the supermarket, they are, at least 50% oleic acid.

So extra virgin olive oil, which is a staple fat in the Mediterranean diet, is about 85% oleic acid. You can look at the fat of wild salmon, which we know is associated with, better cognitive health.

It's about 50% oleic acid. So it's a very common fat found in nature. And it's actually named after the olive, which is when it was first identified. Polyunsaturated fats are also found in nature.

And wherever you find, polyunsaturated fats, monounsaturated fats, saturated fats, they all tend to be found, in whole natural foods to varying proportions.

Right. Like you're not going to see a natural food that is, completely, lacking in saturated fat. Wherever you find fat, you'll find a little bit of each type of fat, in, in natural, whole foods.

And and polyunsaturated fats are also, quite healthy when they're found in Whole Foods. Right. Wild salmon is rich in polyunsaturated fats. We get, DHA fat and EPA fat in wild in the fat of wild salmon, also in fatty fish like, sardines and herring.

In grass fed beef, you get a tiny amount, but significant nonetheless of omega three fatty acids. And you also get omega six fatty acids in grass fed beef.

You can see there's no other there's no food that doesn't have some proportion of all of the all of the fats. Right. The issue with cooking oils is that, The food industry has created these high smoke point cooking oils and has suggested that they are, healthful alternatives to fats that humans have been using for hundreds, if not thousands of years, like extra virgin olive oil.

Choosing Healthy Oils and Fats

And these oils haven't been in the human diet for more than 100 years because we hadn't have the chemistry labs to create them. And so the oils, in the oils in particular, that, I draw people's attention to are the are the refined, bleached and deodorizing grain and seed oils like corn oil, canola oil and soybean oil.

Now, a fat is not a fat. There's a range. And they're they all differ in terms of their susceptibility to this process known as oxidation. And as I mentioned, polyunsaturated fats are the most damage prone.

They're the most prone to this this process, which is essentially a form of chemical degradation. It's aging, right? When you slice an apple and you leave it on the counter and it turns brown, that's oxidation, right?

Nobody would look at a brown apple and say, that's a fresh, healthy apple, right? That's oxidized. It's oxidized, it's rusted. That's essentially what it is. Right.

An avocado. When an avocado turns brown due to the exposure to oxygen, that's oxidation. Right? So this happens to oils. This happens to fats, fatty acids that we consume. Right.

And the most prone to this oxidative process are the polyunsaturated fatty acids. Now when found in whole foods like nuts and seeds and wild salmon and grass fed beef, they're bound by nature with antioxidants.

Right. So these antioxidants that are naturally found in these foods protect those fats. Our own bodies produce antioxidant, right. So these fats are guarded by by a network of antioxidant chemicals, whether it's glutathione which we produce in our body in our bodies or vitamin E, which is actually an essential nutrient, we don't we don't produce that.

But, generally wherever you find vitamin E in, in nature, wherever you find polyunsaturated fats in nature, you're going to find vitamin E. Now, what I want people to know, like if I'm standing in the, in the oil aisle at the grocery store and there's coconut oil or avocado oil or olive oil or canola oil, and you already mentioned which which do I choose?

How do I use them? Yeah. So olive oil is there's this weird hypocrisy. I think, I mean, I would go so far as to, call it hypocrisy in the within the medical and nutritional orthodoxy that lauds the Mediterranean diet dietary pattern for its protective effect against cardiovascular disease and, neurogenic conditions.

There's this like, we we love the Mediterranean dietary pattern, which the only oil that they use in, in, in legit Mediterranean homes and kitchens is extra virgin olive oil.

They're not using canola oil. They're not using soybean oil, they're not using corn oil. And yet it's the same medical and nutritional orthodoxy that within the same breath will praise these cooking oils.

Right. And I think, I mean, I think it really does have to do with money, the fact that that a lot of these oils that are studied, be, you know, and funded by these mega, food conglomerates that that produce them.

The American Heart Association received its early initial funding via Procter and Gamble, which produced these oils. So it really is I mean, it's a complete irony.

So when you're in the in the oil section of the supermarket, what I want people to look for is extra virgin olive oil or avocado oil. Those are the two healthiest oils.

There's a robust body of evidence to show that liberal consumption of fats like oleic acid, which is abundant in extra virgin olive oil and avocado oil, are really beneficial from the standpoint of the brain.

And you'll see this when you buy extra virgin olive oil. When you buy avocado oil, they're protected in glass. Manufacturers have a reverence for these fats because they know that they're so beneficial.

They're so tasty, right? When you buy the grain and seed oils, the canola oil, the corn oil, the soybean oil, you find them in clear plastic. It's like they're they're the dirt cheap, high margin oils that are stored in plastic, which is ironic because we know that they're so prone to oxidation.

But nonetheless, these these the containers that they're normally sold in allow light easily to pass through and heat.

And so I want people to steer clear from the canola oil, the corn oil in the soybean oil.

Now there's a, there's a range, as I mentioned. So canola oil is, has a much higher proportion of chemically stable, oleic acid, mono healthy monounsaturated fat.

And then you have oils that are much higher. With regard to the proportion of polyunsaturated fat, like soybean oil and, and corn oil. So there is some degree of danger when it comes to buying those oils fresh, because studies show that by the time they reach our kitchens, they're all they've already undergone, significant degree of oxidation because they're so delicate and damage prone.

But I think the real the real danger because I don't like to fear monger. I like to be, I mean, honest and transparent. I think the real the primary danger is when we overconsume these foods in the form of fried foods and ultra processed foods, because, as I mentioned, they're already damage to some degree by the time they're quote unquote fresh, which is actually a misnomer in and of itself, because these oils are so heavily processed to be, created from, from jump from the get go.

But it's the it's the, it's the continued processing and the and the heating and the reheating, that they undergo in the restaurant setting, for example, that makes them particularly dangerous.

So it continues to accelerate that oxidation process. It creates, significant, a small but significant amount of trans fats. They already contain, a small amount of trans fats.

But the continual heating of these oils generates even more, and trans fats are there's no safe level of trans fat consumption. There are different types of trans fats.

So there are some trans fats that are produced naturally in ruminant animals. Those are different from the industrially created trans fats, that are found in foods that contain, for example, partially hydrogenated oils, which thankfully have been banned.

But those kinds of margarine. Yeah, but those kinds of fats still, are found in these grain and seed oils. Again, a small amount, but if you're like the standard, you know, if you're, if you're somebody on the standard American diet who's consuming, you know, tablespoons of these oils every day, you know, soybean oil is now the most, commonly consumed fat in the standard American diet.

You are consuming a significant amount of these of these fats, right? We know on labels, if there is fewer than 0.5g of trans fats in a serving, it doesn't have to be labeled.

They can say zero grams of trans fats. But if you're consuming multiple servings of these, of of these oils on a day to day basis, which your average American is, then your intake of trans fats, manmade, artificially produced trans fats is no longer going to be zero once you get over that point, 0.5g threshold.

So this is an Alzheimer's summit. So we have to talk about coconut oil and MCT medium chain triglycerides. So what is your stance there. So I think well there's really interesting research on medium medium change our glycerol which are found in found in coconut oil.

Right. It's a fraction of coconut oil. That is unlike lard, long chain fats and short chain fats, are they have a different metabolic path when we consume them, they get transformed by the liver to ketones, which the brain, when available, will happily use as a as a fuel source.

The research is equivocal. It's it's hard to really, determine whether or not these fats are, effective in the context of Alzheimer's disease. There is some evidence that they that they can be, and also, when used as an adjunct, adjunct therapy to a ketogenic diet, the issue with Alzheimer's disease is that the brain's ability to create energy, from glucose is diminished by about 50%, whereas its ability to generate energy from ketone bodies continues unperturbed.

So it's a way of sort of keeping the lights on in a metabolically ailing brain that has excited researchers and I think provides a, degree of hope. Right.

Does this mean that I'm saying that everybody needs to be on a ketogenic diet, or be integrating MCT oil into their diet? No, that's not what I'm saying.

But I think that the that the, the therapeutic potential is very exciting and particularly with a condition where there is so little hope. I think that this is an area that we need to continue to explore and continue to, to, to research, from the standpoint of, cooking.

You know, I think, coconut oil can be certainly utilized. It can be healthy in moderation. It is a fat that, it's a tropical fat that for some people will drive up levels of LDL cholesterol, and apob in general.

And so, you know, it's not something that I think people should be, swimming in essentially. But the, the two most, healthful fats that I like to endorse, the primary fats that I use are extra virgin olive oil and avocado oil.

But if I were, for example, suffering from some kind of cognitive decline in myself, I would probably, give a ketogenic diet a try and would probably use supplementary, MCT oil, as an adjunct just to drive my, my levels of ketones up even higher.

That's what we recommend.

Coconut Oil, MCTs, and Ketogenic Diets

And what we see clinically helping is a ketogenic diet is one of the fastest ways to turnaround cognition. When we measure it. And I'll add within the context of neurology, the ketogenic diet is not a fringe diet.

This is a diet that's been studied for the past century, because it provides relief to certain forms of epilepsy. So there are some people, within the nutritional community and even within the, the neurologic community that shun the ketogenic diet as a sort of fringe diet, which is complete misinformation.

It's not it's been within the context of neurology. It's something that we have to be talking about. And in the context of ancestral diets as well. We evolved to go back and forth from burning fat for fuel and then burning sugar for fuel, not being, in glycolysis or burning sugar for fuel all of our lives.

And so our brains are certainly programed and designed to burn fat for fuel as well as the rest of our body. So dairy, dairy is a big one. So many people are confused about whether dairy is going to, increase inflammation.

Is this going to help me? It does it have good protein and good fat that I need? Tell us how you decide if somebody should be adding dairy or eliminating it from their diet.

Yeah, I love this question. My views on dairy have evolved over the years. I think that if you are a person that is not allergic and you have lactase persistence, meaning you're not lactose intolerant, I actually think that dairy, and particularly full fat dairy, can be quite a helpful food.

When you look at the purpose of dairy, what dairy is meant to do, it's to grow a neonate. Right. But the the organ that's under the most rapid growth and organization, in the, you know, in the, in the postnatal state is the brain.

And so when you actually break apart dairy and look at what its constituent molecules are, I mean, there are some really interesting compounds in there that directly support brain health.

There was actually a study recently in animal study that found that vitamin K2, help supported it, help to support, the cognition of aging rats as an animal study.

But this wasn't like an Alzheimer's model. This was like rats. Over 17 months were given vitamin K2, the primary

source of vitamin K2 is in full or a primary source of vitamin K2 is full fat dairy.

So it helped protect their, their, brains, and it improved their cognitive function when compared to controls. When you look at the types of fats found in full fat dairy, they're bound by something called milk fat globule membrane.

Milk fat globule membrane is, complex. It's sort of like a bubble that encapsulates the triglyceride in dairy fat. It wraps them in a, in a, in a complex of proteins and phospholipids, that actually can directly support brain health.

Phosphate turtle choline is found in milk fat globule membrane as well as single myelin, which is an important structural component of myelin. Right. So there are all these like interesting unique, molecules in there that that could plausibly help support, an aging brain.

And there was actually a study, it was a food frequency questionnaire, based study, which we know that those are not the most, rigorous forms of nutrition research to do.

But it was, I, I came across it because it was published by Oriol Willett, who's a, brain health nutrition researcher who whose work I've been interested in for some time.

And he found that among all dietary components, the consumption of full fat dairy was associated with better cognitive aging. Now, we know that many people around the world, about 75%, are lactose intolerant.

But I think if we're consuming foods like heavy cream, hard cheeses, fermented dairy like kefir yogurts and things like that, there's actually a lot less lactose, lactase, or, I'm sorry, lactose in those food products.

And, and so I think that, I think that there is good reason to integrate them into, into one's diet, the one dairy product where I think, and, and really kind of illustrates where my views have changed, I think that butter is a food, that we need to recognize is not made by nature.

It's made by humans. And butter lacks milk, fat globule membrane and I think this is one of the reasons why in clinical research, you see that heavy cream actually has a neutral effect on one's, cardiometabolic profile, whereas butter actually can increase, lipids like LDL cholesterol.

And I think it's because of the disruption of this milk fat globule membrane. So even though they both start out from the same origin product, heavy cream, I think that heavy cream is something that's actually perfectly healthy, and possibly can even play a beneficial role.

But butter to me is something that, I've sort of relegated to an indulgence and I still will consume, in moderation. But, but it's the, it's the heavy cream, the it's that milk fat globule membrane that I think is so important to, to preserve.

And then dairy, my understanding is that dairy in combination with sugar becomes particularly dangerous. So this is like your ice creams and your milkshakes and that kind of thing.

When you combine the fat with the sugar, do you have any thoughts about how to kind of make sense of that or like coffee, make people cook better in their coffee.

Dairy, Butter, and Sugar Combinations

If you then add sirup and then add more sugar to that, that's when you run into issues. Well, it's not that there's a synergistic effect that butter sort of or that dairy potentiate the effect of sugar.

Sugar is empty calories. And it most people have some degree of glucose intolerance. Right. Insulin resistance and so for those people, eating low fat or fat free dairy, that, that has a lot of sugar or even full fat dairy with, with added sugar, like ice cream, I mean, that that just typifies the standard American diet, right?

High fat, high sugar. It's not that dairy has, you know, there's like a magic effect of dairy that that when combined with sugar is dangerous. It's just that it's just that added sugar is empty calories.

And and it, it's added sugar consumption is a proxy for junk food, right. When people who consume more added sugar, they're consuming more junk food, ultra processed, hyper palatable junk food.

And when we look observationally, we see that people who consume it's people who consume full fat dairy have better cardiometabolic health. They have lower risk of cardiovascular disease.

They have lower risk of type two diabetes when compared to people who consume, low fat and, and fat free dairy. Now, that could be because low fat dairy and fat free dairy has all this added sugar in it. So there are confounding variables there.

I do think that there's a role for low fat dairy. In particular with regard to Greek yogurt, I think, low fat or fat free Greek yogurt is actually and sugar free Greek yogurt.

It's actually a great food. It's a pristine protein source. It's you get a lot of protein for a very for a very low calorie serving. But in general, I would be mindful of the added sugar, in one's dietary pattern.

Overall, it's not it's not necessary. There's a study that I had read, I'll share it with you, but it's essentially when you combine the high fat, high sugar within about 30 minutes, it leads to vascular spasm.

And so it does. People put people at risk directly for increased cardiovascular, events. Like almost immediately within about 30 or 40 minutes. So, I'll share it with you.

But it's super fascinating stuff. And being mindful of, yeah, just these combinations of foods, but also the amounts, right. Just how much sugar, how much fat?

And then red meat. So let's, let's go on to red meat, because this is also a very controversial one that lots of people have different opinions about.

So I'm curious where you stand. Yeah. So red meat is it's it is controversial. And the research on red meat is equivocal. It's not, it's not really very cut and dry observationally.

Which is one of the primary tools used in nutrition science. We see that people who consume more red meat have worse health outcomes. Right? We see that they have, observationally worse cardiovascular health, worse brain health.

But what we have to understand is that correlation does not equal causation. Even at the population level. Red meat is an especially at the population level, red meat is associated with, smoking.

It's associated with sedentary lifestyle. People who consume more processed meat, they're eating more fast food. They're eating more chicken nuggets. They're eating more subway sandwiches.

They're eating more hot dogs. Right. It's, it's a it's a big problem and it's a huge confounder when when trying to assess, whether or not meat plays a role in, a health optimized diet.

When we look at randomized controlled trials, which are the kinds of trials required to prove cause and effect, we see no evidence that red meat, is unhealthy.

In fact, we see evidence to the contrary. We know that red meat provides a pristine source of highly bioavailable protein, highly bioavailable micronutrients that play a particularly supportive role to brain health, like zinc, like vitamin B12, like creatine.

And and so I think that we have to be mindful of the fact that, we have to be mindful of what's called a healthy user

bias when determining, when trying to determine where meat plays a role in, in our diet. Right.

People who consume more meat, generally at the population level, as I mentioned, more fast food people who consume more whole grains, more vegetables, more fruit, more organic fruit, more, you know, you could take a grain like quinoa, which is something that if you even if you know how to pronounce quinoa, that says something about your overall interest in health and wellness, right?

So nutrition science is mired by healthy user bias there. Now that we're getting better at performing these kinds of, observational studies, we see that once diet quality is high, meat does not play the meat.

There is no unhealthy effect that, that that meat plays. We we know, in fact, that meat is really important from the standpoint of the brain. Particularly in the developing world, we know that people who are deprived of red meat, they have worse, health outcomes.

They have worse, when they're young and healthy, they show, reduced cognitive function, reduced signs of mental health on the on the, on the playground for children.

Charlotte Newman is one of the researchers who did a seminal study out of UCLA showing us that when children were a supplement given supplemental red meat, in a randomized control trial, they had, improved cognitive cognition.

So, yeah, there's a lot of different, I think, kinds of evidence that we could point to that give me, that, that support my view that red meat is additive when it comes to brain health.

Again, it's controversial. Not everybody agrees with me, but I do think that it that it that it plays an important role. But that's and that's part of this summit, right, is to have these conversations about things that are controversial and get the information out there.

What do we know? What do we not know? What are what are the questions? And I think that this is maybe one of them. There's a lot of factors, as you mentioned.

And and these biases. What about the type of red meat the amount of red meat. So are there some variables in here that maybe can make red meat healthier for us.

Yeah I think red meat should be grass fed. Grass finished. So 100% grass finished. Red meat is going to be better for you, better for the environment, better for animal welfare.

Then, then grain finished, grass fed, grain finished beef, which is, by and large, the primary way in which beef is consumed in the United States. I mean, most beef 97%, if not more, of the beef consumed in the United States comes from K fold systems, which are controlled feeding operations that, are unsustainable from an environmental standpoint, not good for the animals.

I think it still needs to be said that even meat from that system is a healthier option for dinner than boxed mac and cheese. It's still provides great protein.

It still provides, a highly bioavailable source of heme iron, zinc, choline, and, and, you know, if you if all you have access to is grain finished beef, you can just opt for leaner cuts, right?

Because what a cow eats really primarily dictates the, the composition of its fat, of its adipocytes, of its fat tissue. But if you're opting for leaner cuts of meat, it actually the difference starts to shrink, right?

Red Meat, Eggs, and Choline

When comparing grain finished versus grass finished beef. One other thing that I'll highlight is that choline consumption is associated with reduced risk for cognitive decline and dementia, and choline can almost be used as

a proxy to, to measure animal product consumption.

It's found in plants, but it's found in a much, in much, much higher amounts in animal products like beef and eggs. And people consume more choline, which is a sort of B vitamin.

It's an important structural building block of the of the phospholipid bilayer, which is important for neuronal, membrane health. People who consume more choline have about a 30% reduced risk of developing dementia, and colon is found most abundantly in animal products.

And our medications, like acetylcholinesterase inhibitors that are focused on choline and maintaining the amount of acetylcholine, a form of choline in the synapse, for for memories.

So yeah, you need choline. Come up a lot and fast. Choline is, what makes up that phospholipid bilayer and helps with cell structure. So integrity especially at the membrane level where where cells are communicating with each other.

And so eggs, eggs, choline we think of I think of at least the first thing that comes to mind for me is eggs. So what is what's a healthy consumption of eggs look like in your mind?

Yeah. Well, calling about 90%. According to the Institute of Medicine, 90% of adults don't consume the adequate intake for choline every day. So most people are not consuming adequate, cooling.

But with one egg, I believe you get your full day's worth of choline. There's about 150mg of caffeine in a in a single egg yolk. And eggs, I think are incredibly, beneficial from from the standpoint of the brain.

I actually call egg yolks a cognitive multivitamin. There's so rich in nutrients that the brain, requires for good health. An egg literally is nature's.

It's it's created by nature to support a developing brain. I mean, that's what an egg yolk is. It's rich and, choline, vitamin B12, zinc, a little bit of omega three fats.

And it's no wonder that eggs are rich in cholesterol as well, because the brain is rich in cholesterol. I'm not saying you need to consume cholesterol for good brain health.

You don't need to consume any of the brain produces all the cholesterol that it needs via de novo cholesterol synthesis. But wherever in nature you see dietary cholesterol, chances are that's going to be a, a repository of brain supporting nutrients.

And an egg yolk is a perfect example of that. Egg whites also highly bioavailable source of of of of protein. And again, colon consumption and eggs are the top source of calling that I'm familiar with is associated with better cognitive health outcomes.

So, I'm a huge fan of eggs. I don't think I don't place an upper limit on egg consumption. We know that, from the majority of people, dietary cholesterol has no impact on serum cholesterol.

This is something that it's like, you know, it's a it's a myth that needs to be put to rest. But within certain communities, you still hear over and over again that we need to be wary of, of dietary cholesterol.

We really. Yeah. So there's a theme that I'm picking up on and what we've discussed, and it's these highly nutrient dense foods that are basically, mom creating the best nutrients so that her offspring can survive.

Right. So this was dairy, avocados, nuts, seeds, coconut oil, eggs. So this comes up over and over again is like, how can we get these highly nutrient dense foods that are perfect for brain development, also great for cognitive function for later in life.

And then, unprocessed is the other kind of theme that I'm hearing from you. So what the what's one recipe that you really love that kind of puts all these things together or, or even like, what's a breakfast, lunch and dinner that somebody could be inspired to make today?

Yeah, I love that. So my latest book, Genius Kitchen, is actually it's a two part book. It's a recipe book, cookbook loaded with over 100 super easy recipes utilizing these foods, which are very easy to find.

And it's also a wellness and nutrition guide. So distilling all of these ideas that that we've talked about, but for me, yeah, it really is about I'm no longer as interested in like carbs versus fat or, you know, even like the even the conversation about plant based versus more carnivorous lifestyles to me is, is less interesting.

What we need to do is we need to get people off of these ultra processed foods, which are now which now account for 60% of the calories that your average American consumes every single day.

And getting back to the foods that we cook in our own homes, to me, that is the most powerful leverage point that one has. We know, thanks to research, that people who eat at home more, they tend to have better cardio metabolic health, improved family dynamics, lower risk of having a high BMI, a lower risk of of of obesity, healthier body fat percentage.

So just cooking at home I think is so crucially important. And, and the reason for this is that when you cook at home, you get to use single ingredient foods and combine them in a way that, your body will recognize, right?

Like some of these ultra processed foods. I mean, whether it's the industrial additives that are added in or the fact that, they utilize these, these what starts out as, as healthful foods, but then they're pulverized to a dust that takes your body no effort whatsoever to digest and assimilate with regard to, like, green grains, for example, whole Foods, I think it's like, you know, it's it allows your body to do the work.

And there's something really ancient about cooking and serving food, for friends and loved ones and seeing their smiles from across the table as a as they nourish their bodies.

You know, collectively, I think it's a really powerful thing for me when I break my fast in the, in the morning, sometimes I enjoy breakfast foods. I mean, I love eggs, as I mentioned. I mean, eggs are a great food, but, but, you know, I love most meals for me center around some kind of high quality protein source.

And the reason for that is that protein is the most satiating macronutrient. Above carbs, above fat, protein, fills your body up. And this is for a few reasons.

For one, there's the protein leverage hypothesis, which stipulates that our drive for our drive for food is dictated by a requirement for amino acids.

Also, thanks to research out of McMaster University, we also know that foods that tend to be high in protein also, are typically high in other important micronutrients, and especially micronutrients that tend to be under consume today.

So like grass fed beef, it's a great protein source, right. But it's also rich in a number of other. It's not just protein, right. It's rich in zinc. It's rich and choline is rich in iron, is rich in vitamin B12, wild salmon.

It's a great protein source, but it's also, tremendous source of DHEA fat, our body, our brains. There's an intelligence that's been baked into our genome.

Our bodies know to seek these kinds of foods right. And so every meal for me centers around either grass fed beef or some kind of poultry or fatty fish.

And then I fill it out with, vegetables, whether it's, baked, steamed, grilled, roasted veggie or a salad. I'm a big advocate of consuming a big salad a day.

Research out of Rush University shows us, actually, the people who do this have brains that perform up to 11 years younger. So sometimes for a meal, I'll just have a salad and I'll throw some protein, into it.

So I love doing that. When it comes to snacks throughout the day, I'm, I'm, I'm I love whole fruit. You know, whatever it happens to be, I'm just a big fan of whole fruit.

I think if you know, with, with the exception being hyper palatable, ultra processed foods, if it tastes good to us, I think it's something that, you know, that we've evolved with, right?

We've like and fruit is nature's candy. And I think when you when you look at fruit, I mean, yes, bananas are bred today to be to contain more starch and sugar than ever before in human history.

But they're self-limiting also, mangoes, apples, things like that. There's only so many apples you can consume, right? Whereas in an ultra processed food, you could easily consume the sugar found in ten apples in a in a single serving.

So I don't really place any limit on whole fruit. And I also like to prioritize, protein in my snacks as well. And that's where I'll reach for the Greek yogurt.

Like a good high protein dairy source or even a whey protein shake.

Daily Eating Patterns and Brain-Healthy Meals

We tend to meet our protein needs so as not to develop deficiency in the United States. But research is starting to show that, even the amount of protein recommended by the, by our governing bodies is insufficient to optimize body composition and metabolic health.

So I'm generally trying to, I generally strive for about 0.7g of protein per pound of body weight. For myself, if you're listening to this, and you're.

Yeah. And there's a goal weight that you have in mind, you want to use that goal weight because it's really ought to be 0.7g per pound of lean, mass. And that's just sort of an easy way of estimating what that what that should be for you.

And then for dinner, I tend to kind of follow the same formula. It's, it's, it's centered around some kind of high quality protein source, and, and vegetables, maybe, some kind of tuber.

I'm a big fan of sweet potatoes. You know, you'll regularly find me consuming those. And I I'll add that I eat a lot, like, I'm. I don't limit myself.

I, I fill myself up, and it allows me to maintain this sort of dietary pattern that I've figured out for. For myself. Allows me to eat a lot and, and maintain a state of relative leanness without becoming obsessed, without having to count calories, without becoming, you know, overly focused on macros.

Right? It's the prioritization of protein. It's the integration of fibers, vegetables, whole food, fruits and the like. And that actually gives me a budget where if I want to have a little bit of dessert after dinner, I'm able to and it's, and it works for me.

And again, I'm able to maintain a degree of leanness without I'm not in the gym three hours a day. Although I, you know, I do exercise, regularly, but it really is about, prioritizing whole foods.

Optimizing, optimizing my for satiety in these foods, like, like identifying the foods that are going to give you the most satiety with the lowest sort of caloric load.

And those foods are fibrous foods or foods that are high in protein. They're foods that are hydrating, like whole

fruits, and the like. And, and it really. Yeah, I found it to work for me.

And at this point now, despite not being a clinician myself, I have the input that I've gotten from thousands of people all around the world who integrate these, recommendations and seems to work for them as well.

So I'm very we didn't talk about vegetables because they're not controversial. So I hope everybody has the takeaway that like vegetables, vegetables, vegetables, lots of greens, lots of veggies, whole foods, of course.

And then the fruits, as you mentioned. I'm also curious about fasting. So you it sounds like you're eating typically three meals a day and not fasting.

And yet there's good literature that suggests that intermittent fasting or fasting is also helpful for the brain. Do you have what are your thoughts there?

No, I mean, I do I do intermittent fasting in the sense that I don't eat as soon as I wake up. I will usually push my first meal to two hours after I wake up, 2 or 3 hours after I wake up, and I try to curtail my consumption of food to 2 to 3 hours before bed.

So that gives me, a bit of time restricted feeding. Early time restricted feeding, which I think is what the literature seems to favor. So eating an earlier dinner and starting, earlier in the day.

So I do, I do do that. However, I don't let that interfere with my social, opportunities. You know, I think in the when we're controlling for all these different variables in the clinical setting, it's easy to get patients to eat an early dinner.

And particularly when they have to go to sleep in a lab. Right. But social connection is so important with regard to brain health, that if you're trying to eat dinner at 6 p.m.

and that's precluding you from being able to have dinner with friends and loved ones at, you know, where 8 p.m. might be a more practical option. My preference would be to to have the more social dinner.

So that's generally what I do. However, I do know that eating at an earlier dinner tends to be better, but I think it's important for people to take note of the fact that your average American is eating food 16 hours a day.

So any improvement that you can do on that, I think is going to be beneficial. For most people, I think a 12 hour eating window and fasting window is, is going to be really easy, right?

I mean, if you can't fit all of your food, consuming habits and constrain them into a 12 hour window from 8 a.m. to 8 p.m. or 9 a.m. to 9 p.m. I mean, you've got to really kind of like look at what's what's going on in your life because that's that that should be super easy for anybody to do.

And some of that late night eating is also kind of mindless. Right. So it's bringing that awareness to our habits and our patterns and saying, okay, where can we optimize a little bit?

Absolutely. Distracted eating is also is is also associated with, about a 15%, increase in calorie consumption. So it's really important. It's a great point that you bring up to be mindful and to be present with your food. Right.

So can Alzheimer's be reversed? I don't I, I can't say, that it can be reversed. At this point, we've, I mean, we've never had somebody recover from Alzheimer's disease, unfortunately.

And so that's why for me, I don't use that language. I tend to put the focus on prevention. I think it's so important to drive home the point that, if you're cognitively healthy, you have there's so much latitude that you have, and it really, there really is no better time to start, integrating brain healthy choices than the present moment.

I mean, you really have to start today because as I mentioned earlier in our conversation, this is a decades long disease process that by the time you receive a diagnosis, that that process is already set into motion.

So I'm not, I'm not convinced that we can, that we'll be able to reverse the condition, although, I mean, it would be incredible, if that blockbuster drug or or intervention were to come around.

You know, I certainly would have loved to have had that degree of hope for my mother. But unfortunately, I think what the research is showing is we really need to start.

We need to really drive home this issue of prevention, and we can't just talk about, brain health, with, in the context of aging. Right? It's it's got to be something that we each, are mindful of throughout our lives.

Right? How can we better care for the brain, our most vulnerable organ? So for me, yeah, it's it really is about, it really is about prevention.

Fasting, Prevention, and Hope for Reversal

I hope that one day within our lifespans, within our lifetimes, we, we are able to use the R-word, within the context of Alzheimer's disease and other forms of dementia.

But for me, right now, I think anybody listening to this, prevention, prevention, prevention, I couldn't agree more about prevention and that we, we need to intervene at those earliest stages of cognitive change.

And it's at the least expensive. It's by far the easiest. It takes the least amount of effort. And I'm excited to convince you that reversal is possible because we see it all the time in our clinic using Doctor Peterson's approach.

And so I think there is lots of reason for hope. And we'll publish our clinical trial this summer. And he has his, 25 participant trial. And it's early it's very early in the science around this, because it is, a multifactorial intervention.

These weren't approved by IRBs until just five, six years ago. And so it's taking time for us to get those randomized controlled trials. But, Doctor Bateson is already recruiting for his.

We have a follow up trial coming up in my office. And so I'm excited to get the literature out there, get all that published so that more and more people can sign that hope and be inspired to make these lifestyle changes.

It's really what we're seeing. You're absolutely correct that there is no frame, a logical intervention that can, that shows reversal, that it sometimes you can get some slowing of the disease process, but with an aggressive lifestyle intervention, hormonal support, as you mentioned, there's a lot of factors, environmental factors, hormonal factors, engagement factors, diet, of course.

Exercise, sleep when you aggressively treat all of these things, we do see reversal. So, yeah, I, I, and I hope I didn't imply that there's nothing that you can do if you have Alzheimer's disease.

There absolutely are things that you can do. And, and I look forward to being convinced and seeing that research. I think you're doing fantastic work.

And, and I'm definitely, you know, supportive. So, yeah, I don't, you know, I think there is definite reason for hope, so I'm I'm, Well, I appreciate the skeptic that the journalist and the skeptic in you. Right.

And I, I share that, I wouldn't believe it if I wasn't the one seeing it with my own eyes. But this is what's exciting, right? Is that we're at the this, forefront of this, and and we'll make it together, all of us working together to change the narrative narrative around what's possible.

We should be able to make Alzheimer's rare for our generation. Yes, I hope so. Fingers crossed. Yeah. That's the that's the goal. Tell us about your family.

So your mom, your siblings, how are they? Well, my siblings, they're they're, you know, we all have this this risk, right? In our family tree. My mother actually passed away about three years ago.

Her life was was tragic, particularly in the later years. I mean, it wasn't it wasn't always tragic. But she had for eight years, she had this, this form of dementia.

And then she developed pancreatic cancer. Over Labor Day of 2018. So it was very sad. And I miss my mom to death. But I, you know, I'm grateful that her legacy gets to live on in this work that I've created and that it's it's helping other people around the world and that people are aware of her and and know her name.

Thanks to thanks to my books. And my advocacy. So, Yeah, it's, it makes me feel like what we went through, what she went through, wasn't in vain. What I give it, would I give up everything that I've.

That I've created to have her back in good health? Absolutely. In a in a in a heartbeat. But, but it really has motivated me in a powerful way to, to to learn as much as I possibly can and to lead by example and to teach and, and I'm grateful for her for that. So.

Well, thank you for your passion and commitment and dedication to this work. We are grateful for it. And thank you also for your time for joining us today and sharing with our listeners, how to choose healthier foods.

Where can our listeners find out more about you? So I just put out my, my latest book, as I mentioned, Genius Kitchen over 100 Easy Recipes to Make Your Brain sharp, body strong, and tastebuds Happy.

It's available wherever you get your books. I host my own podcast called The Genius Life, so people can come over and listen to that wherever they get their podcasts.

And I'm very active on social media, so come over and say hi. Thanks so much for.