Understanding the Nuances of Bioenergetic Therapies
A Special Interview With Kate Deering
By Dr. Joseph Mercola

Dr. Joseph Mercola:

Welcome, everyone. Dr. Mercola, helping you take control of your health. And today we're going to explore some of the subtleties, the nuances of applying bioenergetic therapies. And to help us do that today, we have Kate Deering who has been passionate about applying nutritional principles for over three decades. That's a long time.

Kate Deering:

It is.

Dr. Joseph Mercola:

She is ahead of me with respect to understanding bioenergetics. She's been doing this for 14 years. I think I'm about almost coming up on two years into it. And it took me clearly a year and a half to understand this, because there's so many complexities to it. It's a really giant puzzle from my perspective, but once you understand it, it really simplifies the whole process of being healthy. And in fact, I've developed a unified theory of health based on Dr. [Ray] Peat's metabolic principles, which I think are valid and I'm looking forward to sharing that in the book this summer. So, we're going to explore some fun things. So welcome. Thank you for joining us, Kate.

Kate Deering:

Well, thanks for having me. I'm glad to be here.

Dr. Joseph Mercola:

Yeah. So I think it would be helpful for our listeners to understand your journey. So you started 30 years ago. Why don't you take us back there and what motivated you get in this field and what were you doing and what the heck caused you to embrace Dr. Peat's work?

Kate Deering:

Yeah. Well, it's been quite a journey. I mean, I studied exercise physiology and psychology in college. I've always been fascinated with the human body. I've always been an athlete. I used to play tennis. I played soccer. I've been a runner. I've done long-distance cycling. So, I've done a plethora of things. So, I've always wanted to find how I can make the human body perform the best. And I think that was probably always my philosophy for a good 20 years was “fitness, lean, how do I look the part?” And that all worked until I got into my late 30s. And then it felt like I was walking through mud at some point. Everything just didn't seem to work as well. So, the cleaner I ate, and at that point I was probably studying like Paul Chek principles, so it wasn't a bad diet, but I was leaning more onto metabolic typing.

Dr. Joseph Mercola:

Oh, sure.

Kate Deering:
So, I was eating a very high protein diet, low-carb diet, and it worked until it didn't work. And my system didn't respond the way I wanted to any longer. And it could have been the start of some level of perimenopause. At the time, I had no idea. I just thought, I am doing everything right and it doesn't seem to be doing and helping me. I was gaining weight, my sleep started to go, my cycle became inconsistent. I just felt fatigued. And I think a lot of women can resonate. You just don't feel like yourself. And so, I was like, "Is this it? Is this what 40 feels like?" And you come to this point, maybe this is what everyone's saying, you hit 40 and all of a sudden life shifts. At that point, that's when I started to learn about Dr. Peat's work, the bioenergetics space and how monitoring health on an energetic perspective is really the meaning of health and how well your metabolism is running.

So, I started to basically pay attention to different markers like my temperature, my body temperature, my pulse, my digestion, my sleep, all of these markers that I avoided because all I was looking at before was, "you're lean and you're fit." And when I took this other lens and I started to look through this lens and see, "Is this what health is?" I realized at the time I wasn't very healthy. My body temperature was like 96.5 [F]. My pulse was like 55. I mean, I had numbers of an athlete or an endurance athlete, a body that was very inefficient, but I didn't have a metabolism was functioning optimally for me. So, I found that I did literally a 180 [degree] approach.

I changed everything immediately. I started to add dairy and carbs and all these things in, and initially my body did not like that. It responded, "What are you doing to me?" Too many changes too quickly. But over time it stabilized my system. And for literally all of my life, I've always thought I was maybe a sugar addict. I couldn't have carbs. If there was good, tasty carbs in my house, I would overeat them or binge on them. And as soon as my body became more regulated, all of those things just went away. And it was like I could just eat.

And if I was eating the right foods consistently through the day, my body felt regulated. I felt very stable in my energy, stable in my mood, slept very well, my cycle regulated, all these perimenopausal symptoms just literally went away. And I thought, "Oh my God, I have the Holy Grail." This was what I thought, "This is what health is." My body temperature went up, my pulse went up. And so things just all of a sudden completely shifted on me and I just started to now look through this different lens, took the energy off my weight and so forth. But ultimately in time, that also regulated. That's the gist of the story.

Dr. Joseph Mercola:
Yeah. Thank you for sharing that. Yeah, and you mentioned bioenergetic medicine, and I think there's a tendency for many people to conclude that this is some type of woo-woo energy, but the reality is this simple metabolic energy, this is the energy of ATP (adenosine triphosphate) that causes you to sustain life. And the vast majority, I think it's, Kate, probably over 95% of the population is not making enough ATP. They're energy-deficient.

Kate Deering:

100%. Yes. And I think-

Dr. Joseph Mercola:

Almost everyone watching this, almost everyone.

Kate Deering:

Correct. Yeah. I think people don't realize that, look, we can't use food or calories directly. We have to convert that into ATP through many different processes. And so many things are reliant upon that conversion. I always tell people if I was to go over to Europe, I can't use the American dollar over there, I have to convert it into euros. And your body's the same way. You have to convert calorie energy from food into ATP, and that's what runs your system. And if you don't do that well, you will be under-energized, which is going to create more problems and metabolic problems into your system. And it's not a matter of there's too much food consumption or calories coming in. It's a problem is that you are unable to convert those calories into usable energy so your body can run effectively.

Dr. Joseph Mercola:

Yeah. And that conversion occurs, ideally, occurs in the mitochondria, which has the electron transport chain and facilitates the flow of electrons through the chain. And I know it sounds complex and it is in some ways, but once you get the principles, it's pretty straightforward. And the ideal is that you want to burn glucose. It took me a while to understand this, but glucose is your friend. And there's so many things we can talk about. But one of the clear things is that you've – because there's some really important differences that the Peat community, I don't know where your position is, I haven't looked it up, but that they're incorrect on that Peat didn't understand some complexities with the microbiome that impaired things. It's okay, it's good for most people, but once you're healthy, things switch. And that's where I don't think he missed it, but it has another complex.

But let me continue on this. You need glucose, and then I want you to take this up from here. And when you are doing low-carb, I did low-carb, I wrote a book on low-carb, and certain tissues in your body need low-carb. Absolutely. Like the colonocytes in your colon, one of the most important for your heart cells, your muscle cells, that's the metabolism they thrive on. So, it's not generically, but the rest of your tissues really needs to run on glucose. And if you don't, it's going to run on fat. And when you do the fat, it essentially creates a surplus of electrons. It backed up the electron transport chain that caused a reductive stress, that bottlenecks it, and those electrons don't flow through, and that's when you run into problems. So, essentially that's almost everyone with low-carb has that scenario.

It's just a prescription for disaster. It raises cortisol. And speaking of which, one of the most magnificent cortisol blockers is, in my view, and I'm really curious as to your take on this. I think every adult – every adult – needs to be on progesterone. That's a pretty strong statement. But you're doing this for 14 years. I have not really treated patients with it, but that's my conclusion of the research. Why? Because estrogen is one of three factors that destroy metabolic energy production. Estrogen is one of them. And it's not just estrogen, it's pesticides and it's plastics. They all hit the estrogen receptors and cause calcium to go up inside the cell.

So, progesterone is an anti-estrogen, they can help mediate that. So, I'm wondering what your experience is, and if you used it as you said, you were going through this perimenopause when you were 40, to achieve a level of health that I think is really, really difficult, especially when you've got this low-carb, and your cortisol is through the roof, really through the roof, you can't sleep. It's just awful. Adrenaline's through the roof. So, what do you do? Especially if you can't eat the carbs because your microbiome is messed up. So, that's the challenge, and I sure you see this all the time. It's got to be one of your most common presenting symptoms. Not you, but your patients.

Kate Deering:

Sure. I would say that blood sugar and digestive issues are the biggest issues I come into question with. And ultimately, when we're looking at the energy system of how you produce energy, first I go, "Look, you need four main things." You need the right fuel sources and you certainly can produce energy from fat. You are doing that right now. We all utilize fat all day long, but certainly when your body's under stress or the needs go up, then glucose is going to be your primary because you can just utilize it faster. It kind of goes through the entire cycle faster. And yes, if you understand the electron transport chain, it seems to flow through because how it enters into that whole series of events at complex I as fat sometimes with NADH(2) goes into complex II. And that whole yes, can bottleneck it up.

And so, when we utilize glucose properly, it does flow faster through that system, which allows us to produce more ATP over time. Then of course, the other things that we absolutely need to produce energy or oxygen. If you're in a low oxygenated state, whether you're core breather or you're anemic for one reason or another, or you have nutrient deficiencies that are creating a low oxygen state, then that is also going to slow down the entire way you can produce energy. That's why every anemic person is tired. Is it inherently that it's iron? I go, "No, it's just, well, iron is helpful for hemoglobin and then you need more hemoglobin for oxygenation and that's the oxygenation that's creating you to be tired." And then of course, thyroid function. Anyone that's low thyroid obviously usually has an energy issue. Getting the right amount of thyroid or figuring out what's blocking thyroid is a very important part of that equation.

I also like to add in sun because we need sun for life and produce energy. When we have all those things, then we should be able to produce energy effectively. But then I also refer to the "energy blocks" and that you touched on those, and those certainly can be GI issues, microbiome issues, endotoxin. We know endotoxin can literally inhibit cellular respiration. And so endotoxins are bacterial toxins that your bacteria will produce. And then of course if somebody's stressed or has some sort of leaky gut, they can get into your blood system and essentially poison your system and poison your cells, and you will become a poor energy producer at this point in time. Iron overload is also one of those things. Estrogen can also be an inhibitor more because, and I look at things and you touched on too, it's like anytime you push a person into pushing them into producing, using fat more as fuel over glucose more than what they normally should be, then that's when you can create a problem in the system. And estrogen tends to promote fat oxidation and progesterone tends to promote glucose oxidation.

And so that's why it would make sense to utilize progesterone because of how it works within the energy system. Now, my experience with using those types of hormones with people is not

everybody – when you put them into people and the humans and all their complexities, it never works as simply as that's just going to be the magic bullet because it isn't a magic bullet. Can it certainly help people? Yes. Have I seen it actually help people regulate blood sugar? Yes, because it can do that. It helps you utilize sugars over fats. But for some people, they don't do well on it. And so you have to, and a lot of the times it's because they haven't worked on the food part first. And I always believe you need to create a good environment.

And so, because progesterone can help facilitate and actually improve metabolic rate, if you don't have the proper resources, meaning enough food and nutrition and you give them something like a thermogenic progesterone or something like thyroid or even caffeine for that matter, it can actually make them feel worse because you're basically putting the gas on the car with not enough fuel or enough nutrients. So, you're making them try to go through the system a lot quicker with not the right resources available. So, I always say, "Work on your food first," make sure that there's enough fuel, carbs, fat, and then the nutrients available with it, and you probably need to give yourself some time to do that before I would add maybe or suggest some hormone. Now, it doesn't mean that some people don't start with that and can get a positive result. They can, but I think it's always best to make sure you have optimal resources first before probably initiating something like that.

Dr. Joseph Mercola:

Yeah. Have you been consistent with your type of progesterone? Because that's something many people don't know, that Peat got his Ph.D. writing a thesis on estrogen in 1982. He was a world-class expert in estrogen. He knew that topic inside and out and he was not a fan of using estrogen in any way, shape or form, which is another topic we're not going to dive deep down there. Because it's controversial. I don't agree with it. I'm sure you don't either. But there's a wide variety of ways to administer progesterone, and I believe almost all of them are fairly flawed except for the one that Peat developed, which is to understand that it's fully dissolved in vitamin E.

And there are probably other ways like liposomal administration, but you've got to be careful because if it's not facilitated into your bloodstream directly and it goes through the skin, transdermally, [there] could be complications. If you swallow it, that's even worse because it's going to get first-past metabolism in the liver. You're going to change it and it's not going to be the functional version. So, I'm wondering in your effort to utilize that, if you've been consistent recommending one of the Peat-approved progesterone products or do you let them decide it?

Kate Deering:

I would normally suggest the one that he utilizes is in vitamin E, the progestin because that's the one that is dissolved. There are obviously other people have used different ones, whether they dissolve it in MCT (medium-chain triglyceride) oil or there's a variety of solvents that people use. Now, I will say that not everybody responds to the same one. And so I would say I get the most positive results out of the one that is in vitamin E. Again, and it does come down to – and I've worked with people that have literally found this, and the first thing they do is they'll do progesterone or something and then they actually don't get a good result from it, but then they go and they work-

Dr. Joseph Mercola:

Interesting, interesting.

Kate Deering:

Yeah, because if they've come low-carb or they've come from a place where their body isn't ready for something like that and all of a sudden you give them a progesterone, it almost speeds them up too fast. It almost makes them feel anxious.

Dr. Joseph Mercola:

Okay, interesting. So, are these people that you're identifying this reaction people that's the only thing they've done or are they doing this in conjunction with the other recommendations?

Kate Deering:

It's a good question because normally when I've talked to them, they've already tried that, meaning some people-

Dr. Joseph Mercola:

Oh, so they jump themselves.

Kate Deering:

-will find this, and then yeah, they'll read something. They go, “Oh, I need progesterone.” And they don't change anything else, right? So, that's the only thing they do, and then they have a bad response from it. So, it's like, look, usually there's stages, I would say, “Look, try your food first.” And it will usually work better for you, not everybody, meaning the sense of some people can find and they start with a progesterone and all of a sudden they're like, "Oh my God, I feel so much better."

So, that does happen, and you realize very quickly that you're dealing with humans and they're all different. They all have different starting points, different histories, different health issues. So, it makes sense that not everyone responds the same way. And so to me it's always like, well, if you've already tried that and you had an adverse reaction, and then people think, “Well, progesterone just doesn’t work for me.” And you definitely see that in the menopausal spaces where people just try progesterone and they feel like I have an aversion to it, it doesn't work for me. And I'm like, "Okay, well, tell me about your diet. Tell me what stressors are going on in your life. Tell me what else is going on." And then we address those things and then maybe retry it and then they get a much better response.

Dr. Joseph Mercola:

Well, I want to thank you, enormous gratitude, for helping me learn and understand that. Now I get it. Because I've never really implemented in the context that you say, because I always do it in the context of a whole program. So for me, it wouldn't be done without that. So, I don't disagree with your approach at all. That's the one I embrace. But when I discuss it, I never emphasize the importance of doing it in a whole system. And you just very particularly, very nicely, the complications of not making that really important understanding, you should not use

it by yourself. So, thank you for that. That's definitely going into the protocol. Now, the revision, “Do not do this without the whole program.” But I think if you're doing the whole program, I really believe almost everyone benefits from it done appropriately. If you can integrate the whole thing because just the estrogen and the cortisol and the adrenaline, these are just big negatives that are going to cause you a lot of complications.

Kate Deering:

100%. I mean, look, we thrive on an energy system with thyroid being your lead hormone. Like I said, you need fuel, you need nutrients, you need oxygen, you need thyroid, you need sun. That is an energy system that functions optimally. Then there is another energy system that's our backup system, which is our stress system, and that also can produce energy. We produce a significant amount of ATP under stress, and then that is usually on a stress cycle, you're using not fuel as far as food, you're usually using you. You're using your fat or your muscle, your connective tissue, your organs, that could be your primary fuel source. You still will be needing nutrients. So, a stress system still requires a ton of nutrition. And if you're not eating, then it's much easier to become nutrient-deficient on a stress system because you're not getting enough of the nutrients in.

Then you still need ample amount of oxygen, and usually you need more because in the stress system you might be burning more fat and fat requires a lot more oxygen to be utilized than does carbon dioxide. I'm sorry, as does carbohydrates because carbohydrates in the same token, they produce double the carbon dioxide as does fat oxygenation. So, we can put a pin in that and talk about that in a second. But that all is required for a well-running energy system. But the lead hormone in a stress cycle is like cortisol, glucagon, adrenaline. Those are your lead hormones and they're basically always telling your body, “There's not enough, you're not producing enough energy, there's not enough resources available, so we're going to have to break down your own tissue to have more resources so we can produce energy because you keep pushing us hard or whatever it is that you're needing it from.”

And so, we revert to that stress system. And again, it can produce a lot of energy, but when we push into that system, will always come at a cost. So the cost is, well, you might be breaking your tissue down, you could be breaking bone, we could be breaking muscle, connective tissue, your thymus gland, and then there's an adaptive response, which means that in the time of rest or how much energy your body is actually producing to run all the systems like your heart rate, your nervous system, all of that requires a massive amount of energy. And so anytime we go into that stress cycle, the adaptive response is, “Hey, stop using so much energy to run your system.” And so your systems get less energy and because your systems are getting less energy, you won't feel as well. You're going to have symptoms. This is the analogy I like to use for that, so I can better explain to it.

If you were a government and you had a budget and you had so much money to run your police, your fire department, your teachers, build roads, take care of the city. And when you had all of your resources adequately there, your city runs well, everybody gets what they need, we feel protected, the streets are good and so forth. Now, let's say all of a sudden you have this additional demand come in. They're saying, "We need money to give overseas." Just hypothetical here, we give money overseas. And so they're saying, "Well, you've got to cut your budget then for how much you're giving your police or how much you're giving your fire department for how

many roads you have. So, we're going to cut it. You get less now. So, you're only going to get 80%." And so, what eventually starts happening is those things don't work as well, right?

Your streets don't look as good, your police system doesn't have the resources to be as effective. Same thing with your fire department, teacher systems. So, it doesn't happen immediately, but over time, that is going to take a toll on your city and your city won't get run as well. And that's essentially what's happening metabolically. When you put additional demands on your system or you cut what you're giving it, meaning you diet, then ultimately, the systems are going to get an energy cut and so they don't work as well, and those are always going to appear as symptoms, right? And we don't understand that that's what a symptom essentially is. It's your body is unable to produce enough energy effectively to run properly. And again, it's the same thing with a city. You give it a budget cut, you say you get less. Guess what? The city doesn't run as well.

Dr. Joseph Mercola:

Yeah, I like the extended analogy because we're actually looking at deficit spending. Why is that? Because it's a net energy loss when you make the energy that way. You're getting energy because if you don't and you don't produce glucose, you go into a hypoglycemic coma and you are dead. So, rather than letting you die, it creates a net energy loss and you go into deficit spending. And it gets worse and worse and worse until you get those glucose levels up, which can be a surplus, is what you want. So, another way that you can get energy, I like to dialogue on this because I've discovered that there is a human equivalent of photosynthesis. Do you believe that?

Kate Deering:

The human, well-

Dr. Joseph Mercola:

Well, it's not in the context of that we can make carbohydrates, but in other words, we can have the biological capability to essentially become a biological photovoltaic system. That we can take photons, capture them, convert them to electrons and feed our electron transport chain. But here's the catch, if your electrons are backed up, almost everyone's reductive stress, particularly a complex II, exposing yourself to the sun can make things worse because those electrons that you're getting from the sun can't get through. They, instead, become susceptible or they're there and they attack the normal oxygen that's present. It doesn't get transferred into complex IV to convert to water and carbon dioxide and it just backs up. And you get all these reactive oxygen species, so it can make you worse.

Kate Deering:

I think anything that is thermogenic can make you worse in the wrong environment, and that includes progesterone, thyroid, caffeine, the sun, because all those things are thermogenic and they actually can push the system through faster.

Dr. Joseph Mercola:

You're right, that's exactly what it is. And if the person is in reductive stress, they're getting worse. Thank you for helping me understand that. That's exactly what it is. It's exactly what it is.

Kate Deering:

And that's why you have to understand it in stages because at the basis of everything, we have to have fuel nutrients and we have to have oxygen. And then there's these other things like thyroid, progesterone, caffeine, sun, that if you don't have the proper resources and you expose yourself too much, it's going to create a stress response every single time. And that's why you hear people all the time, “I do really bad on caffeine” or “I took this thyroid and I felt horrible.” And so my next question is always, "Well, tell me about your diet and your stress level at that time." And usually it's they were highly stressed, they were not eating enough. And so you can't put that in there yet. It's not going to just work like a magic pill. We have to have the resources for that to happen. Yes.

Dr. Joseph Mercola:

It's like you run a business and what you're doing with your health coaching and like any business, it's not just what you do, but the sequence is so important. How you do and when you do them. So, thank you for pointing that out. That is really a very important principle, really important principle. It's about the timing.

Kate Deering:

Yeah, and I think when people find this approach, what I think they struggle with, because you have to deal with humans, and humans are conditioned-

Dr. Joseph Mercola:

Human bonds.

Kate Deering:

I know. They are very interesting, but we all have certain beliefs and pre-programs in our system as we know, especially if we've been doing things a certain way for so long, and all the sudden you're telling someone, “We've got to shift A, everything that you've been paying attention to.” But B, is like, “This isn't a diet at all.” It's a way to produce energy effectively that yes, there's certain foods, so I guess you could label it a diet because there are certain foods that are recommended, but ultimately, it's figuring out where your system is at and what we need to adjust or fix so that you can produce energy more effectively. Because the more energy you have, then your system's going to run better. Your basal metabolic rate will improve the right way. And then while just in your day-to-day, you'll be able to burn fat at a much higher rate. And so that's, ultimately, what everybody always wants to do.

Dr. Joseph Mercola:

Not in the mitochondria, but visceral fat that you're supposed to burn anyway, so that's what you're referring to.

Kate Deering:

Yeah. Well, fat oxidation is definitely going to end up in your-

Dr. Joseph Mercola:

Is in the mitochondria.

Kate Deering:

Yeah, it is in the mitochondria. I mean, when everything hits to acetyl-CoA, it's all the same whatever substrate you're coming from. So, the difference is basically the glycolic part, glycolysis, and then basically pyruvate to acetyl-CoA with carbohydrates, and then the beta-oxidation that's coming with fat oxidation. Those are different and they generate different energy and they generate different energy carriers. It's where the glucose just generates that NADH. I think there's four molecules in that process where fat does one NADH and then one FADH (flavin adenine dinucleotide), too. And so that's where it can start backing up when you start utilizing these other carriers to go through electron transfer train.

Dr. Joseph Mercola:

Blocks complex too, for sure, where FADH resides. So, one of the challenging components, and I think I have enormous respect for Peat. I mean, he's in my view, probably the greatest health educator of the 20th century. I don't see anyone better than Peat in that context at all.

Kate Deering:

I agree.

Dr. Joseph Mercola:

And he was mostly right with the gut. You're an exemplary example of a Peat clinician, you're one of the best out there, clearly. So, it's a great privilege to be able to connect with you. With your years of in the trenches with this work.

Kate Deering:
Yes.

Dr. Joseph Mercola:

Fourteen years applying this, you're going to have some wisdom for sure, no question. I'm wondering what your view, but both in agreement that it's all about energy, mitochondrial energy specifically, and if you're running a deficit, you are going to get disease. And my thesis is that is essentially the root cause of all disease is mitochondrial dysfunction. But one of the reasons that the disease is mediated, and I don't think many people understand, I think many people in the Peat community, and I don't know if you do, but I'm wondering what your perspective on this is. That one of the functions of energy, sufficient energy is supply your colon with the ability to exclude oxygen out of that environment. Is that a thought you considered?

Kate Deering:

I have not considered that thought.

Dr. Joseph Mercola:

Yeah, because Peat didn't consider it.

Kate Deering:

No. I mean, I think the microbiome has been such a new space, and I don't know how much he went down that rabbit hole to be quite honest with you.

Dr. Joseph Mercola:

He didn't, that's the thing. It wasn't a flaw. It was just an area he didn't study really carefully. For whatever reason, he chose not to dive deep there.

Kate Deering:

Yeah. I mean, he would talk a lot about bacterial toxins and certain endotoxins and his philosophy on what good and bad bacteria were, and that basically thought you needed a very clean and sterile small intestine and that you just didn't want bacteria up into that area, which would make perfect sense. But I think that in general, we don't know a lot about our microbiome considering it's I think 10 or 100 times the population of our 37 trillion cells as far as how many microbiome are actually there.

Dr. Joseph Mercola:

Yeah, I think it's probably closer to 10 rather than 100. It used to be 100, but I think the newer science is just closer to 10.

Kate Deering:

Yeah, yeah, which is like-

Dr. Joseph Mercola:

It's still a lot.

Kate Deering:

370 trillion. I mean, it's an insane number to even consider. And so yeah, so I think we've barely even touched on it. But yeah, I think I would be very open to listening to different thought processes.

Dr. Joseph Mercola:

Well, let me share something with you. I really would appreciate your feedback as an astute Peat clinician. So, that's the premise, and I think that's valid. I think there's a lot of science to support that. And when you have an environment, these are all primordial bacteria, essentially the relatives, probably direct descendants of the bacteria that existed on the Earth when there was no oxygen, that preceded the chloroplast primarily from algae that produced oxygen into our environment. And that's what they thought.

In fact, if there was an oxygen molecule, they would die. That's how sensitive they are to oxygen. So, that requires energy to remove that oxygen from your large intestine. And when that gets lost, then there's a shift. A type of bacteria that thrive in an oxygen-free environment are generally considered the beneficial bacteria. And if you're to classify them as a category, they're called obligate anaerobes, which is fancy medical speak for they only thrive on oxygen-free

environments or in oxygen-free environments.

Kate Deering:

Sure.

Dr. Joseph Mercola:

And when they start to die, they release space. And there's like people who, homestead, not homesteaders, squatters come in. Squatters, right?

Kate Deering:

Oh, yeah. Very popular these days.

Dr. Joseph Mercola:

Yes, squatters, right? You've got a vacancy, they come in. So, the squatters are the pathogenic bacteria, the ones that cause disease, and they're facultative anaerobes meaning that they're a little more flexible. They're a little more wily. And this is the difference. They're both grand negatives. They both have endotoxins in their cell wall and they both will release it when they die. But here's the difference. The facultative anaerobes are more wily. They have more energetic reserves and they create a far more virulent endotoxin. That's the difference. Almost everyone has a preponderance of facultative anaerobes, and that causes the problem.

Those facultative anaerobes are the equivalent in the electron transport team of reductive stress backing that chain up, allowing you to do healthy things like thyroid hormone, progesterone, sun exposure, all those things are healthy in the right context. If you eat healthy, well, it does magic to your biology. But if you don't have the optimal bacteria, you eat healthy food, you'll get sick because the fiber in there, normally it's supposed to nourish the obligate anaerobes that take those fibers. They produce short-chain fatty acids like butyrate, and propionate and acetate, and they feed the colonic epithelial cells and they make mucin and a lot of other good things. And that mucin repairs the leaky gut. But if you don't and they feed the facultative anaerobes, they don't make those short-chain fatty acids, they make more endotoxin. It kills you prematurely.

Kate Deering:

Right.

Dr. Joseph Mercola:

So, I think that's the dilemma that Peat didn't appreciate. And not because he was foolish or ignorant, he just didn't, for whatever reason, didn't choose to study. And a lot of the science is relatively new because we never had the technology to identify these. Some of the biggest bugs, the most important bug is Akkermansia, which I'm sure you're familiar with. All of this was discovered 20 years ago, 20 years ago. No one knew this thing existed, and it's probably the single most important strain in your entire body of bacteria.

It just disappears. The companies that are doing these tests, these assays, they'll find one in three people have undetectable levels. Undetectable. They can't find it, and it's supposed to be 10% of the microbiome.

Kate Deering:

Yeah.

Dr. Joseph Mercola:

So, you see this all the time. So I wonder how, not particularly understanding this, but how you've approached it clinically because you obviously have navigated it well, and you've like a good clinician, identified variables that you observe and listen to from your patients and able to help people cross that threshold in other contexts without understanding the specifics. So I'm wondering how you navigated that.

Kate Deering:

It's a good question. I mean, certainly because a lot of people come to this space with a lot of GI [problems], and I actually deal with a lot of people that it might've come off like a keto or carnivore type diet.

Dr. Joseph Mercola:

That's common. Absolutely.

Kate Deering:

And because they're literally looking to repair the gut, and quite honestly, those types of dietary approaches can be very therapeutic for the GI lining because you're basically removing lots of fiber, lots of irritants, and they tend to do a lot better. And I've seen it numerous times where people cure their autoimmune issues and they cure their skin issues. And so there are improvements, therapeutically, with these types of diets. The problems become within a couple of years or so forth, these people start to experience-

Dr. Joseph Mercola:

Or sooner.

Kate Deering:

Or sooner. Correct. And I think it depends, right? I think these diets are very hard to be really consistent with. I mean, all I could eat was meat all the time. I'm like, I know that people are committed and I don't want to take anything. If that works for you, fantastic. But it does shift how you live your life completely. And so, more power to them. But at the same time, I think at some point in time they start to have some low thyroid issues and they're always running on a slight level of stress. Meaning, initially we know when they start these approaches that we know that their cortisol levels go up, we know that their thyroid function goes down. We also know, and then we also see lower testosterone levels eventually.

Those cortisol levels tend to level out eventually. But then what's happening is they all have low levels of glucagon going on, which basically means they're already one step closer to having a stress response versus somebody that's actually thriving on a carbohydrate/glucose-rich diet. For someone that has all those gut kind of issues, a lot of it is reintroducing trying to improve the energy system first by giving them very easy to digest carbohydrates that have low fibers content

in them. And then increasing the fuel intake initially so that they can start feeling better, sleeping better, feel more energized. And then as their body produces energy more effectively, then you can reintroduce different food sources into their diet and they seem to do and tolerate them better.

Dr. Joseph Mercola:

Well, let's start there because I think it's a good spot. What you described is common, but I want to review a more severe scenario for that. Someone who can't even take orange juice, pulp-free orange juice, and there are people out there, I'm sure you've seen them. They cannot take almost any carb, like just a pulp-free juice. They should be able to help, but they can't because my guess is because their gut is so damaged, you have such leaky gut that all these molecules have come in and they've got antibody responses, and they have this diffused autoimmune response. So in those scenarios, I'm wondering if you've ever considered trying, this would be, because you have a background in nutrition and almost anyone who appreciates nutrition would just be appalled with the suggestion. But I think in this context, giving them simple sugar or even better, dextrose in water, you need 200 grams of carbs every day, at least probably closer to 250 (grams) in most people.

And if you're not getting that, you're going to get a stress response. So, what is your take on giving them sugar? Sugar is sucrose, which is a disaccharide, fructose and glucose. So the fructose is, I want to hear your take on fructose because I think it's not serious, and this still is better than taking the orange juice, but I think even more ideal is just plain dextrose. So have you ever tried those situations and can you reflect on the difference between sucrose and dextrose? And admittedly somewhat unusual, but nevertheless, a good illustration of someone who's severely metabolically injured?

Kate Deering:

Yeah, I believe dextrose is 100% glucose.

Dr. Joseph Mercola:

It's the same thing. They're synonyms for the same thing.

Kate Deering:

And so sucrose, obviously sugar is 50/50 glucose to fructose, so just the glycemic level would be a little bit lower. But I have used just pure white sugar with people because yes, that is, look, white sugar is just an easy-to-digest energy. That's all it is. If you look at it from that context, then you'll understand. You can use it very effectively for somebody that cannot tolerate a lot of foods. So, I did have somebody that was almost emaciated and he could barely eat. We had to blend up all his food for him because his digestion would not handle anything, but he could digest a certain amount of proteins. Interesting enough, he could actually, if he cooked potatoes really, really, really, really long and well, he could actually tolerate that, but he couldn't tolerate any sugar sources besides white sugar. And so we just would put white sugar in basically his meals for him to improve energy intake. And slowly but surely he did start to improve and gain weight.

Dr. Joseph Mercola:

How long did it take? Please understand, both of us are not recommending you take sugar the rest of your life. No, this is a short-term intervention to get over a crisis, an acute crisis that literally can kill you prematurely.

Kate Deering:

Yeah, and when your body gets into that state where it's becoming very catabolic and you're really having a hard time even getting any fuel sources in, then that can be used as a tool, for sure. Like I said, if they say, "Is it the most nutritious fuel source?" Absolutely not. There's no nutrient at all. Is it an easy-to-digest fuel source that your body can assimilate and get in quickly with less irritants? 100% it is. So, it can be used therapeutically that way as the person improves and their digestive system actually starts to get more energy or they start to produce more energy so the system works better, and then you can start introducing more food. So, it took a couple of months for it to slowly start to improve, but it does. And so, it is very rare that I do something like that though. But it is a-

Dr. Joseph Mercola:

How many times in a year would you say?

Kate Deering:

I've done it once in 10 years. Sorry, twice in 10 years.

Dr. Joseph Mercola:

I think there's magic in understanding how to address the extremes-

Kate Deering:

Yeah.

Dr. Joseph Mercola:

-because very few people are going to reach that level, but to know that that is the ultimate rescue.

Kate Deering:

It can be. Look, sugar doesn't make people fat when they think it, everyone thinks that, right?

Dr. Joseph Mercola:

No, it doesn't. No.

Kate Deering:

But people think, "Every time I eat these sugary foods, I gain weight." I'm like, "Well, you're eating sugary foods that also have a considerable amount of fat and flour and other additives and other garbage in there." So, they're highly caloric foods, but they usually always come with a level of probably fat. It's probably canola oil or some crappy fat.

Dr. Joseph Mercola:

Or PUFA (polyunsaturated fatty acids). PUFA for sure.

Kate Deering:

Sure. And so, those are the foods that are definitely going to interrupt how well your body produces energy well. And yes, you're going to eat in a calorie surplus very quickly by eating those foods. And certainly if you remove those foods, you'll lose weight because you're just eating a lot less. But if you were just to eat 100% sucrose diet, you would probably lose weight in a sense. Eventually though, you would come up with some calorie, I mean some nutrient deficiencies. It's like the, I don't know if [inaudible 00:42:05].

Dr. Joseph Mercola:

[inaudible 00:42:05].

Kate Deering:

Yeah. You'll finally, because your body, again, like we said-

Dr. Joseph Mercola:

It takes energy.

Kate Deering:

It takes energy.

Dr. Joseph Mercola:

And nutrients, micronutrients to digest those. They're used 100%.

Kate Deering:

That’s right. Yeah. Yup. And for you to produce energy, you need nutrients. And usually you get it from your food. Now you store a bunch on your system, not all of them. That's why you usually always need B vitamins and things that you don't store in your system because they are used at a very high rate to produce energy through the cells and so forth. So, that approach would help you produce energy very effectively. It would help some people heal in certain contexts, but ultimately, it's not an ideal situation because of the lack of nutrition. But yes, being on that, most people would lose weight on that sort of approach. And we've seen it in the Kempner diet when he did the rice diet. It was rice, fruit juice, fruit and table sugar. Some people were doing a pound of white sugar a day and were still losing weight. And it was solely because look, they got all these other things out of their diet. They might've still been eating in some level of caloric surplus, but it also allowed them to run on glucose.

Dr. Joseph Mercola:

They were making energy. They were finally making energy.

Kate Deering:

They were making energy. That's right. They got the other substrates out of the way at least, and they were oxidizing in so much fat at that point in time. They were oxidizing more glucose, they were producing energy at a higher rate, and they were feeling better. They were curing so many different issues and disorders, and then they were also losing weight.

Dr. Joseph Mercola:

Yeah, for sure. For sure. So, what is your take on the juices and glucose sources of carbs versus the – well, they're all glucose – starch, which is a complex polymer of glucose, no fructose, just pure glucose. But in a complex chain that depending on the starch could be problematic. But it seems to be less well-tolerated than fruit. So it's a stage two. And again, the sequencing, that's a later stage that you would introduce those, but it seems that's the ultimate transition, that starch carbohydrates generally are healthier than the sugary carbohydrates or what's your take on it? I said there was a statement of fact and it may not be so, I didn't mean to say it that way. So, what is your take on that supposition?

Kate Deering:

So, good question. I don't look at them either way or good as bad or one's better than the other. I literally would take the individual and go, "First, I do have a lot of GI problems." And so if they do, then I might tend to remove some of the starches at least later in the evening because it seems to give their digestive system some level of break. And I'm a very much about doing the least amount to make someone better because I do realize in today's world, people are overwhelmed with 100 million different things going on in their life. And so, if I give them too much at one time, it just like they can't move forward. So, I might initially go, "Look, we're going to just reduce the starches in the nighttime and see how well that works for you."

Some people don't do well with no starch. And a lot of it is they might be having some blood sugar issues, and if you take too much starch out, then their blood sugar tends to swing too much. So, they might need some, at least earlier in the day, at least maybe in the breakfast time to help them ground themselves and then later in the day they might feel better. Others need it at night. They don't do well without some level of some more complex carbohydrate [in the] evening. But at the same time, I always come back to how is your gut? How's your digestion? How are things going?

Also, if they're coming into a weight loss perspective, because I know if they can utilize more sugars and less starchy foods, that tends to be, as they say, less fattening because you just use them at a faster rate. And so they can eat almost equal amounts of fruits to the starches and they will lose more weight that way. So, that isn't everybody, but a lot of people just thrive on more of these more fruit-based carbohydrates, having more sucrose in there. They also get a lot of nutrients, but it's not to say that the starches are bad. They're not. They just, in certain contexts, don't work as well for people.

Dr. Joseph Mercola:

Okay. Thank you. So what would you identify as the top five supplements that most people would benefit from almost universally? I think there's five, but there may be a little less or more depending on your context, and you've got more than enough experience to have a really useful opinion in here.

Kate Deering:

Yes. Well, first I always have to say, "Look, don't go to supplements first. Go to food first. Start there." That's step one. Depending on the individual, I find most people, it helps them to be on some level of magnesium.

Dr. Joseph Mercola:

Yeah, that's number one. And because you need magnesium to make ATP. Without it, it doesn't work. You don't want to create a bottleneck there.

Kate Deering:

That's right. Yeah. So, some level of, now when you have really good thyroid function, you'll need less magnesium. But I find most people do better on it, whether it's for sleep, whether it's [crosstalk 00:47:24].

Dr. Joseph Mercola:

Is that for the laxative effect, because you're still going to need it in the mitochondria.

Kate Deering:

You retain magnesium better when thyroid function is running well. And Ray would talk about that sometimes when he got people using thyroid hormone, they needed a lot less magnesium. And I certainly see that too. You don't need as much.

Dr. Joseph Mercola:

Interesting. Interesting. Interesting.

Kate Deering:

In fact, some people get on thyroid and if they take too much magnesium, then they start having really loose stool.

Dr. Joseph Mercola:

Okay, that's good to know. That's a good pearl.

Kate Deering:

So, you do a little dance. Depending on the individual, like I said, I either say where they're living, if they're in a place where they can get enough sun, then that's great. If they're not, I always want everyone to check their vitamin D level. I am actually someone that will put someone on vitamin D if it's too low in their northern climate because I find that most people do not have high enough levels. They're all barely 30. I prefer their numbers to be at least 40, preferably 50 to 60.

Dr. Joseph Mercola:

Perfect.

Kate Deering:

I find 95% of people that have low D and they get on D feel better. So that is my experience. I know some people don't have that same thought, but I find that that definitely works.

Dr. Joseph Mercola:

No, I agree with you 100%. I'm one of those rare, personally, I haven't swallowed a vitamin D capsule in 15 years and my level's 100.

Kate Deering:

But you live in Florida too, correct?

Dr. Joseph Mercola:

I do. I'm deciduous about going every day on solar noon.

Kate Deering:

Yes. So that's a beautiful thing down there if you have that access. But not everybody does, obviously.

Dr. Joseph Mercola:

No, for sure.

Kate Deering:

So, coming from there, I mean there's probably not ones that I would say everybody needs. There's ones I like to use. I think aspirin's a very safe supplement. I think it can be utilized for a lot of different things. It can help with blood sugar, it can help with sleep. It's an aromatase inhibitor. There's so many beneficial properties from using something like aspirin in different modalities, and it's cheap. It's accessible. As long as you're consuming it with food, it could be a really helpful-

Dr. Joseph Mercola:

I agree. It's a very controversial topic, and really you can't really just acknowledge it here and just leave it because there's a lot of nuances in there. And I 100% agree with you, 100%. And I think almost everyone probably benefits from it, at least initially. I think once you're healthy, you don't need it. But good choice. But I was thinking you'd be going with some of the B vitamins, like thiamin that you mentioned, B1, and also niacinamide for NAD deficiencies.

Kate Deering:

Yeah. I tend to be like, I really make everyone eat beef liver, and so I'm like-

Dr. Joseph Mercola:

Oh, you're doing the beef liver. Okay.

Kate Deering:

I'm a beef, that would be my ideal supplement. I always be like beef, liver and oysters if you want to get those. But if they won't do those things, then yes, all the Bs are super important for the most part. Yes, thiamin is very important because it's needed at a lot higher rate during carbohydrate metabolism. And so, if somebody is B1-deficient, which I find that some people are, then yes, adding a good source of B1 in can be super effective. Even biotin, B2 in some level of combination, because they all seem to work well together because you use those B vitamins through cellular metabolism in so many spaces.

Dr. Joseph Mercola:

Yeah, I think B1's more deficient than B2 typically. But is niacinamide high in beef liver? I wasn't aware of that. Or is it niacin.

Kate Deering:

It's fairly high. It's niacinamide.

Dr. Joseph Mercola:

Really? I didn't know that.

Kate Deering:

I believe so. I believe so. Yeah.

Dr. Joseph Mercola:

I've never checked. Never checked.

Kate Deering:

And obviously niacinamide is one that's certainly promoted in this space as well. So, having B3 as well is certainly promoted. And one of the reasons is it inhibits fatty acid release into the blood system, so it tends to inhibit that stress response per se. And that's why doing small amounts of niacinamide throughout the day can be very effective for a lot of different people. What I can say – go ahead.

Dr. Joseph Mercola:

Go ahead. No, go ahead.

Kate Deering:

No, what I would say is that it doesn’t seem like the combination, not everything works for everybody. And if anything I’ve learned from this approach is it’s very experimental in being open to it. And that’s why it’s very important to whether you food log or at least take your temperature and pulse and monitor symptoms. It’s important to see if things are working for you. And just because something’s not working for you right now doesn’t mean, “Oh my God, that’s never going to work for me, or that just didn’t.” It means maybe your body, how it is right now, it's not responding. It doesn't mean in three months it won't work well. And that's where the progesterone comes in, right? Because I'm like, yes, I agree with you. Progesterone is a very powerful hormone. Do I think everyone needs to be on it? I don't think everyone needs to be on

it. I think that it can work very effectively for a lot of people, but I also think you need to be in the right environment. And I've also talked to people that they tried it and it worked horribly for them.

Dr. Joseph Mercola:

For many of the reasons you referred to earlier, because it wasn't in the right context-

Kate Deering:

Absolutely.

Dr. Joseph Mercola:

-which I didn't really appreciate until you mentioned it. But just to tie that bow up, if you're a perimenopausal woman and still having periods, you only take it the last half for your cycle. You're not taking it every day, that would be a disaster. You don't want to do that. So, you have to take two weeks off.

Kate Deering:

Yes. Yeah. Take it during ovulation to your bleed. Although some people can take a smaller dose in the other parts of their cycle, but ideally you don't. You ideally would just take it through the latter part. Correct.

Dr. Joseph Mercola:

Yeah, sure. Yeah. Yeah. Wow. So, this is really good. There was probably another thing I wanted to mention or topic I wanted to go over, but seems to have lost. But if there have been any – You have been doing this a decade and a half, what are some of the biggest lessons you've learned? Maybe some of the biggest surprises and some of the almost golden rules that you developed over time that are just solid and very rarely go wrong when you apply them, it's just like universally successful.

Kate Deering:

That's a great question. What I would say and where I've shifted, so since I wrote a book, and I don't if you read it on "How to Heal Your Metabolism," what I would say I missed from that book was the fact is that there are these kind of energy blocks, meaning I talk a lot about, "Here's how you produce energy," but there's also things that are going to interfere with that. So some people read the book and think like, "Oh, I just need to eat more carbohydrates and I just need to eat more and I'll produce more energy." Well, that can sometimes work. Some people can do that and all of a sudden they get more nutrition or they get the right fuel sources in and the other things were working and all of a sudden they feel better and they either lose weight or they don't gain a pound. But the other half of people are going to do that and all of a sudden, they gain weight because their body doesn't know how to move that fuel source through the system to produce energy better.

Now, it's not to say they actually, they do improve on symptoms and they actually probably do improve on some level of energy production as far as how they're producing ATP, but they usually just, they might be over-consuming as well. And so you have to be careful about how

you enter into this space. And what I would say about that is make sure you know what you're eating now. Meaning if you're eating 1,500 calories, then that's probably where you need to start with 1,500 calories. Because what we do want to do is teach your body to not only produce energy more effectively through this, but also to maximize that. Because as you improve metabolic rate and improve how well you do that, you will need more. If you improve the system, then you've got to give it more fuel. And so, give yourself at least six months-plus time period of experimentation and monitoring your symptoms before you try to lose weight per se.

Try to force it off because weight loss in itself is – forced weight loss per se is stressful in your system because you then have to put into that stress metabolism. But if you actually can maximize how well, or you're producing energy and use more calories, then you're going to have a bigger energy bank to start with when you want to go into a weight loss stage of this. So, I guess what I'm trying to say is, A, pay attention to the energy blocks. We kind of touched on them in this discussion, which would be – look, if you're having a lot of digestive issues or blood sugar issues, or you're eating a lot of PUFA in your diet, or you have endotoxins or so forth, work on those things first before even attempting anything else, finding the right foods, experimenting how your gut functions. You might have to remove the starches, whatever that looks like to you.

And then paying attention to your temperature and pulse. And as those things start to improve and then you stabilized that approach or at that caloric intake, then you can try to use tools to maybe go into a place where you could lose some weight and tap more into those fat stores if that's where your body's at. But this is a healing approach. This is trying to fix you. And if you've been on repeated caloric deficit or crazy diet for the last 10, 20, 30, 40 years, it isn't going to fix everything in three to six months. It might take a lot longer than that.

And so just be prepared for the journey and know, and if you can keep your eye on the prize leading the markers, improve temp and pulse, better digestion, better sleep, better mood, better energy, then if those things continue to improve, then keep going in that direction because that's the way you want to go. And then eventually, you'll get to the point where either your body will start to just release fat in general because you're able to produce energy better at that point, or you might have to initiate some level of caloric deficit or so forth to initiate that response.

Dr. Joseph Mercola:

What is your view on addressing some of these energy blocks? I can think of the reductive stress, which is just simply another way of saying that you have a surplus of electrons that piled up in one of those complexes, I or II, III or IV, typically II and IV, sometimes I. And I think there is the oldest drug that we know of, at least contemporary drug from 1870 or 1876 was Methylene blue. And it's a very potent oxidant and particularly useful at relieving reductive stress in any of the complexes. And I'm wondering if – You don't need a lot of it, you can easily overdose on it, you probably only need 5 milligrams to take care of that. And I wonder if you've experimented with it or if you have any views on it. I think at 5 milligrams it's virtually a danger to no one. At higher doses, it can cause serotonin syndrome, which is a problem. We're both not fans of serotonin at all.

And Methylene blue in large doses, especially someone taking an SSRIs (selective serotonin

uptake inhibitors) can definitely contribute to that. It's a small risk, but it's definitely there, but not at 5 milligrams, even if they were on SSRIs. So, what about that? Or maybe an alternative more natural one like CoQ10, one of the most commonly prescribed drugs in the United States is statins. And I'm convinced that the way they kill most people prematurely is their HMG-CoA (3-Hydroxy-3-methylglutaryl-coenzyme A) reductase inhibitors. And that's the same enzyme that makes cholesterol, but also makes CoQ10.

And yes, you can take CoQ10 if you're astute and you're wise and you have no physician who is, but many people don't. And when you could continually suppress ubiquinone, you are 100% getting reductive stress complex II, 100%. And that will kill you prematurely. No question about it. So I mean, it doesn't have to be due to a statin because that same thing will happen when you're eating low-carb, the same identical thing, you'll block complex II. So, ubiquinone, I don't think it's as effective as methylene blue, but it clearly can work. So, what are your thoughts on addressing those types of energy blocks?

Kate Deering:

Well, I love Methylene blue, and I've seen it be quite effective for a numerous amount of people. I actually think that actually 2 milligrams is a great starting point.

Dr. Joseph Mercola:

So even before 5?

Kate Deering:

Yeah. So I find that most people can respond fairly on 2 milligrams.

Dr. Joseph Mercola:

Okay.

Kate Deering:

And then I would say use that with red light because that can also help the mitochondrial health and the complexes via the electron transfer chain with just red light. So, I would combo those two together. I think they're a fairly easy tools to help with cellular energy.

Dr. Joseph Mercola:

Yeah.

Kate Deering:

So, for me personally, I'm a daily red light girl or every other day depending on what it is, because I just think it's an easy and effective thing to use to help with cellular health.

Dr. Joseph Mercola:

And not just red. It's near-infrared, probably even more effective, which is typically from 600 to 1,000 nanometers in wavelengths. And the way it works is it hits complex IV, dissociates that covalent bond of nitric oxide. Displaces it and allows complex IV to be not bound up. But there's

other benefits of the near-infrared that aren't totally unrelated that facilitates the blockage. But the near-infrared light is what catalyzes electron conversion from photons from the sun. And it does it with a very specific protein in your body. And you know what the most common protein in your body is, don't you? The most common protein. One-third of the protein in your body is this protein.

Kate Deering:

Go for it.

Dr. Joseph Mercola:

Collagen.

Kate Deering:

Oh, okay. Yes.

Dr. Joseph Mercola:

Collagen. Structural protein, hair, fingers, nails, bones, muscles, not the muscle linings, your teeth. It's big. It's the framework of your body. Without it, you'd be a blob, a total blob. Thank God we have it. It prevents wrinkles. So, Peat got this one. He understood this one in spades. He nailed it. And I really, so deeply, appreciate his wisdom on this because I did analysis this morning and I concluded that the average American consumes probably between 0 and 3 grams of collagen a day.

And the average [inaudible 01:01:37], if it's a third of your body, collagen is a third of your body. It makes perfect sense that a third of your protein should be collagen. Because the amino acids in collagen are not present in muscle meat at all. I mean, there's some, but essentially not. In fact, they're considered, I call them CAAs, collagen amino acids, but you can also call them conditional amino acids for another CAA. And I'm writing a new book, I'm going to put a chapter on this because conditional means it depends on the condition. And because they're called conditional, because your body can make them, but it cannot make them. It's physically impossible to make them in the quantity that your body requires. So, in that viewpoint, they're essential. Because unless you're supplementing or eating the food, you're going to be deficient. And almost everyone is. You've been an athlete for most of your life, and you've seen people routinely, especially when they're participating in resistance training, that they get injured all the time. That's exactly what you predict because they don't have the raw material, building blocks, to create connective tissue.

Kate Deering:

Sure. But you would still need a complete protein for those sources of, although it's collagen. Yes.

Dr. Joseph Mercola:

Of course. I'm not saying it's your holy protein, I'm saying it should be about a third. Yes, you need essential amino acids for sure, 100%. But most people, the average person, there are many, maybe even a third to half of the people who get no collagen in their diet. Zero.

Kate Deering:

No, I would definitely agree with that. I mean, I usually recommend about 25 to 30 [grams] depending on the individual and how much other protein sources they're getting, right? Because what it is the basis of yes, all your connective tissues, your hair, so forth. It is in there, but you still need complete protein because then you'll also get people who find this approach, and all of a sudden I'm like, okay, 80% of your protein is bone broth collagen gummies, which isn't good either.

Dr. Joseph Mercola:

That's not going to work.

Kate Deering:

There is a balance.

Dr. Joseph Mercola:

Yeah, that'll definitely mess you up big time. Yeah, you do not want to go that extreme, but I think 30%, and if you're taking 120 grams, what one third of that, it's 40 grams. So it's about close to what you're recommending. And I mean, if some people have 100, I mean, there's very rare, anyone's going to need more than 200 grams. And the more protein by itself, that's problematic because it's an energy to sink. It costs to digest protein, it messes up your kidneys, and it is a net energy loss when you eat excess protein. You don't want to do that.

Kate Deering:

That's right. And that is sold actually as a positive thing because it's a 30% energy loss when you digest and use protein as fuel, whereas carbs are by 10% and fat is like 5%.

Dr. Joseph Mercola:

But at a cost.

Kate Deering:

Yeah. Well, that's what I'm saying. There is a cost. At a high cost, but when you're coming from the weight loss perspective, they like the cost. They're like, “Oh, you're using,” but I'm like, “Look, but everything's coming at a cost.” And that's why you have to literally, I think, shift how you're looking at things here, because we want to take the burden off the system so that all the energy that you are producing can be utilized by your system to whether it's healing, to run everything effectively. Because in your body, there's always this homeostatic feeling within it. And if your demands increase outside of you, meaning you're doing more exercising, whatever those things are, and you only give it so much fuel, then it will prioritize and give energy to the things that you're doing outside of you, and then minimize the energy that you're going to get to run your systems.

And that's just how your body's going to work. You don't work like a car that way, meaning if your fuel sources go down and there's not enough to run the systems, you don't just stop. Your body doesn't work like that, your brain will go, “Look, we still need to do things, so we're going

to just go and continue to do things. We might not feel good doing them, or we'll just be running on adrenaline the whole time, but we're going to get this stuff done." But that just means the systems of your body are going to get less fuel. And anybody that's ever been on a diet could probably resonate with that. Because usually I eat less and they're like, “Well, my sleep isn't as good. My digestion slows down. Maybe my mood isn't as good.” Whatever it is. They definitely experience things of a low-energy state. And I'm sure you've read the Minnesota Starvation Experiment.

Dr. Joseph Mercola:

Oh, sure. Yeah.

Kate Deering:

And that's exactly what they showed. They put these people in extreme caloric deficits, and all these people started to have experienced symptoms. Their basal metabolic rate dropped like 40%, and they started to have anemia and sleep problems. They're obsessed by food. All these things that people experience every time we do this to ourselves, anytime we put ourselves in a deficit, it doesn't just come with, “You eat less and all of a sudden all your body fat falls off.” That is not what happens. It'd be nice, but unfortunately, it doesn't happen that way. And your thyroid and the nervous system, it can't, or at least your nervous system can't run on fat. It has to utilize glucose.

So, if you aren't getting any from it's going to make its own at the cost of your tissue, of your organs, or whatever it needs to do to keep you alive. And when you do that over 20, 30, 40 years, yeah, you have a system now that isn't functioning optimally, and you have to now unwind that. It can take some experimentation. It can take some trial and error. I will tell you that people that commit to it within one or two years though are like, “I weigh less. I feel better. I'm stronger. I can eat more than I ever have in my entire life, and I don't have any of those issues anymore.” And now, yeah, and then they can eat whatever they want in the context of, well, usually you're going to eat mostly the foods that make them feel good, but if they want to go out and eat the piece of cake or do whatever they want, they can absolutely do that with no negative effects. So, that's where we want to get somebody.

Dr. Joseph Mercola:

Do you consistently find that their brain power improves, their ability to think and concentrate and focus because the brain consumes 20% of your energy, so it would make perfect sense that when you're energy-deficient, you're not going to think very well.

Kate Deering:

Yeah. In fact, what I have found is that a lot of people wake up, meaning they've been in such a survival space for so long. When you get them energized and feeling better, all of a sudden they're like, “I never realized how much I don't like my job,” or “I don't like my spouse.” Or “I've gone through breakups with people. I have gone through job shifts with people,” because now they're capable to get out of that learned helplessness space. And now they're actually like, what do I really want out of my life? Now I feel better.

Now they're looking at everything and wait a minute, “Is this what I wanted?” They're not just in that state of survival and just living unconsciously. So now, they've actually now started creating a better life for themselves. So, there's layers. It's like I'm peeling the layer. And I'm not saying this is going to happen to everyone. A lot of people are like, “My life is great. I just need to eat better.” Okay, great. I want you to have a better life and be able to produce enough energy to do the life you want. I don't want to just say, “Well, you feel sick, so let's try to just take things off your plate so you can live in that sick state and not be so stressed.”

Dr. Joseph Mercola:

But you also said reproduce, and that reminds me, we talked about the brain. But reproduction is one of the first functions to disappear when you don't have enough energy. And infertility is an epidemic.

Kate Deering:

That's right.

Dr. Joseph Mercola:

So if you want to become fertile and have babies, let's think about getting energy back. That's the first step. The first step.

Kate Deering:

Yep. 100%. And it is an epidemic because what has changed in our culture is women are working, they're more stressed out. And same thing with men. Men are more stressed out. Sperm counts down. We have a lot of underlying problems going on our culture that are creating an environment that we aren't having babies or women or men, they're not as fertile any longer. But when you remove a lot of the stressors and you nourish these people's bodies, I had I think six babies last year with, not me personally, but with clients. Not at 52. You saw me on the news. But as soon as you get these women slowing down, well, meeting their bodies where they're at, supporting them with good nutrition, now you have an environment that's going to want to be able to procreate. Yes, having a baby is a highly metabolic situation. If you don't have enough fuel, it's not going to happen.

Dr. Joseph Mercola:

I think it's also a good place to promote my fondness of progesterone. I think infertility, specifically, the estrogen is a huge negative, especially for men. So, getting their progesterone on board. I take progesterone every day about 25 milligrams at night, increases GABA at night. It's just a magnet. It's one of my favorite supplements. I just love progesterone. So, maybe I'm overly zealous, but I just think most people benefit from it if it's done at the right time and they're healthy.

Kate Deering:

Sure. And certainly women and as they get pregnant and when they are pregnant, sometimes it helps to supplement with them.

Dr. Joseph Mercola:

Oh my gosh.

Kate Deering:

It can be a very, very-

Dr. Joseph Mercola:

Only if you want to keep your pregnancy, because progesterone deficiency is probably the single largest contribution for-

Kate Deering:

Miscarriages.

Dr. Joseph Mercola:

Miscarriages. I was thinking that there's a medical term for that. Forgot what it's called, but miscarriages. Yes.

Kate Deering:

Yes. Yeah.

Dr. Joseph Mercola:

All right. So, I'll tell you, Kate, it is just an absolute delight. It is such a pleasure to meet someone with your experience and your wisdom and your commitment. And I mean, it's uncommon for me to interview guests that I don't disagree with one thing you said at all. It's spot-on 100%. So, you've obviously been doing this for a long time. You're an expert, you're very wise. If people wanted to connect with you and benefit from your wisdom and their specific circumstances, how would they best do that or resources that you have for more information?

Kate Deering:

Yeah. Well, a few things. I am on Instagram, I'm on Facebook. You can look under Kate Deering Fitness. You can go to my website at Kate Deering. I do have a book called “How to Heal Your Metabolism” that I wrote eight years ago now. And so that gives you a basis of food understanding and of these kinds of principles. And I'm actually writing a second book that hopefully will be out, who knows? I go down so many rabbit holes.

Dr. Joseph Mercola:

Is it this year?

Kate Deering:

It was going to be, but I don't think it will be. It'll probably be next year. Yeah.

Dr. Joseph Mercola:

Okay. We'll talk about it afterwards.

Kate Deering:

Yeah. So, it's trying to put a lot of other things in that I missed from the first book to help people understand it from a different direction. Because what I've learned with people is if I can explain them to a lot of different ways that eventually they're like, “Oh, now I get it.” And I don't know if you've ever happened where you've read a book. I've read Ray's articles, I don't know, seven, eight times. Every time I read one I'm like, “Oh, another piece, another piece, another piece.” And so, I realized that's how it helps people understand. So the book, it just talks about different things in different contexts with the same kind of information at the end.

Dr. Joseph Mercola:

[crosstalk 01:12:57], you guys hear it many times from a different angle. I mean, there's very few things that took me this long to comprehend. I think I have a pretty good handle on his work, but it took me 18 months to learn it, 18 months.

Kate Deering:

And you do get the layers and you really have to get into the biochemistry. And not everybody's going to want to do that. When you do get to the biochemistry, then you're like, “Oh,” but nobody-

Dr. Joseph Mercola:

Makes perfect sense. Now I can see that.

Kate Deering:

It does, but not everybody wants to go down that path. So, I'm like, “Let me give you 17 analogies so that you can try to understand this in that way.” So, that's my goal.

Dr. Joseph Mercola:

So best ways to connect you on Instagram or your website.

Kate Deering:

Yeah, Instagram and Facebook, it's Kate Deering Fitness, and my website is just KateDeering.com and where they can go to my book.

Dr. Joseph Mercola:

Okay. Perfect.

Kate Deering:

And yes, that's how best to reach me.

Dr. Joseph Mercola:

We'll definitely have to have you back on for your next book.

Kate Deering:

Great. That'd be awesome.

Dr. Joseph Mercola:

It's been a delightful pleasure to connect with you, and I'm just so grateful for all your work and all the people that you're helping and will help.

Kate Deering:

Well, I appreciate that, and thank you for having me. Really great to be on.

Dr. Joseph Mercola:

You're welcome.