



## Episode 58: Discover Your Chronotype with Dr. Michael Breus

Katie: Hello, welcome to The Healthy Moms podcast. I'm Katie from [wellnessmama.com](http://wellnessmama.com), and I'm so excited that you're joining me here today. I'm also really excited that today, we're gonna be joined by a really fine guest, someone I met recently and was just very, very impressed with. His name is Dr. Michael Breus, and he's a clinical psychologist. He's a diplomat of the American Board of Sleep Medicine and a fellow of the American Academy of Sleep Medicine, which both of those, in their own right, are incredibly admirable. But he was one of the youngest people to have ever passed that board at age 31 with a specialty in sleep disorders. And he's actually want to only 163 psychologists in the world with his credentials, so he definitely knows the stuff when it comes to sleep.

He is even on the clinical advisory board of The Dr. Oz Show, and he's appeared on the show many, many times. But the reason I wanted to have him on and to chat with him is that he recently wrote a book called "The Power of When." And I've researched sleep a whole lot over the years, and I feel like I'm pretty knowledgeable about the importance of sleep and how to optimize sleep and even the role of light in sleep, which we talk about a lot in this episode and I learned so much from his book.

So he has things called chronotypes, which we're gonna talk a lot about in this podcast. Basically, a chronotype is the way that you sleep, the way that you naturally would have a sleep rhythm. He breaks it down much farther than just early bird or night owl and provides some really useful and actionable steps for any sleep problems you may have.

If you're a mom, you'll also be happy to know he really talks about how to get a child to sleep in their own bed, the best way to do that that's the healthiest for the child and when that should happen. So take a listen, it's fascinating the info he has. And you can also go to [thepowerofwhenquiz.com](http://thepowerofwhenquiz.com), that's [thepowerofwhenquiz.com](http://thepowerofwhenquiz.com). He has a really short quiz that lets you figure out your chronotype. And I'll let you know it's not what I thought it was. All right, mine was not what I thought it was gonna be, so it was really interesting to see how I actually fit into that. So I will definitely encourage you to check it out.

His book is also available on Amazon and at all major retailers right now. It's called "The Power of When." So without further ado, let's join Dr. Michael Breus.

Well, hey guys. If you're just jumping on, I am here with Dr. Michael Breus who I got to meet in person recently and was super impressed with. And he is the author of this book I'll show you guys, "The Power of When." And thanks to being a blogger, I got an advance copy but I highly recommend getting this book because it was helpful to me. And I've already done a lot of research about sleep.

He also has some small things in his profile [inaudible 00:02:47] sleep doctor. He's also just a genuinely great guy. So Dr. Breus, welcome. I'm so excited to have you on.

Dr. Breus: Thank you for having me. That was quite the introduction. Yeah, I was very fortunate I was able to work with Oprah actually back in 2005 on the show. And then I do actually a lot of work, if some of your audience is familiar with Dr. Oz, I do a lot of work with him as well, and so people can see me there. But I'm super excited to be here. This is gonna be a lot of fun.

Katie: Yeah, I'm really excited because I've read a lot about sleep over the years, and I think my own sleep was pretty dialed in, but I had not ever really taken into account, based on my own sleep patterns what that would mean during the day. I'd always separated those, like sleep is at night...[audio skips]. But what you did is really tying together how your sleep patterns and what sleep type you are really impacts your whole life and how also you can almost hack your sleep with timing to be more productive which I've been experimenting with, and it's super cool. So for anyone who may not be familiar, because I wasn't actually with the term, talk about what a chronotype is and what chronobiology is.

Dr. Breus: Absolutely. So first of all, I'm excited to hear that you took the quiz, and you're changing things about your life. That's really cool. I think people will really get a lot out of that experience as well. So I'll back up just for a second to give people just a little bit of background on me and sort of what I do and how I came to learn more about chronotypes, if that's okay.

Katie: Yeah, perfect.

Dr. Breus: So I'm an actively practicing sleep doctor. I've been practicing sleep medicine for 16 years. I have a PhD in Clinical Psychology, and I'm board certified in clinical sleep disorders. So I actually took a medical specialty board without going to medical school and they said, "Holy crap, you passed," and so I became a sleep doctor. There are about 160

of us that have ever done that. And it's been really a fun, interesting, fascinating journey along the way.

You know, sleep is such a bizarre topic, and there's so much mystery behind sleep. It's been really fun to really start to really learn about the literature, really start to understand the process of sleep and sort of what happens there. And so understanding that for yourself is one thing, but for your children, it's also something that can be incredibly important. So I've had the unique experience of treating both adults and children throughout my career. And we actually just finished a sleep summit where we had multiple pediatricians on, where we were talking about kids sleep, so I'm very excited to be able to talk about that with your group of people because I think children's sleep is certainly something that affects our sleep, our adult sleep in many, many different ways.

I came across chronotypes, I've known about them, but they actually started showing up in my practice. So I'm an insomnia specialist. That's my area of expertise within the world of sleep disorders. And I started having people show up, and they would say things like, "Well Dr. Breus, I don't have a hard time falling asleep, and I don't have a hard time staying asleep. I sleep at the wrong time." I'm like, "Hold on a second, are you a shift worker? Are you in the military? Are you a police officer/ fireman? What's going on?" and they would say, no.

They'd say, "On the weekend, if I can go to bed for example at midnight, 1:00 and sleep until 8:30, I'm fine. I wake up, I feel refreshed, I feel good. Everything's awesome." I said, "Well, why don't you just do that in general?" and they said, "Oh, by the way, I have a job," or, "Oh, by the way, I have children that wake up at the crack of dawn and so it doesn't work within my social world. It may not work within my employment world, and so I can't do that, you know. Can you help me? What can we do here?"

So that was kind of unique. That wasn't something that I was expecting. With shift workers, there are definite techniques that we can do to push their clock forwards or backwards. But that's because they're already trying to sleep when their body says that they should be awake. This was a very different scenario. These are people who are saying, "I can't sleep when my body wants to sleep."

So we actually did the experiment where I asked one of my patients if I could speak with their boss, and I did. And I said, "Hey, what's the chance that we can get this person to come in late for a week and a half,

two weeks but they'll stay late. And let's take a look at their productivity and see how they do." And lo and behold, it worked like a charm. Not only was she more productive at work, but her kids liked her more, her husband was happier with her, you know. It was like it all started to kinda flow because she was a night owl.

And that's really what we're talking about here when we talk about chronotypes. Many people might not have heard the term chronotype, but you've all heard of an early bird or a night owl, right? And so those are two of the chronotypes. But it turns out that there's four of them. When you look in the scientific literature, there are all these assessment tools where you can take a quiz or an assessment tool, and you can learn are you a morning person or a night person? But that didn't kinda work for all of my patients because I got people that are in the middle that needed timing expertise, and then I got people with insomnia and that didn't fit either of them.

So I started to delve even deeper, and we found over 200 studies that are quoted in the book about timing and understanding if you're one of the actually four different chronotypes. They didn't have good names for them all, and so I renamed them because I'm a mammal, not a bird, and I wanted to choose animals that actually represented the different chronotypes in their own life as well.

And so early birds turned into lions. We know that lions hunt at dawn. They are leaders of the animal kingdom. They have a lot of the characteristics of some of my lions. Bears, which is kind of in the middle, these are solar creatures. They rise with the sun, and they go to bed with the setting of the sun. They are eating all day long. They're these affable, really enjoyable, fun creatures that get along with a lot of different things in nature.

My night owls turn out to be wolves. So wolves are very nocturnal creatures. They hunt at night in packs, and they're up in the evenings late, late, late at night, and then they might be sleeping very late in the daytime. But then there were my insomnia people. And I was trying and trying and trying to figure out, gosh, what would be an animal that represents them? And it turns out that dolphins do a really good job of this. Most people don't know, but dolphins sleep uni-hemispherically. So half of their brain is asleep while the other half is actually looking for predators and swimming. And I thought that was kind of a unique representation of this kind of chronotype. So we end up with four.

And just to give you some more characteristics of each one, my lions are my COOs. These are my operators. These are leaders. They're up at 5:30, 6:00 in the morning, and they're getting it done. They plan stuff. They manage people really well. They're not necessarily super creative, but they are very good at problem-solving and working with people and getting people to do certain things.

My bears are the fabric of society. They're the glue that sticks us all together. My bears are some of the most enjoyable people to be around. They're the life of the party. They're the one hanging out at the keg point, the beer or they're the one who is buying different things when they're out at the bars at night. They're like your fun, interesting people that you're gonna have a lot of fun with, generally speaking. They're also get-it-done people. At work, these are the people that are completing the tasks on time, getting things done, moving ahead and moving forward.

My wolves are very different groups. They represent only about 15% of the population. And these are my introverted yet creative people. My actors, my musicians, my authors. These people are the wolves. They like to stay up late and you know, the party doesn't get started for them until 11:30, 12:00 at night. You can have great conversations with a wolf at midnight whereas if you were talking to a lion, they've been asleep for three hours.

My dolphins are kind of my very intelligent but a little on the neurotic side kind of folks. They have a tendency to be Type A personalities, get it done, get it done but they kind of can't get out of their own way sometimes. And they get so bogged down in the details that oftentimes, they're not as productive as they would like to be. But they're also fun, interesting people. They get along well with most people. And it's interesting to sort of see the interplay between all four of the chronotypes.

So now that we know what the chronotypes are, you can go, you can take the quiz at [thepowerofwhenquiz.com](http://thepowerofwhenquiz.com), and you fall into one of these four buckets. What I did then which was really bizarre was I said well, what's going on with these people during the day? And could there be times during the day where they do things better than others? Because with this patient that I had that was a wolf, we found that there were certain times of day that she spoke better with her children, that she had more productivity, that she had more creativity. And so we started to match up hormones.



So if you do a specific activity, there are certain hormones or neurotransmitters that need to occur for you to reach the levels that you need to perform that activity. Whether it's an intellectual like brainstorming or doing an analysis or it's physical like yoga or you know, strength training or running or something like that, there's actually times in your hormonal cycle that will change throughout a 24-hour period.

So I identified the activity, I identified the hormones, and then I matched them to the chronotypes. It was a lot of fun actually, and it turned out to be really interesting because I can tell people the best time to eat a cheeseburger, you know, run a mile, have sex, ask their boss for a raise, you name it.

Katie: Yeah, that's so awesome. And it's interesting because like, reading the descriptions on the different types before I took the quiz, I identify with parts of a lot of different ones, but I didn't expect to be what I was. So I ended up testing as a mixture of a wolf and a dolphin, the wolf was the dominant one. And I don't think of myself as being a really creative, but I guess in a sense I am because I write all the time, which is a somewhat creative activity.

Dr. Breus: Yeah.

Katie: But I'm also very type A and neurotic and OCD, but it doesn't affect my sleep. But the part that I identified with the dolphin was the most. I've always said this, and no one ever made it make sense until I read yours. I've have always said I only sleep with half my brain because I'm my best...when I'm sleeping [audio skips]. In fact, I'll read stuff or go through my to-do list or problems I'm having before I go to sleep, and I'll wake up with answers.

And I've always felt like I'm only half asleep, like I'm always very conscious of what's going on. My sleep is never super deep, but I don't feel not rested. So I don't have insomnia, but that sleeping with half your brain, I'm like I get that, totally. I tested as a wolf. And it was really interesting to see the results of that. I'm type A, not to be like no, I wanted to be a lion.

Dr. Breus: Everybody wants to be a lion, it's so funny. Everybody is like, "I wanna be a lion. I wanna have that leadership role." Here's the truth, is while there's a lot of things that sound cool about being a lion, it's not all it's cracked up to be. Lions have a lot of social issues because they're so doggone tired they can't make it to dinner and a movie. You know, by

8:30, 9:00, they are done so unless they're with other lions. And by the way, lions only make up about 15% of the population, it can become somewhat challenging.

It's not too uncommon by the way, to have a wolf, dolphin kind of the mix. So what it seems like is you have some of the OCD-ish, neuroticism of the dolphin, but it doesn't seem to affect your sleep. But it also sounds like you could have some big creativity which I know you have because I've read your blog, and it is actually super creative, and it's a lot of fun. And so you know, there's lots of ways to combine those. And people can be a hybrid, but you probably lean more towards the wolf side of things than you do the dolphin.

Katie: Yeah, that makes sense especially because I've always been most on at night and most creative. And like with the conferences, I'm usually the one closing out the party but not party. I'm talking to someone in an in-depth conversation at 1:00 in the morning.

Dr. Breus: Right. You're a wolf, there's no question about it.

Katie: Yeah, but I thought that was really interesting. And it makes so much more sense than a night owl or an early bird. And I think there is even something circulating online that says, "Forget night owl or early bird, I'm some form of perpetually exhausted pigeon." And I feel like yours make a lot more sense for that.

But I loved how you also tied it to how people react to light and how food, even the food you eat and the timing and the macros of the food are dependent on your chronotype. So let's start with food and then move into light. So how does maybe your different type of your chronotype affect what you should be eating and when you should be eating it?

Dr. Breus: So it's actually pretty fascinating. And so the different chronotypes look at food in different ways. So as an example, lions don't tend to be very foody or food-centric individuals. Lions have a tendency to be eat for fuel, if you will, right? I need something this morning to get myself going, so give me my protein bar, and let's rock and roll, right? That's where a lion is. They just don't think about food that way.

My bears tend to have a tendency to be more foodie kind of people because they're social, right? They like to go out to dinner, have a cocktail, relax. So they're gonna have a tendency to actually eat



probably a little bit less healthy. Then my lions would be, my lions are gonna be on it, super healthy, you know, give me the protein bar because that's what I'm supposed to have. And then give me my greens and then I'm done. Whereas bears are much more like, "Hey, let's hang out. Let's have a little fun. Let's eat some new interesting stuff." And so they also have a tendency to put on a little bit more weight, which can be an interesting factor.

My wolves are very interesting. My wolves don't like to eat breakfast. Their biggest meal of the day is usually dinner, but they also find themselves snacking very late at night, like right before bed. And they have these sweet tooth that are ridiculous. And so they're like my ice cream eaters and my cookie munchers and things like that. It's either salty or sweet, salty or sweet for them.

And they also have a tendency to put on more weight because they also don't like exercise. And they have a low pain tolerance which means they feel pain earlier than my lions or my bears, and so when they do exercise, it hurts. And they're like, "Ah, this stinks. I don't wanna do this," and so they stop and on the way home, they're hungry. So they pick up some fast food.

Because that's the other thing is my wolves have a tendency to eat so late that a lot of restaurants aren't open or it's a very tail end of the night, and so they're picking up whatever drive-through is available. And then they're trying to look for a healthy alternative there. It's not there. And then they're just like, "Forget about it. Just give me the burger and fries. I'm starving. Let's go." Because again, they're not eating a whole lot during the daytime because that's just not how their brain thinks number one, and number two, their brain isn't ready to eat because they're on a later schedule. So you know, it would be great to have a world just for wolves because we could do a lot of good stuff with them for that.

And my dolphins are all over the place. Because they have a tendency to have a little more of the neuroticism but yet still highly intelligent, what they have a tendency to do is investigate everything they eat, right? And so it's like, "What should I be eating this time and what..." and they're always trying to follow this path. And they almost get caught up in this whole crazy thing of "Oh my gosh, I don't know what I'm supposed to eat." I have a tendency to have dolphins open up the refrigerator and get confused. They're like, "What am I supposed to be eating now? Is it greens? Is it protein? Is it carbs? Is it fat? What fat is good? What fat is bad? Should I have butter? Is bacon okay?" Their mind just goes and

goes and goes and after a while they just give up, and they're like, "Screw it, I don't know what I'm gonna do."

Katie: That's funny. And it's funny that you said that about wolves and eating late at night because I've always been that way, but I trained myself not to be that way because I know it's not good. And I try and get to do protein and greens at night because I feel better. But I also, because I'm late night person, I go grocery shopping at 10:00 at night because the store is empty, and it's a great time.

Last night, I was doing that, and I was driving home. And I have to pass all these fast food restaurants, and I'm like, "What the heck is going on at Taco Bell at 10:30 at night?" and they are all wolves.

Dr. Breus: They are all wolves, I guarantee it. And it's really kind of funny when you look at it just as an aside, when you start looking at business. Like now, I'm starting to get calls from people to do consulting because they're like, "Well, tell me more about my customer base, could there be items that we could be putting on sale at certain times that could actually be beneficial for this demographic within your chronotype system?"

So we're starting to see people utilize this in ways that we never really knew that they were going to do. Actually, Dave Asprey, who is The Bulletproof Diet guy and The Bulletproof Coffee, who's actually turning into a good friend, he's like, "I want my entire crew to take the chronotype quiz, and we're gonna start setting meetings for creative at certain times and analytic at others. And this is gonna be so cool," because you know, he's like a bio-hacker extraordinaire. And so it's funny to see what people are doing but yeah, Taco Bell at 11:30 at night, guaranteed wolves.

Katie: That's so funny. Also you talked about in the book, which I thought was really fascinating also, certain types can do okay with more protein or more carbs at certain times. A universal recommendation even for those who don't love breakfast is eat breakfast and get protein, yeah, and vegetables if you can. Can you talk about why that's important?

Dr. Breus: Yeah. And so when we look at blood sugar across a day, one of the things that we're trying to do is keep these levels consistent. Because as an example, my bears and my wolves have a tendency to have more sweet tooth and go for high carb, high fat foods, by actually having their blood sugar stay fairly stable, having a, you know, bigger breakfast than they normally would which sometimes is really hard. A

decent-sized lunch and then a smaller dinner but yet keeping that blood sugar consistent across the day, that has a tendency to slow down the snacking at night, right?

And so in the mornings, I'm asking people to eat protein and greens, if they can. So then the question is, "Well, Michael, how am I gonna get spinach every morning?" Well, you know, you can put it in an omelet and that's kind of cool but how many spinach omelets can you eat in the day? So for me, what I do is I actually have a protein shake that I have every morning that's got a plant-based protein in it and greens in it combined. So I spin it around and throw in a little water and maybe an avocado or something to get a little bit of that fat in there. Because that's brain food. That's food that you need to put into the tank to get stuff going during the day.

So whether you're at a high power job, whether you're doing manufacturing or your high-powered children are running around and you are trying to figure that out, right? Because that's what we have here at our house. I work out of the home for a large part of what I do. My wife is here with me, and we're constantly moving the kids back and forth, getting things going. I wake them up because we're actually both wolves, but I have a tendency to wake up early in the morning, which is very odd for a wolf. But I only need six and a half hours of sleep, so I go to bed at midnight, and I'm up at 6:30. So that actually works out really well for us here. And I'm getting the kids ready in the morning, and one of the things I'm doing is I'm making sure I have my protein shake. I'm making sure that I have a little bit of good fat in my diet because that's the brain food that I'm gonna need to be able to make my decisions throughout the day.

Katie: That makes total sense. And I've kind of fallen into that rhythm as well. Like if we don't do omelets, I can do breakfast stir fry sometimes. Like I'm constantly eating vegetables, but if I don't and if I am short on time, I just do the protein thing too and add greens to it. And then speaking of Dave Asprey, sorry, I've got a whole post about my own version of his book, "Bulletproof Coffee," but I also like to do a tea because I love tea for a lot of reasons. And it's a little bit lower in caffeine but still has that caffeine, and I'll sometimes put the good fats in there just to get the boost of energy.

And that all makes total sense. So my mom's side of the family is French, and I always heard...say the thing that you have in the book,

which is breakfast like a king, lunch like a prince or princess and then dinner like a pauper [audio skips].

Dr. Breus: Right.

Katie: We're all pretty naturally thin even when our diets aren't that great. And that's really interesting. And they also don't really snack which is un-American, but it's worked well for them. So I love how you talk about those as well.

Dr. Breus: Yeah, there's a really interesting study in the book where they actually took mice, and they gave them the exact same amounts of food. But for one section, they could only eat during a certain timing and for the other one, they were allowed to eat whenever they wanted. Same diets. And the grazing whenever gained weight, and the eating the diet within a certain period of time, weight loss.

So it speaks to the whole idea that our gut is another circadian rhythm. It's a whole another thing that we need to keep in mind when we're thinking about things. You know, some of the data would suggest if you can keep your food intake into a 12-hour window, you could actually, by changing almost nothing in your diet, you could actually end up losing weight. Because it allows your body the consistency of metabolism, allows your body to kind of get things going.

Katie: That makes sense. And I know people who have lost weight just by like, "I don't eat after 7:00 p.m. anymore." And they lose weight. And it makes sense that you're giving the liver and your body and your digestive a break also to regenerate. And I know for me personally if I eat after 7:30 or 8:00 at night, I don't feel like I sleep as well. It's like my digestion keeps me awake, kind of.

Dr. Breus: Right. And it can actually because your body is not meant to digest lying down. Your body is meant to digest either sitting or standing. And so when you eat too late and then you lie down, all bets are off, and so your body says, "Well, we're gonna just push all that into the storage facility," which turns out to be fat, "And we'll deal with it tomorrow."

Katie: That makes total sense. The other thing I loved that you really pointed out and explains the studies is that it's not always best to work out first thing in the morning because that's what every exercise guru ever says. It's like, if you're gonna get your day started right, you need to

get up super early and exercise, high intensity. And I tried that with Crossbit in the morning and wrecked myself.

Dr. Breus: Yeah. So first of all, as a wolf, you are destined to fail, okay? Because your melatonin faucet is still going strong even after you wake up as a wolf in the morning. And remember we're talking about night owl types of people here. And what we discovered is that you can actually use exercise to help refine your circadian rhythm.

Now, many people who are lions say, "Oh, I'm up at 5:30. I might as well go for a run." What I would say is hold on a second. When you start to get tired around 4:30, 5:00 in the afternoon, if you actually exercise then it will give you an energy boost, and it will help bring you throughout the day which is nice. For my bears, my bears can actually exercise more in the morning if they want to. But my lions, I tell them, "You know what, I want you to be creative in the morning. I want you to use that creativity time to plan your day." Because lions aren't the most creative people in the world.

Wolves, they just don't like exercise, you know, because again, they have lower pain tolerance so that it hurts more. And they're not awake enough to do it. If you get a wolf and you try to make them exercise at 6:30, your chance of injury is significantly higher. And just the whole exercise compliance or the ability to stay with an exercise program is very, very low. My dolphins however, are interesting. My dolphins, because of that level of neuroticism, they may actually do well exercising in the morning because it helps calm them down to start off their day.

Katie: That makes total sense. That's the one thing I changed the most drastically, is I now workout like, I'll feed the kids dinner and then go workout and just get out a rolling machine or ride my bike or walk or something. And that seems to both help me sleep better when I do go to sleep but also made me more creative at night. So I would love that little change.

Dr. Breus: Yeah, yeah, it's fun and it works out really well, believe it or not.

Katie: Yeah, I love that. And I love that you really backed it up. Everything actually you wrote you backed up with studies, which I think can be really appreciated. Another thing because you are a doctor and can back this up, I would love to talk about light and sleep because I've heard of this from my own research and every single time I get told that



I'm crazy, and great, like now even our night lights are a problem and no, my kids can't sleep without light at night.

And I get called all kinds of names for suggesting that we should probably sleep in complete darkness and that if you're watching blue screens at night, it's messing up your circadian rhythm. So let's talk about light.

Dr. Breus: Sure. So number one, you're not crazy, okay? I know, awesome, right? So there is a preponderance of data to suggest that light at night will affect your sleep. And so let's talk about the science behind why that's true. So you have cells inside your eyeballs called melanopsin cells. These cells are very, very frequency-sensitive and light, particularly blue light, which is at the 460 nanometer range within the spectrum, hits those melanopsin cells and those send a signal through the optic nerve up to your circadian pacemaker, called your suprachiasmatic nucleus, and it actually says, "Stop melatonin production."

So the light equals no melatonin. I call melatonin the vampire hormone because it only comes out in darkness, right? And the darker it is, the better it is for your sleep. Now, that being said, there are a lot of children out there who don't like to sleep in total darkness. And what do they do about something like that? And I think that might be some of the pushback that you're getting from some of the moms out there. So there actually are now night lights that are created without that blue spectrum. They have filters inside the bulbs.

I work with a company called "Lighting Science." It's actually, I think their website is [lighting.science](http://lighting.science), and they have the good night...I think it's called "The Goodnight Baby Bulb" or good sleep bulb or something like that. And it's specifically a night light designed for children so that there's still illumination in the room, but the blue light isn't there. So you can kill two birds with one stone there and be able to, you know, have your child not be fearful and go through all that rigmarole but yet still not affect their sleep.

But there is no question that blue light stops melatonin production. It's actually one of the most predictable things that we have in sleep medicine as far as science is concerned. And blue light also by the way, doesn't just come from a night light or even an overhead light. And by the way, you can change the overhead lights.



There is this company also has overhead lights that you can screw in for your children's bedroom as well. In my bedside table, I actually have these goodnight bulbs in my bedside table for when I read and then I have the opposite, which are like wide awake lights in my bathroom so that way in the morning, I flip the switch it's like, boom. It's like the sun in there, you know. It's like coming in, and it wakes me up, and it helps me, because again, I'm a wolf but I get up early. So I need that sunlight or that extra light to click off the melatonin and let me get going.

Another source of blue light are your phones and your tablets and your laptops. Now, Apple actually recognized this, and they actually have included now in their OS update something called "Night Shift." So if you go into the general settings section, you can actually find in there, there's something called "Night Shift."

Go ahead and turn it on and put in the times that you normally go to bed, and it will actually change what's called the light temperature of the light that's being emitted, and it will slow that down. Because here's the other problem, right, is where is your phone when you're checking it? It's about right here, you know. It's probably 18 to 20 inches from your face. Very different than a television that's across the room or a bedside table lamp. You know, you've got that light source, and it's right there. So I would tell people that make sure that you're using that.

There's also something for computers called flu.x, it's F-L-U-. X. I think if you Google that, you'll find it. It's free. You can download it to your computer, and it will actually change the light that's being emitted from your computer. I don't know if they have it for tablets or not so we may have to investigate that a little. But I also know that there are companies that create these shields that you can actually put on there that will filter that. I think it's called, there was one called "The Sleep Shields" at some point that on...

Katie: I'll put links to all those for anybody who's listening and maybe can't remember all that. I'll make sure there is links, buy yeah, those are all great.

Dr. Breus: Yeah. And so people need to just think through it. Like I ask my patients to do an electronic curfew an hour before they go to bed because sleep is not an on/off switch, okay. It's more like slowly pulling your foot off the gas and slowly putting your foot on the brake. There's a process that has to occur there. And you know, the more you understand that whole process of sleep, the better off you're likely to be able to do it.

Katie: That makes total sense. And I love how you said in the book that the most destructive event in the history of biotime occurred on 12:31 1879, which is when Edison invented the light bulb.

Dr. Breus: Yes.

Katie: I'm such a geek when it comes to...I actually love reading medical studies late at night. But if you look at the data, like if I look at the graphs and I put a lot of stuff in graphs just to see trends. And to me, it does not make sense that we're seeing disease and obesity and everything else because of food. Because food's changed, but it hasn't changed that drastically in the last seven years but light has. Wavelengths of light and electromagnetism, the works. Those two, that's changed drastically and those graphs look a lot more like the graphs of disease that we're seeing.

So I feel like a broken record on my blog, but I'm like light is that important, Mike. It's more important than food.

Dr. Breus: I would argue that light is medicine, okay? And like lighting science, that group that I was talking about before, they started putting warning labels on light bulbs. So you know how when you have the food and it's got the ingredients and all that kind of label? They're actually putting those kind of labels on their products to alert people to the idea that this is light that can affect you this way. This is light that can affect you that way.

There's no question in my mind that light is medicine. If you wanna look at the frontiers of medicine, you wanna look at bleeding edge science, it's all gonna be about light and what does light do to the body. We're seeing studies now where light can actually kill bacteria. We're seeing, like there's one study out there that showed that a very particular frequency of light will kill MRSA which is a humongous problem in hospitals these days. And there's ways that you can actually use light to activate certain things to help things out. It's impressive what we're seeing out there from a scientific standpoint. So you know, for anybody out there who says light doesn't affect them, you're wrong.

Katie: Exactly. I was sure everything, I mean, look at even our pool has a UV filter and that UV light kills 99% something of bacteria.

Dr. Breus: Exactly.

Katie: Physical effect of light. But then you see these studies about getting bright light, 30 minutes of bright light in the morning hours and how that drastically changes your melatonin and just like getting blue light at night, it will decrease. And it makes sense because in nature, when would you get blue light? It's when the sun is brightest.

Dr. Breus: Right.

Katie: But...when you tell people that's why getting blue light at night or taking Vitamin D at night, I feel like that always messes me up [audio skips]. But it makes sense because my liver would only naturally get that during the day. And so I look at the fact that we're living in a world where we're all inside under artificial lighting all the time, not getting sunshine or bright light to our eyes in the morning, wearing sunscreen and hats and covered up all the time.

Dr. Breus: Absolutely.

Katie: And our bodies are suffering because that's such an important part of our biology. And I love how you really back that up.

Dr. Breus: Well, and here's the thing, is you know, when you look at all of these different aspects and you start to think about it, we can actually use like to our advantage. So one of my top recommendations is right when you wake up, you should drink an eight ounce glass of water because most people don't know, but while you're sleeping, you breathe out almost a liter of water. So you wake up dehydrated every single morning. So that's number one, people need to understand that.

But number two, do that while standing in front of a window getting 15 minutes of sunlight so it turns off that melatonin faucet. You're gonna be in so much better shape. I mean, you're gonna feel so much better. It's all gonna work a lot smoother for you if you do something like that. And you know, when you look at my new book, "The Power of When" actually you can actually, if you want to you can, not change your chronotype, but you can budge your chronotype to a certain direction by using light.

And so if you're a wolf and you've got to be up by 6:30 in the morning, I suggest you get some of these bulbs or you get some direct sunlight right when you wake up because that will help you adapt to your social schedule even though it might not be your internal circadian schedule.

Katie: That makes total sense. And I think this is also a great segue into an area where a lot of readers have questions which is about kids and sleep.

Dr. Breus: Sure.

Katie: You mentioned the night light thing which is super helpful. But I also have noticed, at least with my own kids, that my babies who were born closer to the summer months who I naturally had outside more become better sleepers earlier. Which makes sense in reference to they were getting bright sunlight and were getting darkness at night. Their cues probably lined up earlier. But you also mentioned something that I didn't know which is that newborn babies don't make melatonin.

Dr. Breus: Right.

Katie: And so I know so many people, I even get questions like, "How can I make my two-week-old starts sleeping through the night?" and I've always said, "Well, you can't because they're not supposed to." But can you talk about melatonin in kids and how it's different than adults and the chronotypes of children at different ages and how we can work with that?

Dr. Breus: Sure, sure. So first of all, great question from your group, whoever was asking about melatonin. So let me tell you a bunch of things just about melatonin in general for adults and then we'll drill down into kids, just so that people can have a basic understanding. So melatonin is a hormone. It's not a vitamin, it's not a mineral, and it's not an herb. It is a hormone. And so you wouldn't walk over to your local, you know, vitamin store, health food store and say, "Hey, I'd like a bottle of testosterone or estrogen please," right? You know, because they wouldn't sell it to you. So you'd have to think through the idea that this is not something to be trifled with. This is a serious substance that can have pretty significant effects.

Ninety percent of normal average adults below the age of about 55 make enough melatonin, period. End of story. Melatonin supplementation is more than likely not necessary. Once you go past 55, we do start to see a decline in the production of melatonin, so for those patients of mine, melatonin supplementation actually does make sense. Also if you're a shift worker like we were saying earlier in the show, if you're a police officer or a firefighter or a nurse at night or doctor at night

or what have you, melatonin can actually help reshift you. Jetlag is another situation where melatonin can actually be very effective. Travelling more than two or three time zones, melatonin can actually help bring you back.

All that being said, there are some significant problems with melatonin. Number one, it's not regulated by the FDA. So if you don't have something that's regulated by the FDA, which means I can make it in my garage, I can sell it at the local health food store, and that's a perfectly legal thing to do. So quality of the melatonin is going to be key. You wanna go to the websites, call the companies and say, "Hey, do you follow pharmaceutical guidelines for the production of your melatonin?" That's gonna be an important factor of knowing the quality.

The quantity is another issue that's fascinating. Ninety-five percent of the melatonin that is currently sold is in an over-dosage format, 95%. The appropriate dose for an adult is between a half and one milligram, that's it. Almost all of it is sold in three milligram, five milligram or ten milligram dosages. And you could be putting, you know, three, five, ten times the amount of melatonin in your system that you should be. So obviously that is a big, big issue there.

The third thing that's important for people to know is timing. It takes approximately 90 minutes for melatonin to reach plasma concentration levels to be effective for sleep. So it's not a sleep initiator. It's a sleep regulator. So it helps with your circadian rhythm and your chronotypes, like what we're talking about now, but it is not a sleeping pill. So taking it right before bed is highly ineffective, and it will give you a hangover the next day because it's still hanging on and making your brain think that it needs to, you know, continue to produce melatonin.

Another thing that's kind of interesting about melatonin is it's by prescription-only in Europe. Most people don't know that. But you can't just walk into a store and buy it because most of the European countries have said this is a serious substance that we need to regulate. But here's the kicker when you're talking about melatonin for kids, is at high dosages, melatonin is a contraceptive.

Katie: Wow.

Dr. Breus: It is a contraceptive. And I can't think of anything worse than adding melatonin to a young female developing body because we have no idea what's going to happen. I can guarantee you that my daughter

will never take melatonin, ever, you know, until she's an adult that I guess if she ever needed it. That's part of the issue that you need to start to think through here, is what are the long-term consequences of adding a hormone to a child? That's not something to be taken lightly. That's something that you should sit down, talk with your pediatrician. And by the way, most pediatricians have no idea that at high dosages melatonin is contraceptive. So you may have to bring that information forward to them so that they know and understand what you're dealing with.

Now, there is a caveat. I have seen melatonin be highly effective for kids who are on the spectrum, so autism spectrum disorder, of that whole gamut. It's actually been highly effective even at higher dosages, like three, five and ten milligrams, believe it or not. There's been some good research on that. I'm not advocating for it. I just am saying if you're a parent and you have a special needs child who is out there, that might be something where you should start looking up the research because it could actually be effective and might be a good use for melatonin. But you need to talk with your physician, really work that through and so to understand what's going on there.

ADD is the other one. There's been I think two research studies to show that kids with ADD can actually benefit from a course of melatonin, but it's not something that they may be taking forever.

Katie: That makes sense. So if anything, you only ever wanna use it working with a doctor who actually knows what they're doing especially with a child and only for a period of time, never at long term. And this is definitely where you're saying not something short term like, my kid she's having trouble sleeping, so I'm just gonna give them melatonin. That will be a completely...

Dr. Breus: Bad idea. If you really came down to it and you were in a bind and you just had to have something to knock your kid out, you'd be better suited using Benadryl than you would anything else.

Katie: That makes total sense. And you also said in the book that babies don't, like because their pineal... I think I'm saying right...their pineal gland isn't fully developed, they don't create their own melatonin regularly until like three months old, is that right?

Dr. Breus: That's correct.



Katie: And so they're getting it through the breast milk, is that right?

Dr. Breus: That's correct. And so what's really interesting is right at age four months is when you should start having your children, putting them down in the crib by themselves while awake. So four months is a super critical time because that's when object permanence seems to set in. And so just before, well actually just after that. And so what you want to do is put the child in awake, swaddled preferably. Lay them down on their back because the whole back to sleep to avoid reflux and things like that, unless you have a reflux baby. Both of my children were super, duper reflux babies so they were face down and they were fine.

Again, talk with your physician more about that. But you know, when you're starting to think about babies and what's going on with their sleep, four months is one of those critical marks because number one, they start producing that melatonin again. Also right around age, it's like somewhere between 10 and 14 months they start to move out of the two stages of sleep that they have and they move to four stages of sleep, actually five states of sleep like what we have.

So most people don't know this, but babies really only have two stages of sleep. They go straight into REM, which is the mentally restorative sleep. That's because their brain is developing at such an incredibly rapid pace. And then they just have the physically restorative sleep, which is stages three and four. Those are the only two stages that they've really got. However, right around that year, year and a half mark, they start to develop stage two. This is where they start waking up in the middle of the night which is not a lot of fun. Also by the way, that's right around the time that teething starts which is also not a lot of fun.

So you can start to really see how it can get somewhat tumultuous when you're trying to deal with children. And you know, let's say you have more than one kid and so you've got one kid who is already going to bed, having issues going to bed at age four and now you've got a 18-month-old and maybe you've got a newborn. There's a lot of stuff that can be going on there.

Katie: Yeah, that makes sense. It's really interesting to see that make sense about the melatonin too. I'm curious, do you know any research on...like so the baby is getting the melatonin through the breast milk. To me, it makes perfect sense in what I've seen in that they sleep great for a little while and then wake back up because it's like one off. What about

babies who are formula-fed, are they not getting enough melatonin or does their body compensate for that?

Dr. Breus: So number one, I don't know this literature backwards and forwards, so I'm gonna tell you what I think, not necessarily what I can point to data on. But I believe that actually that causes a quicker production of melatonin in these children which I don't believe is harmful. One of the tricks that we used with our kids was with the breast milk, breast milk is super thin and so while it's jam packed with nutrients and stuff like that, kids go through it, they metabolize it very, very quickly. And so we actually added, you know that flaky, cereal type of stuff? We actually added that in with the breast milk and what we found was within a week our kids were sleeping straight through the night.

My wife had our kids sleeping seven to eight hours by, well actually no, it's longer. It was seven to eight hours and then there was a stretch of like a three-hour nap. So they were getting 11, 12 hours. There were two naps so actually they were getting closer to 15, by four months. We were just like on it, like, "Let's get it done." And I was the sucker in the whole thing. My daughter was crying in the middle of the night, like I was flying across the house and my wife was like, "Stop," you know, grabbing me by the shirt like, "Don't go in there."

There's nothing wrong with letting your child cry it out. It hurts. It was painful for me to listen to it, but they're not in any pain. There's nothing wrong that's going on. Sometimes, they just have a lot of energy and they need to figure out a way to expel it. And sometimes and especially for infants, that's really the only way that they can do that. So don't worry so much about your baby crying. But a couple of big hints is right around age four months, put them down in the crib awake because they need to be able to self soothe themselves to sleep. And you know, while breast milk has a lot of advantages to it if people just aren't going down that path, your kid should actually be okay.

Katie: Okay, that's really good to know. And my motherly instinct has always told me when you're talking of a baby less than four months, I really feel it's completely impossible to spoil them. Like they are very physiological need to be held, you should respond to them, you should...  
[audio skips]

Dr. Breus: Absolutely.

Katie: All those things. But I also noticed what you said there by four to six months they get restless. When they're at zero to four months, they wanna be on me all the time almost. I wear them a lot. I hold them a lot and then they eventually do, like four to six months hit a restless phase where...I'm keeping them from sleeping well because I move, we're getting distracted [audio skips].

So we did that with my daughter and just, I would lay down awake and really she didn't cry much. She would talk and babble and eventually fall asleep. But the part that was interesting for me since a lot of our other kids, we waited till more like 8 to 12 months to make that transition, and it was like a battle because they were old enough to say no. And she really actually within two days learned to like sleeping by herself so much more...[audio skips]. I'm like, "What's the matter? Why won't you go to sleep?" and she wanted to be in her bed by herself. And as her mom, I'm like, "She doesn't need me anymore." But it was really she is sleeping great and she is sleeping longer. And it's super cool.

So I think kids that are like that it's tough for moms and I know it will be controversial, probably get a big discussion about that in the comments section whether to let them cry or not. But from a sleep perspective, that makes total sense.

Dr. Breus: Yeah, yeah. I mean, you know, I'm not necessarily talking about a closeness or companionship statement, but I'm saying just from a pure sleep perspective, it's important. And you know you can still find unique times to spend with your children, cuddle time and things like that, but for sleep, they really need to be able to do it on their own because if they can't, you have a big problem on your hands.

Katie: Yeah, totally. And so speaking of parenthood, another thing that I thought was interesting that you talked about ways caffeine consumption and when it should be. Because it was actually not like when most people probably are consuming caffeine and for parents listening, it's probably not an optional statement, they're going to consume caffeine. So when is the best time to do that based on sleep biology?

Dr. Breus: So it's interesting. Probably the worst time to ingest caffeine is the very first thing in the morning. And there's a couple of reasons why for that. So first of all, your body actually creates cortisol which is a natural stimulant in your system created by the adrenal glands. And this is one of the thing that rises slowly as you're asleep and when it hits its

peak, it allows you to wake up. So what's great about that is cortisol is a natural way to help you wake up.

Well, if you already have this natural stimulation due to the cortisol and you try to add caffeine on it, here's what happens. Cortisol is about five or seven times more powerful than caffeine, so all you do is you give yourself the jitters. And it takes even more caffeine to feel any stimulating effect because you've already got such an incredible stimulant on board.

After you wake up, between 90 and 120 minutes later, your cortisol is starting to dip and it's starting to go down. Have caffeine then. Have your caffeine, you know, an hour and a half to two hours after you wake up. So if you wake up at 6:30, you're looking at a coffee break around 8:30 so maybe as you're driving to work or bringing the kids to school or something like that. Don't walk into the kitchen, hit the coffee maker and slug down a couple of cups before you wake the family up or do that kind of thing because it's just not gonna be nearly as effective.

The other thing is you wanna look at the amount of caffeine. You know, caffeine is great as an energy producer when you have a little multiple times. It's not great when you down, you know, 12, 14, 16 ounce caffeine drink because your brain and your body, all they wanna do is blow through it because it's a toxin. At the end of the day, there's absolutely no nutritional value to caffeine which by the way means no child needs caffeine, none. I'm pretty firm on that one. I know there are people out there who are like, "If they have a soda every once in a while, it's fine." It's not, okay? There's absolutely no reason for that. My children are 12 and 14, and if they have a soda twice a year, it's a miracle and it's usually something that's non-caffeinated. I'm adamant about that because we do know that it has growth something effects in kids, and we do know that it can have some metabolic effects as well.

Katie: That makes total sense. So let's walk through, maybe in light of understanding sleep biology and melatonin and the difference with caffeine, what would be an optimal morning routine? Am I correct in guessing it would be more like waking up and getting bright light whether it be from a wake up light or from the sun and then maybe some movement but not exercise and then protein and greens and then coffee? Or how would you tell an average person to work that in?

Dr. Breus: So first of all, you're pretty close. You've obviously done your homework, so that's good. So here's what I would say is number one,

waking, figure out what your chronotype is and try to have your wake up time be somewhat consistent with what your chronotype wants you to do. That's number one.

Number two, as you're lying in bed after the alarm goes off or you wake up, start your respiratory system. So I'm talking five to seven good, deep, long abdominal breaths. That's gonna actually get your heart rate going. Because when you're lying in a recumbent position, your heart rate is lower, and it's harder to get yourself more awake. So sit up, swing your feet over but stay seated and give yourself a good five to seven nice, deep breaths.

When you do that, reach over, stand up slowly, reach over and grab your glass of water. You should have a glass of room temperature water that's sitting right there next to you. Walk over to the window or walk out onto the porch or patio, other way put on a robe if you sleep naked, we don't wanna scare the neighbors, and drink your water while getting sunlight. You're hydrating yourself because remember, you lose about a liter of water each day or each evening, and that sunlight is helping turn off that melatonin faucet.

Now, go back in, and there's a lot of different potential things, but for sure if you're gonna eat breakfast, which I highly recommend that you do, we're looking at a protein, grains and fat breakfast, okay? Because all of that is important energy food to keep you going throughout the day. If you starve yourself in the morning, eating only a muffin or what have you, it's not going to be good for you later on. You're gonna crash pretty hard.

And then from there, I would say your daily grooming, hopping in the shower or getting dressed, things like that. There are a couple of things that I recommend there as well. So one of the best things I tell people to do all the time is listening to music while you're in the shower. It is energizing. Pick something that's fun, I mean, don't dance around because you might slip and fall, but have something that you can bop around to and get yourself moving to because music evokes emotion. And having a positive emotion first thing in the morning can actually be very beneficial for somebody in the early morning time as well.

Also when you take a shower, you do not wanna take a hot shower. There is data that suggests that hot showers actually make you more sleepy. So you wanna take a cool shower. Not a cold shower but a cool shower because a cool shower will actually help wake you up a little bit



more especially if you're a wolf, and you're having a hard time getting going in the mornings.

Katie: That makes sense. And so I'll definitely include links that people can take the quiz and find out what chronotype they are. And I would also definitely, I'll have a link to your book because I recommend it really highly.

Dr. Breus: Thank you.

Katie: I would like to also talk about with kids, do you have a really neat session of, because I was reading in the beginning of the book going, "I wonder how my kids fit into this," and I had pinged my mom, my dad and my husband, and I went like, "I wonder where my kids fall." And then I got to the section where you're like based on age, kids are, they go through the chronotypes.

Dr. Breus: They do.

Katie: And you...as an adult, into one of them [audio skips]. So can you talk about that and how we can use this to support our kids at different ages and how that looks?

Dr. Breus: Absolutely. And so our itty-bitty young kids, like ages zero to about three, four years old, they're lions. They get up at the crack of dawn, they go, go, go. They're asleep by 5:30. So very similar to a lion-esque schedule in terms of being able to do A to B to C, itty-bitty kids are definitely lions. Then during the middle school years and just up until teenage years, they turn into bears. And so they're much more societal. They can get up a little bit later, but they can still go to bed a little bit later, still wanting to get them the appropriate amount of sleep. They actually are a little bit different in terms of their availability mentally, and they're not necessarily the one, two, three steps. You can actually start doing things a little bit more complicated with them again, based on their chronotype.

Once you hit teenage years, everyone of them is a wolf. I have two teenagers and you know, it is a heck of a time getting them to go to bed before 10:00, 10:30 at night. And you know, I'm the sleep doctor, right? I mean, I'm like, "Come on guys, this is ridiculous," and they're like, "We're just not tired." And they're not. There is a natural genetic progression to being a wolf where 90% are teenagers.



And this is one of the reasons why schools at times have become such an interesting conversation because data out of the University of Minnesota, I believe it was, showed that if you actually started schools an hour later, kids in their first period would actually go up one full letter grade which is pretty amazing if you think about it. And it's so crazy, the bus schedules make no sense. So the bus schedules for teenagers because they're the ones that are picked up first then the middle schoolers, then the small ones. It should really be the opposite. And you'd find that it would be much healthier for kids, and they'd actually do a lot better.

Katie: That makes sense. And I know it's controversial. I've actually seen a lot of that research myself as far as we should really let teenagers sleep. And if any home school moms are listening, maybe that's something they could do is let the teenagers sleep till they wake up. And I know there's still a schedule so let them read at night or do something calm so they're not disrupting the rest of the family.

But I noticed that myself because I was actually homeschooled up until high school, and I've said my parents were the best teachers I ever had because they were way tougher than high school. But they did let me sleep in. I think my mom instinctively realized that we were better students when we got to sleep in, so her thing was as long as you're completing your work in time and you're doing a good job, you get the privilege of sleeping in.

Dr. Breus: Fair enough.

Katie: Yeah, any moms who can do that, that might be an easy way to help teenagers.

Dr. Breus: Sounds like a good mom.

Katie: It was. She was really good. That's really tough for the school thing though. Are any of the things that help shift workers, can any of that be used to benefit a teenager who is in school who has to get up early?

Dr. Breus: It is. And so one of the things that I do is we actually took the window treatments off my children's windows in their room so that when the sun would rise, they would start getting sunlight fairly early on. We did this once they hit the teenage years because remember light has an effect. And it actually helps them wake up in the mornings. And so I'll go

in and teenagers, you can let them snooze once or twice. Generally speaking, I'm not a big fan of the snooze button, but for teenagers, they kind of need that in order to get going.

And so when you walk in on the teenager, hopefully the room is already fairly well lit. And then because of the sunlight that's hopefully coming in and then you gently progress them to, "Hey, it's time to get up. I'm gonna give you five more minutes," "Oh good, whatever," and then you come back in three minutes later, not five minutes later and say, "Hey, five minutes is up." And they're, "Oh, just give me five more minutes." "Okay," and then you walk out. I mean you have to schedule it out but you can actually get them going pretty well.

If you don't have a situation like it's winter time and there is not a lot of sunlight out, I like light boxes. There are commercially available light boxes. You can get them on Amazon. The one I like the most is like "Golite", G-O-L-I-T-E by Restronics. They make a really, I think it's Restronics, Philips, Philips. They make a great little light box that can be highly effective. And it's not like you have to put it right here in front of their eyes. And so once you get them dressed and eating breakfast, just put it right in front of them while they're eating breakfast. You'll be shocked at how quickly they start to adapt to that schedule. But you have to do it every day.

Katie: I can vouch for that because we actually have the Philips one. I put on the alarm clock, and then I also have the bright, bright one, the 10,000 watts one.

Dr. Breus: Right.

Katie: While we're eating breakfast and that really does seem to help their focus and stuff. What about protein? Is that also gonna help? If your kids, teenagers, if you can get enough protein in early does that help with their rhythm as well?

Dr. Breus: It does. Remember, carbohydrates make people sleepy because it elevates the level of serotonin which makes you feel calm. And so what I'm doing in the mornings for my kids is I'm giving them a protein shake along with what I'm having. And then my son, it's unbelievable how much food this kid can consume. It's just staggering to me. I can take leftovers from the night before, and I feed them to him for breakfast. So he actually has, I mean, it's not uncommon for him to have salmon and broccoli and quinoa for breakfast. And he loves it. I mean,

actually he won't even eat cereal or muffins or bagels in the morning any longer. He is like, "I want a meal for breakfast." And we find that in the days that we can't do the meal thing for breakfast, it has a pretty big effect on him.

Katie: I am worried about, I only have an almost ten-year-old son and a six-year-old son, and I call them hobbits because I have to feed them breakfast while I'm cooking breakfast and then feed them...breakfast, they eat their second breakfast [audio skips]. I'm like, "They're not even teenagers yet. Oh my gosh, when they're teenagers, we have got to brace ourselves for this food bill." It's crazy.

Dr. Breus: It's nuts. You will be surprised. And it's so innocent, you know, like we'll go out to dinner, and my son will say, "Okay, well, I'd like the steak and the potatoes and the vegetables, and we'll...are we gonna get an appetizer dad? And what about dessert?" and I'm like holy cow. These kids can eat \$26 worth of food, and none of us have eaten yet. It's pretty impressive.

Katie: It is impressive. But I love your tips about timing it. You also talk about lunch being the biggest meal of the day. And I wanna talk a little bit more about that because it seems like you get the other two extremes. You get breakfast is the most important meal of the day which I think it is, but it's more about the macros then maybe, and possibly dinner is the biggest meal of the day. But like I said, my French side of the family, they're all like, like lunch is huge. It's a salad course followed by a soup course or followed by foodstuff. And then dinner they like, "Oh, I'll have a little salad." So talk about why there may be some logic to lunch being the biggest meal of the day.

Dr. Breus: So when you look at your metabolic process, especially when you look at it by chronotype, what you'll discover is that middle of the day is when your metabolism is actually the most active, and it actually is looking for the nutrients that you're feeding it. And at dinner time, your body is not that way. Your metabolism is really starting to slow down. It's not as interested in the fuel sources that you're putting through there and so again, it's bring into the storage, bring into the fat, you know, making it so that you're going to actually gain weight.

I personally would say that lunch is the best meal of the day that you can have because a lot of people they just can't, they don't have the time or they just can't choke down a major breakfast of eggs and sausage and whatever, whatever your thing is. And so lunch is the time to do that.

Obviously, you need to be able to get your greens during each one of your meals. I always have a salad with protein on it for lunch, and then I may even have a snack around 2:30 which is gonna be more of a protein, fat-based snack like nuts or a big one for us like the raw almonds and cashews and pistachios and things like that are ones that I will do for sure.

You wanna also steer too clear of sugar and obviously processed foods. And so it gets hard especially when your kids are in school, and they're eating school lunches or you're trying to provide them with a healthier alternative, and they're saying, "But why does my friend have all the Snickers and the juice boxes and all of that stuff and I don't?" and you know, you have to explain to them what your theory is on food and how it's gonna help them better in the long run for sure.

But lunch is, it turns out that lunch, just based on your metabolism, is really the time when you should be pulling in as much fuel as you can because your metabolism is up, it's going, and it's ready to use it.

Katie: Yeah, I love that. And when it comes to sugar, I'll just echo that because how you say it, we have really no biological need for caffeine. It's empty calories. There's no nutrients. And that's exactly how I feel about sugar too. That's one of my other soap boxes on the blog, is like please don't feed your kids sugar especially processed sugar because there is zero biological need. I noticed my kids sleep great when I give them little carbohydrates with dinner but not sugar so that might be... Like they love having fruit for dessert and that's...sugar or sweet potatoes with chicken nuggets, they love that [audio skips]. But sugar messes them up.

Dr. Breus: Yeah. And again, you know, the childhood metabolism especially the complex sugars, what you're looking for is more complex carbohydrates and good carbohydrates. And by the way, there's nothing wrong with carbohydrates. I don't know, people are always on this kick like, "Oh my gosh, carbs are terrible for you." They're not. Just have the right kind of carb and have them at the right time of day. Your body needs carbohydrates. That's probably one of the main sources that your body focuses in on in terms of energy. But just have the right kinds, you know, healthy fats and healthy carbohydrates, fruits, avocados, all those different things can actually be great sources of both protein and carbohydrates and taste really good.

Katie: Absolutely. Especially for kids, I feel like they really need that because they burn through everything so fast. But a lot of people fall short and don't realize there are so many great natural sources of carbs that nobody even thinks about. Sweet potatoes are an obvious one, but you've got all these amazing root vegetables that most people would never even think to cook that are a good source of complex carbs. Or like fruit for dessert is an amazing dessert, and you don't have to cook it. There's so many great options out there.

Dr. Breus: Right, absolutely.

Katie: Awesome. Well, I feel like you are just like a wealth of knowledge. I have taken like three pages of notes while we've been sitting here.

Dr. Breus: Well, good.

Katie: So I'm gonna definitely put links that other people can figure out their own chronotype and adjust...

Dr. Breus: There you go.

Katie: But what would be, from your perspective, the most important take-home message? If you could only get people to implement a couple of things that we've talked about, what are the most important ones?

Dr. Breus: So biasedly, I would say take the quiz. Because it's less than a minute, and you'll learn a whole lot about you. And you can get your family members to take it. You can figure out what's going on with your kids, and you can set up a schedule. Understanding and respecting your chronotype can actually change a lot of the interactions that are going on with your family.

And make sleep a priority. People think that exercise is more important than sleep. I can show you 20 studies that would actually argue against that. I'm not saying exercise isn't important. I just got back from working out. But at the end of the day if you are eating correctly and you're sleeping correctly, your body will function correctly. And quite frankly, you'll get more out of the exercise than you ever would have before. So understand your chronotype, respect your sleep and get enough of it. And you'll be surprised at how healthy you become.

Katie: Awesome. That is wonderful advice. And like I said, I'll make sure that there are links below on everything we've talked about and...to the

quiz, that will be at the top so that people can check that out [audio skips]. Thank you, for your time and for being here, for sharing with us.

Dr. Breus: Of course, thank you. I really love what you're doing. And the education that you're giving to women out there is critical and moms who are trying to figure it all out. you're such a wonderful, wonderful resource so thank you for putting out all that great information because it's really good stuff.

Katie: Thank you, Dr. Breus.

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