

**Robb:** Folks, including my wife, we are back. Another edition of the Paleo Solution podcast.

**Nicki:** We are back. Yeah, I'm going to move my chair. So I can kind of look at you.

**Robb:** You know we're going to have a different setup here where Nicki and I can gaze longingly into each other's eyes and then you guys can just get our profile all night. Think I have one profile side that looks halfway good; my receding hairline plus cowlick is reduced on that side, so we'll stick me on that side and we'll just be kind of...

**Nicki:** So that means they'll be getting this side of me because we'll have to be facing each other.

**Robb:** Yeah, but we can stick you on the opposite side, regardless of how we orient me. This is one of those SAT spatial relations questions that Nicki just failed.

**Nicki:** And I just failed.

**Robb:** Yep. It's okay though, only six people are listening.

**Nicki:** It's true.

**Robb:** Anything new? You want to update people on anything?

**Nicki:** Goodness. What is new? We're in the Texas fall, which is-

**Robb:** Just slightly cooler than the Texas summer.

**Nicki:** Not fall, I'm hearing that there really isn't a fall in Texas.

**Robb:** That's the main thing that I've noticed thus far, a few days into the Texas fall, is that it's slightly cooler, and there are now some mosquitoes, where it was dry enough that we had effectively no mosquitoes. So there are some mosquitoes.

**Nicki:** Yeah, but not bad. Knock on wood, we might get deluged by mosquitoes next week,

**Robb:** Not yet, not yet. I have a feeling-

**Nicki:** But so far it hasn't been too bad.

**Robb:** There's a lot of opportunity for standing water out there, mama. Okay.

**Nicki:** Okay. So we'll jump into our first question of this week from Juliana.

**Nicki:** "Lack of sleep with a baby. Hi Robb. How are you? I wanted to ask you about parenting and a healthy lifestyle. For me, not having a good night's sleep is the worst. It makes me super hungry all day, bad mood, et cetera, and it gets really hard for me to recover during the week with regular sleep hours. I need, like, a full day in. Even before I heard from your podcast, my worst fear about having babies has been the potential lack of sleep, but I wonder how people deal with this. Are there any obvious strategies our ancestors did and we don't, or something like this? Do you have any suggestions? Thank you. Juliana."

**Robb:** Do you want to jump in on this since you're actually the mother of wolves?

**Nicki:** That's kind of funny.

**Robb:** The green queen, mother of wolves.

**Nicki:** Not the mother of dragons, but the mother of wolves.

**Robb:** Yeah, the mother of wolves.

**Nicki:** Gosh. So our first daughter, Zoe, for the first three months was a rough... It was a rough go. We did not get very much sleep the first three months, but then for whatever reason, at the three month mark, she just started... I don't know if we've got our routine down or what, but it was like clockwork. We'd put her down around 6:30 and she would sleep all the way through till pretty much 6:30 the next morning. Sagan didn't really sleep through night without waking up until she was two, and even after then would have-

**Robb:** Nightmares.

**Nicki:** Nightmares, night terrors, and even still, she's five now, we'll occasionally, it's much less frequent, but she'll occasionally wake up every two to three weeks and be crying.

**Robb:** Right.

**Nicki:** Our ancestors, I mean, this is a super controversial topic and I'm not recommending anything, but the co-sleeping scenario, having a warm body next to you, I think was a way that our ancestors handled this. We also in the past lived in more of a communal scenario where the aunt took the child or the grandma, or somebody would take the child so that the mom could get rest and the parents could get best. Today we don't tend to live in close proximity to close family.

**Robb:** It's cool, on the one hand, that we have mobility because it affords us the chance to live where we want to live and work opportunities. But the downside is it tends to fragment that social connectivity. When we had Zoe, my mom was still alive, and I feel like we may have mentioned this on a previous podcast, but I asked my mom, I was like, What did you do? Did anybody help you?" And she was like, "Oh yeah, your grandma stayed with me for three months and your aunts each stayed with me for a month alternately within that." So between the women that were... and my mom had already had three kids previously, and so among the women there, there was like 130 years of child-rearing experience for one. So figuring out latching and colic and just all this stuff, you had some good wisdom there and some support, just somebody to take the pressure off a little bit. Our dear friend Nancy Meenen, Dave Werner's wife, came and stayed with us for a weekend, basically did the night shift.

**Nicki:** We were so desperate at the three week Mark with Zoe-

**Robb:** We were so crushed.

**Nicki:** Because we didn't have any close family, sisters, cousins, anybody around helping. So we were like, "We have this new little baby that we need to keep alive," and we had no idea what we were doing, and it was so hard. So hard. Latching is so hard. Let me just say for all of you that think, "Okay, I need to prepare for childbirth," and this was me, "I

need to prepare for childlike birth." I read every book about having a baby and birthing a baby, but I didn't read anything about latching, because it seemed like, "Oh yeah, you just put the baby right here and they just..." It's not that easy.

**Robb:** I was just having a conversation on the airplane, interestingly, with a primatologist and somehow this topic came up, and even within a chimpanzee and bonobo families, if there was a loss of culture, like if the older generations die or they get separated or something, they don't inherently know how to do this. So there are some animals that do the whole feeding of the young on an instinct level, and the more sophisticated animals like primates and elephants have culture and they have to learn how to do it. So even in our closer relatives, there was a cultural transmission and apparently there's quite a bit of shenanigans going on with like, "No, no, try this. No, no, try that." And that's just in chimpanzees.

**Nicki:** You're really good at-

**Robb:** So, not to run you over on this, but this will be a little bit controversial and not potentially well-received, but in the past we tended to have the kids earlier. We just did. And we had kids not as spring chickens and managed to motor through it. But when you think about-

**Nicki:** But it was hard. I mean, we had Zoe, I was 34, and Sagan at 36, and you can imagine how, when you're like 19, 22, 23, you can stay up super, super late. You can pull an all-nighter and yeah, you feel tired the next day, but, I mean, you bounce back pretty quickly. When you're 34, 36, older, it's hard. Like it definitely affects your body much more.

**Robb:** It carves a mark. Yeah, yeah.

**Nicki:** Yeah.

**Robb:** So, yeah, I don't know-

**Nicki:** Obvious strategies...

**Robb:** The sleep that you can get-

**Nicki:** Get help. I mean, if you're planning on having a child, if you can get friends, sisters, other moms to just be near you and help and somebody to stay with you. For some period of time-

**Robb:** Or even doing a nap during the day, having somebody that could be there to hold the kid, carry him around during the middle of the day so that you could get a nap, and then all the sleep hygiene stuff just goes on steroids, because the little snatches of sleep that you can get, you have to get it. And the one thing you have to remember, it's a little bit like a psychedelic trip. You have to keep telling yourself it will change and it will and you will get through it. In the midst of it, it feels like it's never going to fucking end. You think you're going to die, but you won't, and you will get through it. And it does change, and the kids do eventually learn, get into a pattern where they sleep better. Even Sagan who, it took a while, but she eventually entrained and started sleeping better. Anything else you can think of?

**Nicki:** No, it's just one of those phases of life and you get through it. Like Robb said, this, too, shall pass.

**Robb:** Although it feels like you are literally going to pass into the nether realms. Yeah.

**Nicki:** It does. Okay. Our next question is from Michael.

**Nicki:** "Impaired nutrient absorption on one meal a day. Dear Robb and Nicki, first of all, thank you for the wonderful show and all of the work you've been doing. I have a question that's been on my mind for quite some time and hopefully it will get answered on your podcast one day." I'm going to move this monitor so I can see this a little bit easier. "Is there any reason to be concerned about limited nutrient absorption during a daily 24-hour intermittent fast? Personally, I find that the 'one meal per day' approach works the best for me for many different reasons, body composition, logistics, mental clarity during the day, et cetera, but I wonder if there's any downside related to the maximum amount of nutrients, for example, protein, that the body is able to absorb and or utilize, if all the nutrients, example, 4,000 calories worth, are consumed in one very big meal in the evening on a daily basis.

**Nicki:** "For example, the popular belief is that the protein absorption is optimal with 30 grams of protein per serving and therefore, is it better to spread the daily intake of protein across smaller meals throughout the day? Does it also apply to vitamins and minerals? For example, I like to include nuts in my salads or add cocoa powder to my low carb desserts. Both of these contain quite a lot of phytic acid, which as we know, decreases the absorption of certain minerals, et cetera. I want to make sure that my body does not send most of the precious nutrients that I consume to the toilet without utilizing them. Do you think it would be reasonable to increase consumption of certain nutrients like protein beyond the recommended doses to compensate for the lower absorption? Many thanks in advance, Michael."

**Robb:** Man, there's a lot to unpack in there. Maybe first is the notion that 30 grams of protein is somehow optimal. Usually it's couched as "your body can't absorb more than 30 grams of protein at a sitting," which is ridiculous. You can actually process an enormous amount of protein at a given sitting, assuming normal digestive function like bile salt release and stomach acid and all that type of stuff. And in fact, the flip side of this story is that, if you want any type of anabolic signaling from branch chain amino acids, mainly leucine, you actually have to hit at least about 20, 21 grams of some sort of a well-formed protein. Typically animal protein, it's hard to do with plant proteins. If you're doing something like a pea protein, like if you're doing the vegan shtick, then you have to increase the protein amount by like 30 or 40 percent to get to the same degree of anabolic signaling, and it's still unclear whether or not it works as well.

**Robb:** So I think that people are generally well-suited to be able to hit all their nutrient needs with one meal a day, so long as you feel okay with that. I would say that some of the work that Bill Lagakos does and some of the stuff that we see digging into circadian biology, it's probably not the most benign thing on our physiology to drop 4,000 calories in the evening without eating throughout the day. It's interesting, because on the one hand, we don't necessarily want to do the grazing pattern; that clearly is not good for us. We've talked about this on other podcasts, where they will look at folks doing same number of calories, isocaloric, even hypo caloric, where they're losing a little bit of weight, but eating, say, six or eight meals a day ended up negating the anti-inflammatory properties of a reduced calorie diet.

**Robb:** Normally if we just lose weight, we tend to see a reduction in inflammatory biomarkers, but just eating super frequently ends up being problematic. It doesn't necessarily mean that eating one meal a day is dramatically better, versus two, two and a half, like a big breakfast, maybe skip lunch, then have a modest dinner or something like that. Arguably might fit within our circadian biology more favorably. So long as you're eating nutrient-dense foods, we're definitely going to have to rely heavily on protein sources, I would see the inclusion of things like greens being very minimal, or you would want to cook them, steam them, process them in some way. Like I would see it kind of nutrient-dense, but they take up a lot of space and they do compete in the digestive process. So I think you're just going to have a lot of meat, a lot of protein, things like sweet potatoes that have color to them, berries, nuts and seeds are good from both a calorie and a nutrient density standpoint.

**Robb:** Any type of traditional preparation methods like soaking, sprouting, fermenting are probably good because it's going to aid in the digestive process. I probably wouldn't eat a ton of raw food under this circumstance because again, other than maybe fruit, I wouldn't do a giant raw salad in this case. I might even blanch the salad or the way that you fix some of your salads where it's quite rich-

**Nicki:** Soak it in olive oil and vinegar-

**Robb:** Apple cider vinegar.

**Nicki:** Apple cider vinegar dressing. Kind of breaks it down.

**Robb:** And Nicki will set it up and she'll prep it several hours before dinner, and by the time we eat it, between the salt and the acid, that stuff is really broken down quite nicely. It's really yummy, but I would just stack the deck towards that. Improving the digestive process.

**Nicki:** The only other thing is, maybe making sure you're eating well in advance of your bedtime.

**Robb:** Yes. Good point on the circadian biology piece, because we could be nutritionizing ourselves well, but then we could fuck over your circadian biology.

**Nicki:** You're eating dinner at 7:00 PM and you're going to bed at 9:00 or 10:00-

**Robb:** That's going to be a problem, especially if it's 4,000 calories.

**Nicki:** Especially if it's that volume of food. Yeah.

**Robb:** Yep. Good point.

**Nicki:** Okay. Let's see. Next question is from Jesse. He wants to know if supplements are considered ultra-processed foods and if not, why, and which ones get a pass. "I'm thinking of MCT powder and even the purest herbs and organic mushroom powders."

**Robb:** Hmm. I guess the question for me... So we're always throwing ultra-processed foods under the bus, so that's maybe some of the concern here. Kevin Hall, who did the diet fit studies, they just had great interview with him in Scientific American basically making the case that, "Hey, it's not carbs. Hey, it's not fat. Hey, it is processed food that is the big problem with the diabesity issue and whatnot." One of the things that Loren Cordain

had a really good idea on that I don't think he ever really got to bring to fruition was this notion that, if we were to map all of the nutrients, vitamins, minerals, some key antioxidants within foods and do a 3D mapping of how much B12 there is relative to all this other stuff, that there was a gentle distribution within food.

**Robb:** Some things like liver had quite a lot of certain nutrients, but still, compared to most supplements... The problem with most supplements, potentially, is that you're getting super physiological doses of these nutrients and oftentimes in the ratios that never occurred in natural scenarios. Some outfits like New Chapter do a little bit better of a job staying within a more biological parameters with regards to the dose. But that would be my biggest concern on this, and then things like herbs and mushroom powders? I mean, those things can be great for some people, they can be disastrous for other folks. So my main concern around supplements is just, there are some that are great, but I'm reticent to recommend very many that just... Uniformly, vitamin D seems to be one of those, and now probably recommending some sort of an ADK combo would seem to be smart. Magnesium. We've even kind of moved away from fish oil as a broad-reaching recommendation for a variety of reasons. But can you think of anything else to flesh that out?

**Nicki:** Are people taking organic mushroom powders in capsule form, like a supplement? Or is this like-

**Robb:** Could be the Four Sigmatic teas, or something like that, which... Those things, I mean technically-

**Nicki:** It seems like something that you're either sprinkling on food or preparing with food or drinking as a beverage feels more... It's not like you're swallowing five capsules of this thing that... I don't know if that makes any sense.

**Robb:** Jesse, I'm not sure if that exactly answered your question, but that's the answer you got nonetheless.

**Nicki:** Okay. Let's see. Let's move on to Roger's question on E-P-I.

**Nicki:** "I keep hearing new commercials for a new drug! Yay! For a condition I've never heard of: exocrine pancreatic insufficiency, or EPI. I've always thought the pancreas was just responsible for insulin. This condition says it aids in digestion. Any chance we can get a breakdown of what this is on the podcast and how a paleo-primal lifestyle could mitigate it?"

**Robb:** So yeah, the pancreas is interesting in that it is both an endocrine gland and an exocrine gland. On the endocrine side, we have insulin and glucagon, which people oftentimes forget that it also releases glucagon. And just as an aside, you could possibly make the case that the first job of insulin is to actually turn off glucagon production, and this is why, in Type 1 diabetics, it's really challenging to monitor this because the alpha cells release glucagon, the beta cells release insulin, and they nest right next to each other, so under a normal functioning pancreas, when we release insulin, it immediately shuts down the glucagon release. Whereas when we're taking exogenous insulin, stick it in our butt or wherever it ends up going in from an insulin pump, it has to go through peripheral circulation before getting to the pancreas.

**Robb:** So that's kind of a problem. And this is kind of a funny thing too. Endocrine means inside, exocrine means outside. So the exocrine digestive features include the bile salts,

amylase, peptidases, basically the enzymes that break down protein, carbohydrate, and fat. And this reminds us that, although our alimentary canal appears to be [inaudible 00:19:10], it is in fact a hole from mouth to pie hole, or mouth to hoo ha, as the case may be. Pie hole to hoo ha. Getting back to the actual question at hand here, this exocrine pancreatic insufficiency is a scenario in which folks don't really release enough bile salts or these digestive enzymes and they can have nutrient deficiencies and a whole host of digestive problems. And possibly not surprisingly, when you dig around in the literature a little bit, there is a really tight association with gluten sensitivity in particular and this EPI scenario.

**Robb:** So part of what is going on with the medications that are at play here is, they seem to help mitigate some of the damage to the gut lining and to some of the cells that are adjacent to the pancreas, and these are important in the production of, of other signaling molecules like cholecystokinin, and these are the things that turn off both gastric motility and also the release of a digestive enzymes. So it's helping to mitigate in that regard, but there is also some pretty good literature suggesting that folks who have this EPI problem probably would benefit from a gluten-free diet as a beginning step.

**Nicki:** Okay.

**Robb:** Man, we are blazing through this stuff.

**Nicki:** We are, we are. Okay, let's see, our last question this week is from Linda.

**Nicki:** "Hi Robb. What are your thoughts about the keto breathalyzer? It seems like an easy and quick way to determine if we are in ketosis, but does it work? Are the readings accurate? I'd love to hear your expert opinion because it'd be great to be able to check our levels at any time without having to prick our fingers and draw blood."

**Robb:** So I checked out on this, and I mean the question of, does it work? Yeah, I mean it definitely appears to track your ketone levels. The one thing that I have a little bit of concern with in checking out this website, I couldn't... It said "backed by science, backed by science, backed by science," no literature provided. So I can't actually dig into, what are they... As far as I can tell, I can't even tell if this thing is looking at beta hydroxybutyrate or acetone, which are the two things that we could check via breath. Acetoacetate, you can really only check via blood or urine. Another, I guess, concern... And God bless these people doing this stuff, it's great that they're getting in and providing a resource like this, but I think it was something like, "burn fat faster and know that you're doing the right thing," or something like that.

**Robb:** And we hopefully are getting to a point of sophistication in this ketogenic diet story that just because you're producing mountains of ketones doesn't necessarily mean that you're doing the right thing. If your goal is fat loss, doing a bunch of fat bombs or just hammering yourself with MCTs so that you win the dick-measuring contest of highest ketones within your competition group or something, it doesn't really matter. And it's frustrating, honestly, to see something like this that is really pandering to that lowest common denominator. It would be really nice to see some messaging on this site about some of this nuance that's basically like, "Hey, let's find what your ketone levels are."

**Nicki:** Nuance doesn't sell, babe.

**Robb:** Nuance doesn't sell.

**Nicki:** We've been learning this the hard way for ages.

**Robb:** Yeah, we have learned this the hard fucking way.

**Nicki:** Nobody wants nuance.

**Robb:** Hey-

**Nicki:** And context.

**Robb:** "Nicki, there's this stuff called mycotoxins and they're in coffee and they'll kill you, but I have the only coffee in the world that doesn't have them." That's a great example of that. Create a problem, then have the only fucking solution for the problem. These folks are not doing that. God, I want to do a better job of answering this for Linda, but I don't know if their readings are accurate, because they don't actually provide any validation studies.

**Robb:** One of the big problems with the breath ketone meters is that the equilibrium dynamics that occur between fat breakdown, acetoacetate, acetone, and beta hydroxybutyrate are not a completely linear process. If you know one number, you do not inherently know what the other numbers are, and this is some of the problems with these things in a quantification scenario. There's a great sci-fi novel called *The Three Body Problem*. In physics, you can figure out what's going with two bodies moving around each other, and as soon as you add a third body to a gravitational system, it's largely impossible to determine what's going on. And this is not completely removed from that scenario, in that, because these equilibria, the conversion from acetoacetate to acetone or beta hydroxybutyrate, are not 100% linked or not 100% stable one to the other. Then it's really hard to tell what's going on with this stuff.

**Robb:** At a macro level, let's say you had somebody with a neurological condition, the best way that I can see using something like this product, or ketonics, is that you are able to get a magnitude reading out of whatever it is that's coming out, and then based off of that, you can get a sense of, "Do I feel good? Is my performance good? Is my cognition on point?" And then that could help you steward some stuff. But as cool as these things are, and I really wish I had invented one and taken across the goal line on all that stuff, they're limited in what they can tell us. But at the same time, if we look, feel, and perform well, then we should only be using these things as orienting guideposts early on and then somewhere down the road, in my opinion-

**Nicki:** You don't have to prick your finger all the time.

**Robb:** You really don't need these things. Yeah.

**Nicki:** Yeah.

**Robb:** And these people are going to hate me now, but that's okay. Everybody hates me at this point. Anything we need to let folks know about? We didn't try to go through that fast, but-

**Nicki:** No. Oh yeah, I wanted to say, the podcast clearly is sponsored by drinkLMNT LMNT Recharge. And we've mentioned Wade's army in the past, it's a fundraiser to support neuroblastoma, children's cancer, and-



**Robb:** Explain that a little bit. About half the money goes into legit research, and half the money supports families. So if a family is affected with glioblastoma, one of their children-

**Nicki:** Neuroblastoma.

**Robb:** Neuroblastoma, sorry, neuroblastoma. A big chunk of this money goes to helping to travel these folks to a treatment center, put them up, provide transport. So they're trying to look at better treatments and preventions, but they're also really legit helping families affected by this really horrible disease.

**Nicki:** And right now is the primary fundraising drive for Wade's Army. It goes all the way through November 12th, which is Wade's Day, and LMNT and Wade's Army have sponsored, so if you go to [robbwolf.com/Wade](http://robbwolf.com/Wade), if you buy a box of LMNT recharge... If you haven't tried the electrolyte drink and you want to give it a shot, you buy a box and \$5 from every purchase is going to go to Wade's Army. You can also donate directly to Wade's Army if you aren't interested in the electrolytes and you just want to donate to a great cause. Some dear friends of ours, the Welbourns, and some very dear friends of theirs lost their son Wade to neuroblastoma. So that is the genesis story for this fundraiser.

**Robb:** So support Wade's Army. And what's the URL, again, for that?

**Nicki:** I believe it's [wadesarmy.org](http://wadesarmy.org) if you just want to go and make a donation directly. If you want to buy the box of LMNT Recharge and donate indirectly through there, you can go to [robbwolf.com/Wade](http://robbwolf.com/Wade).

**Robb:** Awesome. Nicely done, wife.

**Nicki:** And you can submit your questions on [robbwolf.com](http://robbwolf.com). Follow us at [das](#), [D-A-S](#), [robbwolf](#) on Instagram and-

**Robb:** At least for a while.

**Nicki:** At least for a little while. And we have some stuff that we're working on that we're getting ready to share, probably maybe next week. So we'll see. We're not quite ready to unveil yet.

**Robb:** We've been busting our hump on it.

**Nicki:** But I think it'll be... It's related to the podcast, related to some other things, and I think it could be pretty fun for all involved.

**Robb:** Oh man, you're just dangling the goods out there, geez. Okay, well thank you guys for tuning in. Look forward to getting some questions again in the future. Thanks for sending them in.

**Nicki:** All right. See you guys.

**Robb:** Bye.