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Nutritional Strategies for Inflammatory Balance and Immune Readiness

Dr. Jackson:
Inflammation isn't always loud or obvious. So how do we recognize and manage the quiet chronic processes that impact long-term outcomes?

Welcome to *NutritionEdge* on ReachMD. I'm Dr. Steve Jackson, and joining me to explore how nutrition influences immune readiness and inflammatory balance is Dr. Cassie Smith. She's an endocrinologist and the founder of Modern Endocrine in Oklahoma City.

Dr. Smith, thanks for being here today.

Dr. Smith:
Thanks for having me, Dr. Steve.

Dr. Jackson:
To start us off, can you tell us exactly what low-grade chronic inflammation is and why it's relevant to long-term patient outcomes?

Dr. Smith:
Yeah, I think that's a great question. So I think of long-term inflammation as that subtle symptom that your patient's going to come to you with, and maybe you're not going to tie it to anything, right? So it's going to be a little bit of fatigue or a little bit of bloating or maybe some brain fog, where you're like, “You're just stressed." But really, what’s happening in today's society is we're busy, we're not sleeping as much as we probably should, maybe not eating as well as we should, not moving our body, and we're staring at screens, and so our body is stressed, right? We're getting all these stress inputs. And when we're stressed, it changes our immune cell function, it changes our gut, and it changes interleukins.

And all of these things adjust our hormones, how our hormones are made, how our hormones are metabolized, and the balance of our hormones. So most people are walking around with higher cortisol levels, which then causes our insulin levels to be higher, right? Insulin directly impacts our estrogen, and cortisol directly impacts our progesterone in women. But we're walking around with these out-of-balance hormone levels. And when that happens, it causes cytokines, our interleukin-6, our tumor necrosis factor-alpha—all of the things that signal to our body, "Hey, something's going on,” put our immune system on heightened alert. But that's happening chronically, right? So we need that if something's attacking us, like a bacteria, and we need to kill that. Our immune system needs that. But when it's chronically happening over time, it's just very low-grade chronic inflammation, and it's causing all of these shifting in our hormones.

And what happens over time is we try to get used to it, so we'll start to have little symptoms. And I tell people it's like your body's texting you or whispering at you. But over time, this chronic low-grade inflammation turns into big, I like to call them, metabolic dumpster fires, and our body starts screaming. And that's when people come in with all of these symptoms and are like, "Oh my gosh, what's going on?" And we have to step back and evaluate that patient as a whole.

I have a whole practice based on functional medicine around the gut, and all of my patients' issues typically start with inflammation, and a lot of it comes from their gut. And then these inflammatory processes over time will continue to make someone sicker and sicker, right? Your insulin's high for a while, and you have insulin resistance, which causes your brain to be foggy and causes you to gain weight. But in 10 years, if it's high, then you get diabetes. So if we don't address these things when we have things whispering at us, then when, by the time things start screaming, our patients are in trouble.

Dr. Jackson:

So how do you know it's there? I mean, someone presents with these symptoms and are you looking at biomarkers, CRP, erythrocyte sed rate, ferritin, and things like that?

Dr. Smith:
Yeah, I think that's a great question. I look at a lot of lab values, but I also listen to the patient. I think we get tied up in medicine now with everything fitting in a box. And I do think labs are important, so I do a pretty big panel. I look at CRP; I think it's a great inflammatory marker.

I look at ESR levels. You can actually tell a lot by uric acid, too. There's so many people walking around with really high uric acid levels, and that tells me we're probably not eating super well. I look at insulin levels, cortisol levels, and all sex hormone levels—estrogen, progesterone, testosterone.

Thyroid hormone is a big giveaway, too. If you look at T3 levels, TSH, free T4—I look at a free T3, and then I look at a reverse T3. I see reverse T3s in the 30s all the time, which means that person's body, when they're trying to convert thyroid hormone T4 into T3 in their gut and in their periphery, their stress mechanism and their body is so stressed it's turned on the wrong deiodinase. And so now we're shunting everything to reverse T3 instead of regular free T3, and reverse T3 doesn't work. So that's another good marker.

But also symptoms, right? If somebody has fatigue and brain fog, and they're gaining weight, and their joints hurt, and they're bloated after they eat, if they have eczema—skin issues can be gut issues from inflammation—I just have the patient tell me what's going on. "I'm wired. I go to sleep. I wake up, and I can't go back to sleep." So a conglomerate of listening to their symptoms and then looking at their labs, and then if you as the clinician are like, "Wow, this person has a lot of stuff going on. Is all this related?" Yes, it usually is.

Dr. Jackson:
So rather than simply supporting the immune system during stress or illness, how does nutrition actively reshape immune readiness on an ongoing basis?

Dr. Smith:
I think that people forget that we are as good as our inputs, right? The outputs that we're going to get are as good as our inputs. And a lot of people in Eastern medicine still really focus on the gut and food. And Hippocrates, the father of medicine, talked a lot about this, but we've forgotten it, I think, in traditional medicine. When we're feeding our body the right inputs—polyphenols, omegas, proper amounts of fat, protein, carbs—then the bacteria that live in our gut, the good bacteria, are able to take that nutrient or nutrients and utilize them. They take the micronutrients out of our food, our good bacteria thrive, and then that allows our body to make hormones and make neurotransmitters. Everything works better.

When we are feeding ourselves things that our good bacteria don't eat, so ultra-processed foods, sugars, carbohydrates, and things like that, our bad bacteria are eating those. And then a lot of times we end up with bad bacterial overgrowth. We end up with yeast overgrowth. We end up with all these parasites. And when we have too much bad bacteria and not enough good bacteria, now our bad bacteria's taking all those micronutrients from our food. So now those micronutrient particles that we need to make our thyroid hormone convert or to keep our insulin down or to make our hormones, even our sex hormones—we don't have that.

And so, I just like to remind my patients, you are as good as the inputs you give your body. You wouldn't take your Ferrari to the gas station and put low-grade octane in it, would you? You would give it the premium fuel that you need. So we have to treat our body the same way.

Dr. Jackson:
And they probably have to be proactive with it. So what does a proactive approach to managing inflammation through nutrition actually look like?

Dr. Smith:
This is where people get really hung up, and it's not hard; just go back to the basics. I tell people, think about what your grandparents ate. Eat what your grandparents would eat. If you look at a food and you don't know what it is or what's in it, you probably shouldn't eat it, right?

So single ingredient, whole foods, ideally that aren't packaged. And if we do packaged things or we're looking at ingredient lists, my rule is they can't have more than five ingredients, and I'd better know every single ingredient on that list. Ideally, none of it's sugar. I mean, it's really that easy. Just eat whole foods and then try to balance it out. You need protein, you need carbs, you need fat. You can get into the nuance of how much of each, but if you want to make it really easy for people, I tell people, "Eat protein with every meal. Try to make sure it's the size of at least your fist. Eat your greens or your vegetables first, then eat your protein. If you want more carbohydrates, you can have some, but make sure your carbohydrate's not any bigger than your protein. Pick things that are grown on

the earth. You know what they are." There's no ingredients. It's really can be that simple for people.

Dr. Jackson:
For those just tuning in, you're listening to *NutritionEdge* on ReachMD. I'm Dr. Steve Jackson, and I'm speaking with Dr. Cassie Smith about the role of nutrition in inflammatory balance and immune readiness.

Now, if we consider real-world care, what are some practical nutritional strategies that can help support long-term stability?

Dr. Smith:
You have to give patients something they can follow. So this is really important. You can't give everyone the same diet and expect they're going to go eat it, right? I live in Oklahoma, and we are meat eaters in Oklahoma. But I have patients in California who are vegetarian or pescatarian or vegan. And so I think as a provider, it's your job to figure out how you can help direct them. So I think you have to meet somebody where they are and make sure that you're going to give them things that they can actually follow, but then go back to what we talked about.

Is it single ingredient? Is it not ultra-processed? And so if we're vegetarian, then we're eating plant-based and just letting people know, "Hey, you've got to get protein, you've got to get carbohydrates, you've got to get fat." But it's really not as hard as people think it is, as long as we're just not eating all these ultra-processed, highly palatable foods that make you eat and eat, and then you're never full.

I think the other thing that's important is just telling people, "Eat until you're full, or eat until you're almost full and make sure that you stay well-hydrated." And then 80/20 rule, right? 80 percent of the time, eat really good food, and 20 percent you can venture off a little bit, and it's not really more difficult than that.

Dr. Jackson:
And how should we think about personalizing these strategies for different patients?

Dr. Smith:
If you're doing labs on a patient, that's really helpful. So I check iron levels, ferritin levels, because a lot of women have low ferritin, which affects their thyroid. And so if somebody has a low ferritin, then we're talking to them about iron-rich foods like leafy greens, or if they eat red meat, we're talking about some sort of organ meat. So checking labs helps—iodine levels, vitamin D, et cetera.

But I think also what's really impactful and what we try to do is ask patients to give us a list of 30 foods or just jot down what they eat every week, because most people you'll find eat about 30 different things.

Most Americans are not great about variety. And so if you can get that list from them, as a provider, it's super easy to put that list in AI and say, "Give me a well-balanced diet for a patient who is vegetarian and eats this list of foods, and I want them to have equal amounts of protein." And so I do this a lot with my patients. It's impactful to ask them what they like to eat, or what they can eat, or what they can afford, and then just help them find ways to do that.

I also think it's really important when you're addressing patients individually—I ask every patient and say to all of them, "Everyone could eat better, including myself. My biggest issue is I want a Diet Dr. Pepper at 2:00 every day, and I know how terrible that is. What's your biggest issue, do you think?" Have them figure out, is it their Starbucks drink in the morning? And then say, "Okay, maybe we do that every other day." Help them find little ways to get rid of one or two big things, and as they do that, they'll get better.

So there's lots of easy tips of helping somebody. Most Americans start their day now with sugar with these sugary drinks or cereal, and so just finding one win for them, I think, is very helpful.

Dr. Jackson:
Individualizing is clearly a strength of yours, and I really do like how you're gathering objective data like before and after biomarkers are measured. And I was curious about third-party payers. Is anybody's insurance covering any of these tests?

Dr. Smith:
Insurance is so tricky, right? And I feel like it's trickier and trickier every year. I would say typically if you have insurance, they're going to cover all of these tests at least once, assuming it gets coded right. The problem becomes when I want to order them at three months or six months; a lot of times they don't. But what I will say is there's a lot of labs out there. There are ways that you can get patients access to getting labs drawn. But to your point, it's frustrating for everyone. It's frustrating for us as the providers and the patients who pay the big premiums because lab can sometimes be difficult, to be honest with you.

Dr. Jackson:
And finally, Dr. Smith, how can busy clinicians realistically integrate these concepts into everyday patient care?

Dr. Smith:
We all went into medicine because we want to help people. The approach I take with patients is, what are the three things that I could help you with that would change your life? And really focusing on those, and if it's fatigue or if it's weight gain, then think, "Okay, what is causing this?" And I always look at it from the lens of, this is probably inflammatory based, right?

Getting the labs to show the patient that is really impactful because if somebody comes to you and they don't feel well and they've come to you for years and they haven't really gotten anywhere with it, they've given up, whether they tell you that or not. They're just like, "Gosh, I've felt like this forever. It's probably normal." If you can impactfully show them, "Hey, this is not your fault. Your T3 level's low and your CRP is high, and oh my gosh, your progesterone's low, and all these work together and this is why you're feeling like this. And this is why your body's not metabolizing your food correctly, and this is why you're gaining weight," Just show them that, “I see this. I see you, I hear you.” A lot of times, people are a lot more motivated when, “Yes, there is actually something there. Let's form a plan and work towards it.”

So I would say if you're listening to this and you're a busy clinician, do the lab test, order them, get the information, and let the patient have the information. You'd be shocked how many people come to my office, and even though I go over their labs with them for 45 minutes, they'll go home and put it in AI and then message me back and say, "Well, I can do this too, and I can do this." This is great. We should love this as clinicians. We should love people wanting to learn and get better.

So I would say just listen to your patients, believe them, and then just really go back to, why did we go into medicine? Really figure out, what can I do to make the most impact in their life? And sometimes it's really easy. It's just giving them the lab and showing them that there's something wrong, and then pointing them in the right direction. Even if it's just, "Hey, buy this book and read it," or even if you're not 100 percent sure what to do, at least you're giving them the information, and then they can go continue to learn.

Dr. Jackson:
And I think that's a wonderful way to round out this discussion. I want to thank my guest, Dr. Cassie Smith, for joining me to discuss how we can support nutritional resilience and improve long-term outcomes.

Dr. Smith, it was great having you on the program.

Dr. Smith:
Thanks for having me, Dr. Steve.

Dr. Jackson:
For ReachMD, I'm Dr. Steve Jackson. To access this and other episodes in our series, visit *NutritionEdge* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening.