

Nutrition: HPA-D - Part 1

Hey, everyone, in this presentation we're going to talk about nutritional considerations for HPA axis dysregulation, which is more commonly known as adrenal fatigue.

Adrenal fatigue and adrenal fatigue syndrome are not diseases per se—they're syndromes. They're a set of signs and symptoms that are recognizable but don't have a specific etiology or even pathology. But a much more specific and accurate term for this condition is HPA axis dysregulation. As you know, we're going to spend several months going into great detail on this in the functional medicine of the ADAPT course, and I will correct misconceptions and introduce a more evidence-based model for understanding, diagnosing, and treating HPA axis dysregulation. But for now, in this exposome unit, we'll just focus on dietary and lifestyle changes that can be helpful when you are addressing HPA axis dysregulation.

Let's start with diet. Many HPA-D patients will have blood sugar issues for several reasons, one of which is that cortisol plays an important role in blood sugar regulation, and then another is that blood sugar dysregulation can drive cortisol levels out of whack, so it's a bidirectional relationship. Low blood sugar and reactive hypoglycemia tend to be more common in HPA axis dysfunction in my experience, but high blood sugar can also cause problems. From a dietary perspective, the best thing we can do is balance their blood sugar as much as possible, and this typically means a Paleo-type diet as a starting place. For those with HPA axis dysregulation, a moderate-carbohydrate diet tends to work best, so very-low-carb diets below 10 percent of calories as carbohydrate don't typically work very well, and very-high-carbohydrate diets above 30 or 35 percent of calories as carbohydrate don't tend to work well, so the sweet spot I've found in my experience is somewhere between 20 and 30 percent of calories as carbohydrate. If the patient is super-active, then slightly higher carbohydrate intake may be appropriate, like 35 percent of calories, but most patients with significant HPA axis dysregulation aren't going to be super-active because they'll be pretty worn down. If they're already experiencing things like insomnia, fatigue, brain fog, and they're on a lower-carb diet, bumping them up to that 20 to 30 percent range can be really helpful in terms of addressing the fatigue and the sleep disturbance, and they may require a little bit of experimentation to find out where their sweet spot is in that carbohydrate range.

HPA axis dysregulation can also be worsened by a low-calorie intake. You need to make sure that patients are eating adequate calories for their height, weight, and activity level, and in my patient population, undereating is actually quite common, especially in women. Of course, in the population at large, overeating is a much bigger problem, but for those who are on a Paleo type of diet, it tends to spontaneously decrease calorie intake, and if they're not eating, especially adequate amounts of carbohydrate and starchy plants, and their activity level is high, they're doing something like CrossFit or other strenuous activity, then calorie intake can very often be low. So you can use calorie calculators like Body Weight Planner at Supertracker.USDA.gov to get a sense of how many calories your patients should be eating, and then have a patient track their calorie intake with something like My Fitness Pal to see if they are getting close to that amount, and if

they aren't, you'll have to advise them on slowly increasing their calorie intake in order to reach their target level.

High protein intake can be particularly helpful for people with HPA axis dysregulation, or HPA-D. High protein intake has a regulating effect on blood sugar, which is often out of whack, as I mentioned, in those with this condition. I recommend at least 15 percent of calories as protein, which would be about 75 grams on a 2,000-calorie diet, or 95 grams on a 2,500-calorie diet. High protein intake in the morning at breakfast can be especially helpful. I advise patients to aim for at least 30 to 40 grams of protein at breakfast, which is quite a bit more than they get by eating two eggs, for example, which I think have about six or seven grams each. They actually need to add some fish or some meat to their breakfast in order to meet this goal, but if they have a high-protein breakfast, it tends to have a stabilizing effect on blood sugar for the rest of the day.

When blood sugar is low, cortisol will be produced in order to bring it back up. Remember, cortisol is a glucocorticoid, and maintaining blood sugar levels is one of its primary functions. This is a stressor on the body, and if it happens repeatedly, it puts even more strain on the HPA axis. So patients should be encouraged to eat every two to three hours to prevent blood sugar from dropping if they have hypoglycemic tendencies, and to prevent that resulting cortisol hit every time the blood sugar drops. This can be scheduled as five to six smaller meals throughout the day or three regular meals and snacks in between meals; just make sure that the snacks always have some protein or fat, as well as carbohydrate, and are not just carbohydrate alone. Neither way is better than the other regarding three meals and snacks or five to six smaller meals throughout the day; it just depends on the patient preference.

Avoiding excess potassium is also a good idea if your patients have severe HPA-D or have low blood sugar and strong salt cravings. Aldosterone is a salt-retaining hormone produced by the adrenal glands that influences fluid levels in the body and plays a significant role in regulating blood pressure. When aldosterone levels drop, the amount of sodium in the body decreases and blood pressure goes down. Since potassium opposes the effects of sodium, too much potassium when sodium levels are already low can worsen symptoms. This means lowering intake of things like bananas, dried figs, raisins, dates, potatoes and sweet potatoes, and certainly potassium supplements. It's not necessary to limit these foods completely; they might just avoid eating them on a daily basis.

Sodium intake increases aldosterone, which can be low, especially in advanced cases of HPA-D. For patients with low blood pressure and salt cravings, make sure they get extra salt in their diet, and they can even start the day with a glass of water with a half-teaspoon to a teaspoon of sea salt, and this can have a pretty marked effect on their condition, and then encourage them to liberally salt their meals to taste, and make sure to monitor their blood pressure as you do this. In most cases, people who already have low blood pressure are not salt-sensitive and won't experience a hypertension in response to increasing their salt intake, but of course you want to test their blood pressure and make sure that's not happening.

Avoiding caffeine and alcohol is very important for patients with significant HPA axis dysregulation. Caffeine is a stimulant and places additional stress on the body, and you need to wean your patients off of it if they're currently consuming large amounts. It's a drug, and they will definitely experience withdrawal symptoms if you stop them cold turkey. Alcohol taxes the liver, which is often functioning sub-optimally in those with HPA axis dysfunction. I suggest limiting intake to two to three alcoholic drinks a week or cut it out entirely, depending on the severity of their condition and the patient's willingness.

Lifestyle changes are absolutely essential for HPA-D patients. I tell my patients that you cannot eat or supplement your way out of HPA axis dysregulation. You absolutely have to make behavioral and lifestyle changes or you won't recover, and this is often challenging because many of these patients have gotten to where they are because of behavior and lifestyle habits that have induced HPA axis dysregulation in the first place, like burning the candle at both ends, taking on too much responsibility and not being able to say no, and just being in extremely stressful circumstances where they're working a job or two jobs and parenting, where they just don't have very much time for self-care. So, part of your role as the clinician in helping them is to work with them on these changes, and in some cases, patients will need a referral to either a therapist or a life coach or someone that can help them to make these changes because you'll find in some cases that patients are willing to take supplements or change their diet, but they find it very difficult to make the necessary behavior and lifestyle changes, and these patients will not get better unless they do make those changes. I can't emphasize this enough—it's just impossible to recover from HPA axis dysfunction without making these changes. So they include, of course, getting enough sleep, stress management, exercise, connection with nature, and pleasure and social connection.

Sleep is obviously one of the most important factors to consider. The vast majority of research suggests patients need seven to eight hours in general of sleep to function properly. Of course, there are outliers, some people who need less and some who need more, but seven to eight applies to the majority of people. So you want to make sure that they're getting enough sleep and they're practicing proper sleep hygiene, and they're regulating their exposure to light. So they're not getting too much exposure to light at night and they're getting adequate exposure to light during the day to regulate their circadian rhythm. And if the patient is very tired, and they have the opportunity to take naps during the day, that should be encouraged so they can catch up on rest.

Managing stress, of course, is crucial, and patients with HPA axis dysregulation often have poor stress management habits. So this is likely the last thing that they're going to want to work on, but it's often the most important, and you need to make this a priority, especially if they seemingly don't want to work on it, so doing things like writing a prescription for stress management on a prescription pad, giving them handouts, creating some kind of structure, referring them to any kind of support programs that can help them to implement these changes, like the Paleo rehab program that Kelsey and Laura put together, whatever you can do to support them is very important. Encourage them to start slowly; one of the biggest reasons people fail with these kinds of programs is they try to do too much too quickly, and they're not able to and they just quit. So three to five minutes of meditation, for example, or mindfulness practice a day is a good starting place and is manageable for most people, and as they start to experience the benefits of that, they'll be able to gradually increase over time, and that's a better strategy than just saying, "Hey, I want you to meditate an hour a day." Very few people are going to be able to stick with that.