

Nutrition: Paleo for Athletes - Part 2

Let's talk a little bit about hydration and electrolytes. Hydration is crucial for athletic performance; that's well established in the scientific literature. A 2 percent fluid reduction in the body can cause a 10 to 20 percent decrease in performance. Dehydration or hyperthermia can occur if fluid intake is inadequate, and we've all heard examples of people ending up in the hospital with severe dehydration. In fact, that happened to me when I was in high school. I was running on the track, training for basketball, which is what I played in high school. It was a really hot day, and our coach, like many other coaches, liked to punish us by restricting our water intake, and I ended up in the hospital along with a couple other people that day, and people, high school athletes in particular, die still every year because of dehydration, so it's a very serious problem.

General rule of thumb for hydration is to drink about two liters of water daily. You would add an extra 500 milliliters of water per hour of vigorous exercise. Optionally, you could instruct your patients or clients to drink 16 ounces of water for every pound of body weight lost during a sporting event, and this can require weighing yourself pre- and post-event to get the adequate intake of fluid right.

Electrolytes like sodium, potassium, and magnesium all help to maintain proper fluid balance in the body and are all crucial for people who are performing intense athletic activity. They're especially for people who sweat a lot or work out in hot and dry climates. I recommend salting food to taste and also adding salt to water during a longer athletic event. Athletes may need to supplement with magnesium, potassium, and extra minerals in general.

Sports drinks can supply essential electrolytes, but you need to pay attention to the quality of ingredients. You want to of course avoid sports drinks with high-fructose corn syrup and added refined sugars, and sports drinks are generally unnecessary at all if the sport lasts for less than an hour.

There are special considerations for female athletes. Females are at risk for what's known as the female athlete triad when they're training hard, and that is energy deficiency, not eating enough calories; menstrual changes; and bone loss, osteopenia or osteoporosis, so let's talk about each of these. You need to pay attention to menstrual cycle changes in your female athletes, things like increased PMS symptoms, loss of the menstrual cycle altogether, amenorrhea, which can be related to not eating enough calories, and that is associated with reduced bone density and higher fracture risk, so the most important factor for recovery of menstrual function in your female athletes that are experiencing amenorrhea is adequate calorie intake.

Post-workout nutrition may be more important for women than men. Fasting after exercise can cause high testosterone and PCOS-like symptoms in women, and if women already have PCOS, that can of course exacerbate the situation, so I recommend 30 grams of carbohydrates within 60 minutes post-workout for women with elevated testosterone and/or PCOS-like symptoms.

Let's talk a little bit about overtraining versus under-recovering. So there's controversy over whether this phenomenon of overtraining even exists in the recreational athlete. Overtraining may actually be more related to under-recovery. In other words, what we call overtraining is probably caused by inadequate recovery, which in turn is related to inadequate nutrition, either total calories, or macronutrients like protein or carbohydrate, or micronutrients—vitamins and minerals—inadequate sleep, not taking enough rest days between exercise sessions, and having a high stress level.

Symptoms of under-recovery, or overtraining as it's more popularly called, would be depression or anxiety, unintentional weight gain or weight loss, recurrent injuries or illnesses, digestive distress, muscle strength loss or poor muscle growth, decreased performance, fatigue and exhaustion, brain fog, and amenorrhea or dysmenorrhea in women.

Strategies for managing this include: cutting down on activity, if only temporarily; increasing intake of calories, and then also carbohydrates and protein, depending on the person; aiming for eight to 10 hours of sleep nightly; implementing stress reduction techniques; cross-training, so not doing the same high-intensity activity, integrating other activities that are lower-intensity like yoga or swimming or bicycling; and of course, resting more between workouts.

So here are a couple of case studies to illustrate all of these principles. A.S. is a 30-year-old male who is active on a daily basis. He does five days of exercise per week, generally consisting of heavy weightlifting and light cardio, with some pick-up basketball, football, softball, and soccer, depending on the season. He's six feet, five inches tall, 180 pounds, and wants to gain five pounds of muscle. His exercise had been limited by a lower back injury, but he'd been returning to his normal workout routine when he started to see me.

So he was generally in good health but was not sleeping well due to having two young children, who were three years old and eight months old. He'd been working a job that required routine travel, making it difficult to maintain a healthy diet. He had a pretty low appetite in the morning despite going to the gym at 5:30 a.m. on most days and usually did not eat his first meal until lunch. He was struggling with significant drops in energy, particularly in the afternoon; he was experiencing sugar cravings and occasionally getting headaches in the afternoon. He had mood swings and dips in energy, particularly in that late-afternoon period. He occasionally reported feeling so tired that he felt physically sick.

After analyzing his food intake, we discovered that A.S. was significantly undereating on most days during the week. Since he was skipping breakfast and not eating much at lunch and dinner, his calorie intake could be as low as 1,200 calories on some days. We set his calorie goal at 2,800 to 3,000 calories, so he was eating less than half of his required calorie intake, with a protein goal of 150 grams per day, minimum, 280 grams of carbohydrates a day, and 120 grams of fat per day. So in layperson's terms, this was about 16 ounces of meat per day, six cups of starchy foods like potatoes, sweet potatoes, rice, and fruit, and two tablespoons of added fat at each meal. We determined that he needed to start eating a protein-rich breakfast despite having a poor appetite

in the morning, and the good news is that although initially that can be really hard for people who have a low appetite in the morning, after they do it for a week or so, they start to wake up hungry and it gets easier. He was also told to balance his calorie and macronutrient intake across all three meals as much as possible.

So this is a really good example of what we've been talking about all along, and it's really not discussed in the Paleo community very much. Most athletes that I've come across are significantly undereating, and this is where all of these problems begin, and as you can see, if someone is not intentionally eating significant amounts of starchy tuber and fruit with every meal, they are not going to be anywhere close to the recommended carbohydrate intake, so this is what I call the accidental low-carb diet, when people who are on a Standard American Diet, and they're eating bread and pasta and a lot of very high-carbohydrate foods, they switch to a Paleo diet and they remove all of those foods, which is all well and good because they're not a good choice, but they fail to replace those carbohydrate-dense Standard American Diet foods with Paleo-friendly carbohydrate-dense foods, so they end up on a very-low-carb diet, unintentionally, and they end up on a low-calorie diet unintentionally, and they end up suffering because of that, so this is something you absolutely have to pay attention to in the people that you're working with.

After just a few days of working towards this new dietary intake, A.S. reported feeling significantly more energetic. His mood swings, headaches, and sugar cravings disappeared completely. He did struggle at first with increasing his food intake, which is understandable given how little he was eating, but after a few weeks of effort, he felt far more satisfied after meals and had a lot more energy throughout the day; he was able to train five days per week without feeling like he was run down.

So again, whether you're doing this kind of work yourself with patients or whether you employ a nutritionist, this is something that you really need to talk with every patient that comes through the door about, especially if they're athletes and doing a lot of physical activity. Okay, that's it for now, I hope this was helpful, and I'll see you next time.