

[music]

Dr. Lightfoot: Our next speaker comes to us from the great Northwest. She actually was here about three and a half years ago, gave a great talk, and that's one of the reasons we invited her back. So please join me in welcoming to the stage, Dr. Sue Kleiner.

Dr. Kleiner: Thank you so much. Howdy for the last time, right? Well, it's my honor to bat cleanup here at the Hilliard Discussion today. How can an athlete have the physical power to be a champion and model for an international photo shoot? How can an athlete be the oldest in the league, keep step with athletes a decade younger, lead her team to the third WNBA Championship title, and model and pose for the ESPN Body Issue all in the same competitive season? In part, it's from the art and the science of sports nutrition. So today, I'm not going to spend a lot of time talking about science and data and facts. I'd like to answer the question that most people ask me. What do you do with clients and why? So we'll spend a little bit of time on science, but mostly I'd like to show you how I move the dial by introducing you to two athletes who are elite in their sport, who are at the older end of their competitive class but still at the tops of their game. Because it's really about all of us being able to perform at our best at every age. The point is that the approach that we take is crucial to supporting a long athletic career. I call my approach Power Eating. So my story with the great Sue Bird, call her the GOAT, began when we discovered that she was 1000 calories shy of her needs every day. Well how could an athlete with a reputation for such attention to detail be missing 1000 calories every day? Well it's because the sound of science is drowned out by the loudspeaker for Madison Avenue, promoting diet fads and misinformation. Through the marketing smoke and mirrors, we actually masquerade diet fads as sports nutrition. Well, not us. But Madison Avenue does. And elite female athletes are really a target for this, but all athletes suffer from marketing mumbo jumbo. Restriction and shrinking have nothing to do with the goals of an athlete. The goals of an athlete are to enhance their power, their strength, their performance, and their mental performance as well.

Shrinking, getting skinnier, getting sexier, as I said, is not what an athlete needs. An athlete needs to nourish their body and fuel their training so that they can build muscle, which leads to enhancing power, strength, speed, and endurance. Through the evidence-based sports nutrition and training principles that we know, when an athlete needs to burn more fat, that outcome will happen by nourishing their body and training hard. And that is the approach that allows for a sustainable athletic career. Because we're not talking about a day in a red dress or a week in a bikini. The restriction in diet fads would never fuel the world championship downhill mountain bike performance of Jill Kintner. It would never fuel Leanne Stanley as she competes at world outrigger canoe events and wins. And neither would it have fueled the Rookie of the Year season of Kevin Durant. The founding principle of Power Eating is to build your body up. First and foremost, fuel your goal. Never under-fuel your training. I had a client who called me at one time and said, "Doc, I really need to learn about sports nutrition because I can no longer waste my time in the gym." Never under-fuel your training. I find that simple paradigms can become guiding mantras and the paradigm that is the watchword of my practice is this: eat more to gain energy. So you can train harder, which will help you build muscle. And ultimately, if you need to burn fat, you will. And I call that sculpting your body. From a position of power and strength, rather than restriction and weakness.

I have narrowed down the Power Eating strategy to four words. Fuel, recover, repair, grow. What and when you eat, day in and day out, will determine your body's ability to fuel, repair, recover, and grow. Now carbohydrate is the fuel for athletically challenging exercise. And optimizes all four of these factors. Now carbohydrate isn't alone in influencing fueling, but the diet world has targeted carbohydrate squarely in its sights, saying that restriction is what will lead to athletic performance. And I want to show you today that that is absolutely not true. Let me make it perfectly clear. You cannot do athletically challenging exercise without carbohydrate fuel. So here's a little science. This shows you on the horizontal axis, exercise intensity. Or percent of work output. And it goes up as we go to the right. And on the vertical axis, you see energy expenditure, which goes up as work output goes up. And within each bar, it shows you how much of what kind of fuel is utilized at each intensity of exercise. Well when you're at rest or you're at up to 55% of your work output, you are doing nothing or low to moderate intensity exercise. We don't call this athletically challenging. It doesn't become athletically challenging, it doesn't enhance your performance, until you are at 70%, 75% and higher of your work output and at that point, you can see you are using 75% of your total fuel as carbohydrate. As you up go up, carbohydrate contributes a greater amount to your total fuel. And in fact, you can't do high intensity exercise without carbohydrate available. Now, you may feel like you're doing high intensity exercise. Your rate of perceived exertion may be very, very high. But on a scale of 1 to 10 where 1 is couch potato and 10 is puke or pass out, if you are under-fueled, if you don't have carb on board, you will feel like you're working out at a 9 or a 10. But if we actually measured your work output, the watt output that you are accomplishing, it would be at about a 5 or a 6. You would be doing moderate intensity exercise and what did I tell you? That doesn't lead to enhanced athletic performance. People wonder, why do I plateau?

Why am I sliding backwards? Even worse, my performance and my health seems to be going downhill. Well, we have the research to tell you why. There are 27 studies that have been done on low carb and ketogenic style diets, looking at athletic performance. And the only thing that should matter to an athlete is the far right number, which is zero. Zero studies that have ever been done to show that a low carb diet will enhance athletic performance. Even worse if you look to the left, there's 17 studies that have shown that it will decrease athletic performance. Why would an athlete follow this kind of diet? Now, we're not only worried about performance, we're also concerned about health outcomes. And so a concept that had been researched on female athletes for a decade, called low energy availability, was picked up by the International Olympic Committee and transformed into relative energy deficiency in sport. To include men or male athletes in the category, because there are certainly sports where we know that male athletes restrict and diet. Figure skating for one example. Diving for another. So there are-- around this diagram, you see all of the systemic effects from restricting and under-fueling. And all of those have health consequences. There are health outcomes. They impact our foundational health and they certainly impact performance. So let me introduce you to Blaine Phillips. He was, before he came to me, a championship bodybuilder. By the time he came to me, he had followed a ketogenic diet for quite a while because the last competitive event he wasn't really very happy with his results. And so he eliminated carbohydrate from his diet and he doesn't look much like a bodybuilder here. 16% body fat, eating 1900 calories a day. Now, after working with me for 16 weeks, the diet made him tan. [laughter].

But it also-- we increased his caloric intake by 900 calories a day. He never restricted. We added over 50, sometimes 75 grams of carbs, depending on the training day. And this was his outcome. 9.1% body fat, made his weight class that he wanted, and won

his championship events. Now let's go back to Sue Bird. She is notorious at attention to detail. And she did exactly what I asked her to do. But she didn't train daily like a lot of the other women. Because she's a little bit older, they reserve her power and strength for when they really need it. And so every day is not a high training day. So we took 560 calories of carb, put them in supplement form around her training, where she could remove those really easily on non-training or rest days, and we added 440 calories that were macronutrients across all macros in food, that she added every single day. And when she came to me, she thought she was going to retire. I'm here to tell you that she's training for the Olympics. So we will see Sue Bird on the court for several more years. So in the midst of this past season, when the storm was doing so well, she calls and says, "Doc, I'd like to get ready for a photo shoot." And I said, "When?" And she said, "In two weeks." I said, "Really, Sue? Those two goals of performance and modeling are opposites of each other." And she said, "Well, but, I really want to have ripped abs." And I said, "Okay. Two weeks and that's it. Nothing more." So this is what a single day of her diet looked like and what we did was take advantage of the fact that we do know that when you limit carbohydrate in the diet, you will burn more fat when you're doing low to moderate intensity exercise. You will burn more fat off your body. And so we moved her starches and her carbs into later in the day. And here you see what we did at the end of that chart, where we have what we did with fast carbs around her training. Took them out of the rest of the day, but she had these two snacks plus her three meals. So again, it's periodizing. It's customizing. Being able to titrate the carbohydrate need specifically to the needs of the athlete.

She did exactly what I asked her to do, and in true Sue Bird form, she led her team to the WNBA championship victory. And did the ESPN Body shoot-- Body Issue shoot-- in rare form as well. Power Eating in three words: fuel your goal. Never under-fuel your training. And win. Thank you so much. To everyone who's here, to Tim, to the Hilliard Discussion, thank you so much.

- Dr. Lightfoot: Thank you, Dr. Kleiner. As it always is with nutrition topics, we get questions. Lots of questions.
- Dr. Kleiner: Yes.
- Dr. Lightfoot: So a couple of questions about different populations. One is from Mick here. What about Power Eating for the very old? Any special issues or digestion issues involved?
- Dr. Kleiner: Well, the interesting thing is what we know is that more and more-- first, about protein to talk-- most people think you need less and less. In fact, the opposite. We need at least the same amount of protein as we age and in some individuals, possibly more. But depending on who that individual is. But to never think that I should have less protein if it's a healthy aging individual. The biggest problem with age is that we become sedentary and we lose muscle. And so if we maintain our muscle, if we keep ourselves well fueled, we can keep our metabolic rate higher. We can eat more and we stay healthier. And then all the nutrients that we know of, macro, micro, all the phytochemicals, all the food factors that we haven't even discovered yet, stay high in our diet and that's one part of resilience. Of keeping the mitochondria well fed, all of the energy sources in our body. So I would say, Power Eating meets the needs at any age. But certainly you need to adjust it; typically it is calorically because Power Eating is really written for very active individuals. You can adjust it.
- Dr. Lightfoot: So the other question is, can you be a Power Eater with a whole food, plant based eating plan that emphasizes carbohydrates, fruits, and veggies?
- Dr. Kleiner: 100%. Yes.

Dr. Lightfoot: Absolutely yes. So I was very pleased to see you talk about the need for carbs to fuel your body. There is a movement out there to do low carbs with endurance athletes in particular. I say this because I saw Louise Burke give a talk at a recent scientific meeting. She talked about the negative backlash that she's received from that camp, from people that believe in low carbs for endurance athletes. I mean, she's gotten a lot of backlash on social media. Do you have the same kind of push back?

Dr. Kleiner: Yes. And the funny stories are, that if the endurance athlete is winning, they are not ketogenic. They will-- in the scientific term of the word-- those athletes, every single one, fuel their high intensity exercise with carbs. Just like how I showed that Sue did, where we moved them to just around her training, her high intensity training, they're doing the same thing. And I know, because I work with athletes who advertise themselves as ketogenic. Nobody knows they work with me and we make sure that they are highly fueled and in fact, they use the same product that Sue was using. So it's really disingenuous on the part of, I would say, any athlete. Because you cannot run hills or ride hills, you cannot sprint to the finish if you don't have carbohydrates on board. You can go moderate. You can run forever. Like I said, there's that lady in my gym who's always on the treadmill, watching a movie. She doesn't need carbs. But if you want to win, you do.

Dr. Lightfoot: It's amazing how that message is-- it's biochemistry, isn't it? Basic biochemistry.

Dr. Kleiner: Yes. And there's two different strategies as you could kind of get. If you're doing physique work, that's not a sports nutrition performance diet. They're two different things.

Dr. Lightfoot: Thank you so much.

Dr. Kleiner: Thank you.

Dr. Lightfoot: Been great. Thank you.

Dr. Kleiner: My pleasure.

[music]