

Dr. Adrienne Youdim, Host 0:03

Hi, this is Dr. Adrienne. Welcome to Healthbite the podcast where we explore all things health and wellness. Hey their Healthbite podcasters. In anticipation of my upcoming book hungry for more, I'm taking a shift in the podcast to take a deep dive into our hunger. As always, we know there are many reasons we eat physiologic hunger being just one of them. Hunger, of course can be emotional, even spiritual, and overweight or not our relationship with food is symbolic of our relationship with ourselves. How do we care for ourselves? Are we worthy of the time and attention required for that care?

What boundaries are necessary to support the healthy relationships with others and with ourselves? And what true longing is our desire for food signalling, I reckon with food can be a way of opening up to these significant questions. And a change in our relationship with food can be a spark for broader change, creating a rippling effect to other areas of our lives. As always, my goal is to provide you with a small actionable health bites to support you towards your path towards physical, mental and emotional well being. In the next several episodes, we will dive deep together to explore these hungers more fully. I will draw from evidence-based medicine, scientific research, patient stories and personal experiences to help you understand the universal stories and science behind our hungers. And I encourage you to head over to [hungryformore.net](http://hungryformore.net) where you can download an excerpt from my book hungry for more stories and science to inspire weight loss from the inside out. Now let's dig in. Hi, everyone. Welcome back healthbite community.

I'm so excited to have you here with me today. So in anticipation of my upcoming book hungry for more stories in science to inspire weight loss from within, I'm taking a slight shift in our podcast, so that we can take a deep dive into our hunger together. As we all know there are many reasons why we eat physiologic hunger being just one of them. Of course, hunger can be emotional, it can even be spiritual, and overweight or not our relationship with food is symbolic of our relationship with ourselves. I truly believe that looking into this relationship with food can spark change in every aspect of our lives. I've found this to be the case personally. I've also found this to be the case professionally and working with hundreds and hundreds of patients over the past 15 years. As always, my goal in this podcast is to provide you with small actionable health bites to support you in your path towards physical, mental and emotional well being. So over the course of the next several episodes, we will dive in deep together to explore our hungers more fully. I will draw from evidence based medicine, scientific research, personal stories and patient stories. To help you understand the universal stories and science behind our hungers. You can also go to [hungryformore.net](http://hungryformore.net) or you can download an excerpt from my book hungry for more stories and science to inspire weight loss from within. Okay, so let's dig in. Today we're going to talk about the anatomy of hunger. How do our bodies help us determine true physiologic hunger for food and nutrients. So our hunger is determined by a very complex system of hormones, small chemical messengers that are released by different organ systems in our body that inform our brains of our hunger and of our fullness. These hormones are released in part to the food that we consume. They are also released in response to how much fat or energy is stored in our bodies. Hunger hormones are affected by fasting and restricting. They are also affected by the types of foods we eat. The macronutrients and hunger hormones

are affected by weight loss in ways that we can find surprising hunger hormones are also affected by our emotions. more of that in next week's episode. So let's dive in into the science a little bit. As I mentioned, these chemical messengers or hormones are released by our gut, our stomach, our small intestine, and our pancreas in response to the nutrients that we consume. For example, ghrelin is a hormone that's released by the stomach that signals hunger to the brain, ghrelin levels have a very predictable rise and fall in response to mealtime and to nutrient intake. For example, ghrelin levels will go up before breakfast, when we consume breakfast levels will fall again, they will rise up before lunchtime, we consume lunch and ghrelin levels will fall and the same with dinner. And this makes sense, right? Because again, ghrelin signals hunger to the brain. And when we consume food or nutrients, then ghrelin levels will fall, so that that signal for hunger is no longer there. So again, a very normal or physiologic Rise and Fall of Ghrelin, there's another hormone called GLP-1. One, this hormone is released by the gut or the small intestine, also in response to food or nutrient intake, but GLP-1 one actually has the opposite effect of ghrelin in that it signals fullness to the brain. So when we start to eat food, food travels down into the small intestine, and that sends off the signal or hormone of GLP-1, that then tells the brain that we are full that we no longer need to feel hunger. Incidentally, GLP-1 one is also the hormone that signals the pancreas, the pancreas that makes insulin, that it should pump out insulin and help us manage the now sugar flow in our bloodstream. So again, these hormones are sensing nutrients and are responding to the food that we eat in order to signal either hunger or fullness to the brain. The part of the brain that is responsible for energy homeostasis, or for our hunger and fullness is called the hypothalamus. The hypothalamus is a deep structure in the brain that is involved in much of our homeostasis, you may have heard of the hypothalamus in terms of our sleep cycles is where our circadian rhythm is determined and found. The hypothalamus is also involved in regulating our body temperature, as well as other forms of body balance or homeostasis. And the hypothalamus also regulates our energy homeostasis by managing all of these hunger hormones and managing our hunger. So to recap, we have short term signals that are released by the gut in response to nutrient intake that tell our brains whether or not we are physiologically hungry. So there are also longer-term energy signals that respond to the amount of fat or energy that is already stored in the body. For example, leptin is a hormone that is released by adipocytes, that's just a fancy way of saying fat cells. Unlike the other hormones that we talked about, leptin is again, a long term energy signal that is released in relation to the amount of energy or fat that is stored. So it makes sense that the more fat or energy that is stored in our body, the more leptin is released from the fat cell signalling fullness, or less hunger to the brain. So again, more fat accumulation, the more the signal of satiety, and there are others. But again, the point is that our energy homeostasis or hunger is determined by this complex system of hormones that will inform our brain of hunger and fullness. But here's the thing, when we don't eat when we are fasting or restricting, our hunger hormones actually get dysregulated. For example, leptin, the hormone we just discussed that signals fullness will actually drop in concentration in the blood, creating this greater desire for meals or for food, creating greater hunger. The same is true for GLP-1 one when we restrict or when we fast GLP-1 one that hormone that signals now fullness to the brain will drop so that we are physiologically more hungry as a result. And this kind of plays out in our experiences, right? Have you ever gone way past your hunger so imagine an example of which you are running around at work all day, don't make time to eat? Come dinner time, and now you're famished? It

feels like no matter what you eat, you can't suppress or quench that hunger. That is kind of in response to this dysregulated satiety cues, you ignored your hunger and now you're too hungry to get full. So to be clear, when we fast or when we starve, we invariably create more hunger. And this is determined physiologically by our hunger hormones. I can tell you that many of my patients who come in for weight loss will tell me I don't eat all day, I will go all day without eating and we'll eat only one meal a day. So why am I gaining weight, but by not respecting our hunger, we cannot control our hunger. And once we do eat after being starved, essentially, we end up eating more than we otherwise would. It should go without saying that when we allow ourselves to be hungry, we get hungry, and this hunger is physiologic. There's an alternative to fasting which is to eat properly. Our hunger cues will also respond to the way in which we eat. So it's not only the fact that we have eaten, but what we have eaten. For example, studies show that our Hunger hormones will respond more strongly to protein as a macronutrient, than they will to fat, or foods that contain fat and foods that are high in carbohydrates. So having a higher protein diet does a lot for us in terms of preserving muscle mass and our metabolism, helping us feel full and satiated. And this of fact, is in part a function of our hunger hormones. So a balanced meal that contains a good amount of protein will actually help suppress hunger hormones, more than a meal that is higher, in fact, are higher in carbohydrates. And to that end, studies have shown that a breakfast that is higher in protein will help suppress hunger hormones all day long. So there is a lot of controversy. And there have been a lot of mixed studies and mixed data in terms of do we eat breakfast, do we not eat breakfast, in terms of or in regards to intermittent fasting, and it's true that the data is all over the place. However, it is true that a breakfast that is higher in protein and the goal is about 20 grams of protein per meal will help suppress hunger hormones all day long, and in fact, will help reduce snacking all day long. So protein is a way to help physiologically manage our hunger hormones. Another tip is consuming Whole Foods, more Whole Foods, less processed food. And this is also bears out in the data, where they did studies in which they compared people consuming whole chicken for example, as compared to the processed chicken that we find in like fake chicken patties at fast food restaurants or maybe frozen meals. And when they checked hunger hormones after consuming these types of meals, they found that the people who consumed real chicken had a greater suppression of their hunger hormones. They also looked at things like oatmeal, so people who consume the steel-cut oatmeal that was cooked in a pot over time and compare that to the tear bag of oatmeal that we heat up in the microwave. They found that the cooked oatmeal, the slowly cooked oatmeal, the steel-cut oatmeal, for example, suppress hunger hormones greater than the more processed fast pack ones.

So the second tip would be to consume more Whole Foods. Of course, we all know this whole foods are better than processed. But this gives you some information on how our physiology our anatomy of hunger actually changes in response to doing these things. But here's the thing. Here's the unfortunate truth of what happens when we lose weight. So like fasting or restriction when we lose weight, and we shrink down our fat cells, our hunger hormones will be tweaked in the direction that promotes more hunger. And this has an evolutionary basis and mechanism, right because we were not created to to lose weight. We were created to hold on to energy for long periods of time to prepare for possible starvation. And so when the body senses calorie restriction or weight loss, it responds to that calorie restriction by cranking up our hunger

hormones, so that we feel more hungry, to drive us to consume more food in order to obviate that threat of starvation. So to be clear, when we lose weight, our hunger hormones go up, making us feel more hungry and really prompting us towards weight regain. Why is it so important to share this? Well first, the reason is that knowing this about our hunger and our bodies, I think will take away a lot of the judgment that we feel when we experience weight regain. Often weight gain or weight regain after a diet is considered a character flaw or a weakness. But if we can understand that it's actually our physiology, our hunger hormones that are driving this desire to eat and to regain weight, we can have a little bit more compassion for ourselves. The second reason I share this is so that if you're in a situation in which you have lost weight, and you're feeling more hunger, perhaps knowing this can help you sit with that hunger a little bit easier. Now here I just finished telling you a few moments ago to honor your hunger to acknowledge your hunger so that you don't get dysregulated hunger cues. But I'm also saying that if you are in a situation in which you have experienced weight loss and you know that you have consumed adequate food or an adequate balanced meal and yet you still feel hungry hungrier than you expect yourself to be sit with or allow yourself to sit with that hunger because it is not a true hunger that you're experiencing. It is a physiologic hunger that is driven by an evolutionary mechanism to get you to regain your weight. The take-home message is to honor your hunger not to react to your hunger, honor your hunger so that your hunger will honor you. I hope that you enjoyed this episode of health bite where we talked about the anatomy of hunger. Join me again next week where we'll talk about the physiology of emotional eating. Yep, don't judge their brain chemicals that are involved in that too. If you enjoyed this podcast, I would love for you to subscribe and share if you like the content. I also urge you once again to go to [hungryformore.net](http://hungryformore.net) where you can download an excerpt from my book hungry for more stories in science inspire weight loss from within where I will talk about hunger in all shapes and forms. And finally, feel free to follow me on Instagram at [dradrienneyoudim](https://www.instagram.com/dradrienneyoudim), where I share daily health tips inspiration and shenanigans. I loved having you with me today. And I look forward to seeing you again next week. This episode of health White is sponsored by Dehlnutrition, a line of functional nutrition bars and supplements I've personally curated to enhance health and well being You can find out more at [Dehlnutrition calm](https://www.dehlnutrition.com) as always, thank you so much for listening. I love having you with me and sharing these conversations with you. I hope that you have taken away a healthbite, a small actionable step that you can implement in your life to help improve your own health and well being if you want to know more about me or get more inspiration, please follow me on Instagram at [dradrienneyoudim](https://www.instagram.com/dradrienneyoudim). You can also join me on my website at [dradrienneyoudim.com](https://www.dradrienneyoudim.com) and look out for my book coming up hungry for more a blend of story and science to inspire weight loss and well-being lots of good tidbits and actionable health bites that I'm super excited to share. Talk to you again next week.

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