

iDiet Podcast S1Ep2: Science

[00:00:00] Welcome to the iDiet podcast. Season one, episode two. We're working our way through Dr. Roberts' book in this first season of eight episodes. If you collect all eight episodes, you'll effectively have an audio book of her book.

Lee: We're here this week again with Dr. Roberts, and we'll be talking about the five food instincts and taking a deep dive into the first one, which is hunger. So, hello, Dr. Roberts.

Dr. Roberts: Hey Lee. Good to be back again.

Lee: So let's remind our listeners about the five food instincts and then we'll take a deep dive into the first one, which is hunger. Dr. Roberts, would you like to just give us a. A quick reminder of what the instincts are.

Dr. Roberts: Sure. So based on the research literature, in which basically all scientists agree, we can say that the hardwired food instincts that we all have are one hunger.

If we're hungry, we want to eat. Two [00:01:00] availability. If there's food there, we, we want to eat it. Three is calorie density that we like, high calorie foods more. Four is variety that we love, a variety of foods, familiar foods and that we eat more when there's a higher variety of them. And five is familiarity that we like foods, we know.

Lee: That all makes perfect sense and I've seen it work really well in the groups. You wrote about this one study that you did at Tufts University that kind of started it all where you applied these five hunger instincts in a research setting, and that was actually the impetus for writing your book.

What would you like to tell us about that?

Dr. Roberts: Well, that study was great fun, actually. I mean, it came after I'd had this light bulb moment that we could define our basic food instincts, our food drives based on the research that everybody agrees on. And, these are really simple principles, but they build a strong foundation, if you like, for [00:02:00] a, for a different way to look at weight loss.

And so we decided to just do a small study in Boston in which we recruited 133 volunteers across four work sites to do the studies. And in the past work sites have been like a disaster zone for weight loss studies. The weight loss achieved in previous weight loss studies has been just like trivial.

It's only been about 1%. So they're, they're the hardest place to work, and I think that's because. There's a culture there of usually of overeating and vending machines with unhealthy food and free pizza and all the rest. And so the environment really makes it particularly hard for people to manage their weight.

And we waltzed in to these four work sites. Two of them were randomized to be wait listed control, so they. Get the intervention, but later. And then two work sites. We're gonna start the intervention now and we signed up anybody who [00:03:00] wanted to do weight loss, and the results were amazing. We got an average of 8% weight loss over six months, which was about six times greater than any previous weight loss intervention.

It was just enormous. And that was, you know, that 8% was the combination of some people who came into the program saying, well, I'm really not obese, but I do have five pounds I want to lose. And other people saying I have 40 pounds to lose, and other people having a goal of 20. And we found that, you know, by and large people could pretty much meet their goal.

And we saw this enormous decrease in hunger, which was great because, you know, we were working on people's hunger instinct. We were, recommending foods that were really good at creating satiety, creating fullness, and it really worked. And we could see that in all of the research questionnaires that we implemented and people were really happy. There was only 11% dropout, and we [00:04:00] had people crying at the end because it had been such a transformational thing for them that they could get weight loss working, that it wasn't that hard, that they weren't hungry, that the cravings dropped off the map.

And, and I felt very lucky to be doing that study myself because we actually had more people sign up than we'd ever planned. And so I didn't have enough interventionists to actually run this study. That was a, that was a, you know, temporary crisis because we'd planned to do the study. We committed to giving everybody in the work sites who signed up a weight loss intervention and then more people signed up than we had interventionists to cover it.

And the only solution was, okay, Sue has to do some groups herself. So I ended up running some of the groups. And that was great for me because as a full

professor for quite a while now I don't usually run my own groups in my own studies, you know, you sit in your office as a full professor and you design studies and you, you know, deal with the data analysis and you [00:05:00] write up the publications, but you're very rarely on the frontline talking to the actual participants.

And it was a really great thing for me to see these people every week when I was running their group. and, you know, to hearing their challenges and to helping them through that. I, you know, it was quite a transformational experience for me personally because it really enriched the way I was thinking about weight loss and some of the subsequent things that we added to iDiet were directly due to, to those great questions and challenges that the original participants shared with me.

Wow. How

Lee: lucky for them and how lucky for you.

Dr. Roberts: Well, yeah. Lucky for all of us, I guess. And you know, I still feel very personal about them. At the end of the study, they gave me this one of the worksites gave me this beautiful collage of pictures before and after pictures from which, from each of them.

And I still have that in my office. And what's amazing, it's not just the size of the people. You know, where you can see you. [00:06:00] Person goes from large to small and all that. But it was things like posture. You know, you'd have people who were hunched over in the first picture and in the second picture they were proudly standing up and smiling.

You know, it was a whole different body language. And I think reflecting the fact that, you know, you get very beaten down by, You know, trying to manage your weight and suffering from the health problems that you would like to get rid of, if only you could lose 10 or 20 or 30 pounds. And the confidence that it brings that, it's not rocket science, it's not magic, it's just, you know, doing it in a way that works with your biology rather than fighting.

Lee: Right, but it can feel like it's rocket science. If you don't understand those emotions can be so difficult to deal with.

Dr. Roberts: One, you know, the emotions certainly are important, but over time what we've realized with, this weight loss approach that we take is that,

some people[00:07:00] come to blame themselves to the extent that they think they're emotional eater.

They think that they have all of these triggers, and if you say to them, okay, fine, we're gonna deal with those, but first, let's get your hunger under control. Let's spend two weeks getting you eating in ways that just address your hunger. That's a big enough job for two weeks . At the end of that time,

about half the people in any group will typically say, wow, I thought I was an emotional eater, but actually I was just unsatisfied and hungry. And you know, that's why we focus on getting hunger under control first, because some of those people who think they're emotional eaters are, are really not.

And then you can deal with emotional eating as a separate issue. Really focusing on the people you know who need extra help with that.

Lee: That is fascinating. And we talked last week about this idea that normal food, the food that we consider normal is actually food that [00:08:00] makes us feel hungrier than we normally would, which can lead into this.

So I love the way that you're, you're designing this to separate out the way food can control your sensation of hunger from actual biological hunger. So that leads us perfectly into the theme of this week, which is the first food instinct, hunger. Let's talk about how our listeners can use this to their advantage, because you have a really unique take on hunger, which is that it can be prevented even during weight loss, and you can use hunger to your advantage.

So let's take a deeper dive into this, cuz I find it really fascinating.

Dr. Roberts: Yeah. So, absolutely right to, to talk about hunger in this way. I mean, hunger it's both something you have to control and a really powerful tool that you can use to help you change your eating habits.

So, to give, you know, one example of that, one of the things that hunger is really good at doing [00:09:00] is conditioning your food preferences. If you eat healthy food, when you are hungry, you very quickly learn to like those foods, even if they're foods that you think you didn't like before. If you eat them, when you're starving hungry, pretty soon after a few repetitions, you will look forward to eating them.

And that's because your body is really good at recognizing foods that are safe and they do good things for your body. And, and we know that not just from

studies in humans, like my kind of research, but there's also very interesting animal research that's been done, you know, which is quite gruesome.

But it's been very helpful in working out the biology. So for example, there's one research group from New York State. That has cannulated the esophagus of rodents. And so what they've been able to do is, you know, have the rodent eat a particular food and then that food can come out the hole and they can put a [00:10:00] completely different food in through that esophageal hole down into the stomach.

So they separate the process of eating the food and the taste of the food from what goes into the stomach.

Lee: Oh, it's like a bait and switch. What you're tasting is not necessarily what's landing in your stomach.

Dr. Roberts: Exactly, exactly. And so what they show with these really elegant experiments is that the taste of the food is actually quite unimportant.

What matters is the metabolic effects in the stomach and, and that's given rise to a technical term in science called post-ingestive conditioning. And so basically if the food in your has a rush of calories, That rush of calories, post conditions the taste preferences. So whatever the taste of that food, if it has a rush of calories, pretty soon after a few repetitions, your body will learn to like it.

And conversely, if there's food doesn't have any calories, you will pretty [00:11:00] soon go off the taste. So, you know, in the case of these rat studies, the investigators would put one taste into. They would allow the rat to eat the food and for it to go into the stomach normally. So the, the rat would learn to like that taste, taste A, let's say.

And then they would keep the taste of the food the same, but that food would come out of the esophagus and something different would go into the stomach that had no calories. In that case, very shortly, the rat would go off the taste and would stop eating the food. The food tasted identical, but

something without calories was going into the stomach and so the taste of the food became uninteresting. And you know, through studies like this we realized that we can really learn to like any food, if that food has calories that we can digest, it's a food that we can learn to like. And you know, that's why I think oftentimes people say, oh no, I don't like Diet Coke or [00:12:00] diet soda.

It's because it has no calories. And if, you know, if somebody has for years and years really been enjoying a, a can of soda with sugar, they will tell you no, I don't like the taste of the diet soda, and that's because it's got no calories, but they can take it down gradually and confuse their body by mixing it, 50 50 until there's just a splash of the original Coke in there.

And so kind of confuse their post ingestive taste mechanism that way. But I think understanding that hunger is something that, yes, you have to manage it. But it's also something that you can use. So I don't want somebody to be starving, hungry and walking around completely unsatisfied between meals, but when it comes to be dinnertime, yes, I'd like you to be hungry and ready to eat and to eat really healthy, good foods for weight regulation, then, because that's a time when your [00:13:00] body is primed to really learn how to enjoy those foods very quickly.

And that's one of the ways that we get people not only to stay hunger free, generally speaking throughout the day, but also to change their food preferences so that they learn to like the healthy foods that are

Lee: good for them. This makes a lot of sense. It also explains pretty much all fast food, which involves some degree of fat, sugar, caffeine.

It's all calorie rush food that explains fancy coffees. It explains milkshakes.

Dr. Roberts: Yeah. Yes, unfortunately it does. And, and you know, fast. It's, it's not just called fast food, I think, because you can buy it quickly, but you can also eat it quickly. I mean, if you, buy a fast food hamburger. The whole thing is kind of so soft that you can disappear 800 calories in a minute or two.

You know, it's a really, it's a really quick [00:14:00] thing, and, and the, the, the bun is ready to disintegrate in your stomach in no time at all. So it's a really rapidly digested food. It can very quickly train your food

Lee: preferences because you get a rapid spike because it's more rapidly digested. That makes a lot of sense.

Exactly. Yeah. So speaking about food ingredients, it seems like every diet demonizes some sort of food, whether it's fat or sugar, or refined flours or artificial sweeteners. What's your position on ingredients and the idea of cutting things out, wholesale, drawing strong lines about what you can and can't have as an ingredient in your food.

Dr. Roberts: Goodness. That's a hard question. I, I think that I don't really have hard lines in the sense that I think that I'm focused on hunger management. I'm focused on foods being really satisfying and you not being [00:15:00] starving hungry in two hours. You know, I think that, weight loss scientists should, you know, have a big tent for things like that because, people are gonna have different opinions and that's fine.

In terms of fat versus carbohydrate, I, I would say that the average composition that I favor average, mind you is a moderately low carbohydrate, moderately high protein diet. And that's because most people who've gained weight and they're struggling with weight loss have some degree of insulin resistance.

And so very high carbohydrate diets are gonna trigger their insulin very substantially. They, you know, their blood glucose is gonna jump up and down a lot and that's gonna make it hard to manage hunger as easily as I would like. But you know, having said that, you know, when. Creating the iDiet menus. I was mindful of the fact that, you know, some people are gonna be close to being [00:16:00] diagnosed as a diabetic, for example, and in that case they may benefit more from

a low carbohydrate diet. Other people, for whatever reason may be, you know, overweight, but their insulin sensitivity is fine and they can eat a higher carbohydrate diet as long as they're kind of unrefined healthful carbs. And so, you know, we've intentionally built a, you know, a certain range of carbohydrates to fats into our menus, to, to make self selection, you know, a good.

Lee: Mm. So I can decide what appeals to me on the menu, and I know that it's safe.

Dr. Roberts: Yeah, exactly. Exactly. Exactly. And, and you know, one of the things is, my job is, is deciding on the, on the gray areas. You know, I read the research literature every week and the first question in my end is, you know, is there any new exciting, important research

that we should be bringing to our weight loss people, improving the program so that it keeps [00:17:00] improving over time. And there's always gray areas to call. I haven't, you know, I haven't yet made a bad decision on the gray areas. I mean, maybe the time's gonna come with that, but, but so far the gray areas are all turning into solid, solid facts, which is, which is actually

Lee: great to see.

That's great. Well, then it makes a lot of sense because as you just described, if my body isn't getting any reward from the food that I'm eating, I'm not going to enjoy it. So you want some level of carbohydrate in the food as long as it doesn't digest really quickly and as long as it's a healthy

Dr. Roberts: carbohydrate.

Absolutely. And, and also having, you know, having some carbohydrate as opposed to zero. It gives you flexibility in what kinds of food you can offer to people, you know, we have sandwiches on the menu and pasta, but the right kinds. And so people are not just totally deprived of all the things that they've grown up [00:18:00] loving.

And I think that's important because you know, that's our familiarity instinct, which we are gonna be talking about in another context. But you do learn to love the foods that you've eaten for years and. And you eat them for years and years because you love them. And just to be told, sorry, are we gonna get rid of all of those flavors?

Can be a pretty hard thing. Right.

The reward is really important. I mean, the second reason that people give up on a weight loss program is that they don't feel like they're getting the foods they enjoy. So, you know, I'm very conscious that we need to keep the enjoyment factor and, and not just. You know, to give people the pleasure of the table, but so that it's sustainable.

You know, any, any diet which cuts out all the things that you love is not, it's not gonna be something somebody can stick with. And then you, yo-yo back and forth between something where you're gritting your teeth and trying to lose a few pounds and failing and, you know, that's a horrible situation to be in.

Lee: Absolutely. And that's where willpower [00:19:00] comes in. We are going to talk about willpower in a separate episode because that is a fascinating topic as well, and you have some really good approaches for maintaining and improving willpower control. Let's talk, as it relates to hunger about meal timing, it sounds like the body has a sort of a food clock that you are using to our advantage as dieters.

Would that be accurate to say?

Dr. Roberts: I think so, yes.

The body does have

a food clock. And actually morning people tend to be really different from evening people. And so you know, a morning person will often be starving and ready for breakfast and then, and a night owl will often not feel like what they would like to skip breakfast and start with lunch. What we have in, in the program is a kind of a modular set of meals.

So we, we are definitely recommending three meals and two snacks every day because I'm trying to pace those calories across the day so that we don't have any big [00:20:00] rush of calories, you know, with all of the compensatory hormones afterwards that can tend to bring on, you know, worse hunger later on. But it doesn't matter if you.

Start about at 6:00 AM in the morning, or whether you started at noon. If you want to have your first meal at lunchtime, that's fine. If you want to have your first meal at 5:00 AM that's fine. So I initially, we are pacing calories, but we're very flexible about, when those meals are, we also have two snacks built into the menu.

And a lot of people say, oh, I don't have time for snacks. I never eat two snacks. And the reason for those snacks again is hunger control, because even if somebody, doesn't really feel like they're a hungry person, when you cut calories to lose weight and you have to cut calories to lose weight, there's really no way around around that.

You get hungry and, however much I can optimize the composition of the meals, it's [00:21:00] still also helpful for hunger management to pace the calories out during the day that those little snacks are really important to prevent, you know, kind of ravenous hunger as well. So we have three meals plus two snacks, but when those are taken, is quite flexible as long as you do it at a fairly consistent time each day.

Lee: Okay, so your recommendation is to pace your calories out, so you kind of flatten out those peaks and valleys of your hunger. Exactly,

Dr. Roberts: exactly. During weight loss, and I, I think that, the goal really is to change your metabolism with weight loss. It's not just to lose weight, but to lose weight

and to get back the improved insulin sensitivity, the reduced leptin secretion from your fat cells, you know the other metabolic benefits that come with

weight loss, so that over time you don't need to have three meals and two snacks if you don't want those. If that's not a, something that works for your lifestyle, I, I think that over time[00:22:00]

some people are going to feel like that two meals a day is fine. You know, there's some people, especially as they get older, really feel that three meals is more than they need and that they have a better lifestyle. If they cut down to two meals and one snack, for example, and that maybe they're going to have the first meal of the day at 10:00 AM and the last meal at 6:00 PM with a little time-restricted feeding or whatever, that's all down the road.

Once you've lost the weight and once your metabolism is in a healthier stage, you know when you start weight loss, you're in a different place. And at that point we just, we'd say, let's, let's manage the hunger so that you can cut calories and it can be easy and it doesn't feel like a diet. And then as your metabolism improves, we can, we can start to work out what's right for you in the long term.

Lee: Gotcha. And this goes back to hunger and weight gain. There's a lot of research. I think a lot of it you've done in your [00:23:00] lab that relates the state of having extra pounds on you. With the state of having generally increased hunger and more difficulty regulating how much food you want.

Dr. Roberts: Yeah, so I think, I think, the relationship between hunger and weight is complicated.

Certainly when somebody has gained weight and they're ready to lose weight, hunger is a big issue, but hunger isn't always necessarily the cause of weight gain in the first place. You know, there's, there's lots of reasons for why we overeat. We overeat because restaurant portions are obscene and we overeat because there's holidays.

We overeat because of stress, because of vacations and things like that. So, you know, excess hunger may not be the original cause of weight gain, but it's often a consequence of weight gain. And, and that's why we kind of actively manage it so that we can return somebody to their. You're kind of [00:24:00] pre pre weight loss metabolism, if you like,

Once you've gained weight, you have a body that's being metabolically influenced by the excess body fat that you're carrying.

One of the ways that body fat changes the body is in the metabolic signals of hunger because when you've gained, let's say 10 pounds of body fat, You've got,

you're more insulin resistant, so that means your blood glucose is jumping up and down more.

Lee: right?

Because hunger is more than just a rumbling in your stomach. So let's help our listeners understand what's going on with hunger. Like why does being heavier make me feel my hunger more intensely? What, what's going on in the body when that's, when that's happening? You know,

Dr. Roberts: hunger's a complicated thing.

There's many hormones that regulate hunger. Biochemists and physiologists talk about, system redundancy and you know, when something is [00:25:00] as important as getting fed, it's usually not just one mechanism in the body. So, for example, Low blood glucose is one signal for hunger.

When your blood glucose goes down, it's an emergency signal that the brain receives saying, okay, we really need food. We really need food. But there's other signals for hunger. For example, when when leptin values secreted for leptins or hormones secreted from fat cells, when when leptin goes down, that can be a signal for hunger.

So for example, people who lose a huge amount of weight, maybe somebody loses a hundred pounds and their BMI drops below 18 or 19. At that point, they can start to get really hungry again because they're not getting enough leptin from their fat cells, and that's providing another very powerful signal for hunger.

There's also gut hormones secreted from the intestine, that control hunger. So there, there's all of these signals, [00:26:00] which tell us the state of food in the body and the brain transforms that into a sensation of hunger, which is a curious thing. If, if you ask somebody how do you experience hunger?

You know, some people can will say, oh, it's a contraction of my stomach muscles that I feel other people will say they feel weak and shaky. Other people will say, I don't really have any bodily symptoms, but I feel really irritable when I'm hungry. You know? So different people perceive their hunger in different ways, but I think all of us know what those signals are for us.

I would say for me, I have a combination of all of those things. When I get really hungry, I can feel my stomach contracted. I feel a bit weak. I definitely

feel lacking in energy. My husband would say that I I'm on a short fuse and that he would say to me, Sue, I think I think it's time for dinner.

So, you know, we always have different signals [00:27:00] and becoming somewhat self-aware of those is, is a valuable life skill. Absolutely.

Lee: I've also known people who experience hunger just as a pure state of panic.

Dr. Roberts: That one I haven't heard, but I can be, but I can believe that. And it's amazing how, you know, people really know what their hunger signals are.

I mean, I don't think there's anyone who, who will say, I don't have a clue. They all know when they're hungry, they know it.

Lee: right? So if I have say, 30 extra pounds and my fat cells are producing more leptin, is that, is that accurate?

Dr. Roberts: Less, less leptin. You, you, well, yes. Fat cells produce leptin. When you lose body fat, you have a lower leptin production.

When you are dieting, you have lower leptin still because the state of kind of energy balance in the body also affects leptin. So when leptin is low, that's another signal for hunger in the brain.

Lee: Got you. And then you also [00:28:00] become resistant to the the signals of insulin. So, does the brain become insensitive to these signals as you gain weight?

And is that, is that part of the problem?

Dr. Roberts: So, so yes, that is part of the problem. When, when you gain weight, your, your brain does become resistant to the signals of Leptin. And, and that's actually really important in another context, which is that, what leptin resistance in the brain does is it, is it kind of damps down the firing of your reward center. And

what that means is that as you gain weight, only the more indulgent high calorie foods kind of trigger your feeling of enjoyment. And so, whereas a thin person, would enjoy a kind of a delicious salad with light calorie dressing and a sprinkle of nuts and some different vegetables. If that same person gains 50 pounds, what they anticipate enjoying is, is much higher calorie foods.

[00:29:00] You know, let's think of mashed potato or french fries and ice cream and things like that. And so, breaking that cycle is something that I think you have to address during a weight loss journey, because in the beginning, you don't feel like wheat berries and a and a light salad very much. You've, you've got in your mind all of these high calorie foods because your brain has been sort of hijacked, if you like, by this excess leptin.

Lee: Wow. So the way my brain reacts to these hunger hormones actually changes the way I think, changes the foods I want and the way I think about food. Totally.

Dr. Roberts: Totally, totally. And, and that's why we have a whole series of tricks, if you like, of ways to trick our brain while we're going through the weight loss journey.

So for example, someone comes in to iDiet and they say ice cream is the [00:30:00] passion of my life. You know, life is too short to give up ice cream. I'm gonna say, fine, let's have your ice cream and let's mix it with high fiber cereal and let's make it a sugar-free ice cream too. Because then you can have a treat for a hundred or 150 calories, but you'll get the taste that you love.

That taste tricks the brain in the short term because it's the taste of ice cream. It's the consistency and smell of ice cream. , but it's sugar free and it's mixed with fiber cereal. And so it's much slower digested. There isn't the same rush of calories. And over time the reward center is deconditioned at the same time that that your food preference is changing because you know when leptin starts to fall because you are losing weight.

Anything can taste delicious. You know, you've been released from the prison of leptin [00:31:00] resistance, if you like to, you know, to express this in exaggerated terms. And so even something like an apple can taste delicious. So certainly your own, your favorite ice cream mixed with high fiber cereal is gonna taste just as good as the ice cream, as a full fat ice cream without, without high fiber cereal in the short term.

And so losing weight is helping increase your enjoyment of healthy food. You are eating those healthy foods when you are hungry and you are making sure that the indulgent tastes, the the digestion of those indulgent tastes is slowed down by having a better recipe with higher fiber or mixing them with high fiber cereal or something like that.

So that you don't continue to get that strong rush of calories just from the unhealthy foods that are not good for your long-term weight. It's really a combination of all of those things which you do, so that over time, 12 weeks later when you land up at the end of the program, you've lost 10 or [00:32:00] 20 pounds,

and your food preferences are substantially changed. And that's important because it's not just about losing weight, it's about developing the food preferences that allow you to enjoy healthy eating so that you can, sustainably eat in a different way without like feeling It's a deprivation all the.

What

Lee: an elegant solution. So my body starts out miscalibrated and it wants, it's screaming for calories. So you give it the foods that taste like they have a lot of calories, but they have fewer calories. So your brain thinks, okay, I've satisfied you. And over time the body adjusts to these new foods and the signaling changes as your weight comes down.

And then you can enjoy healthier foods again. And it becomes a virtuous cycle.

Dr. Roberts: That's, a virtuous cycle is a, is a really good way of putting that. Thank you, Lee. You said that, you said that better than I did [00:33:00] and, and I think that, you know, one great thing that comes out of this is that, by about 10 or 12 weeks, many people are saying, you know, they've identified the healthy foods that they want to stick with.

You know, some people, they really learn to love high fiber cereal. And I think for anyone who's contemplating weight loss, that sounds ridiculous, but they really do. And they talk about having two or three, or even sometimes four different brands of high fiber cereal. And in the morning they're deciding how much of one and how much of another they're gonna mix together, and are they gonna put chopped hazelnuts versus

sliced almonds and a teaspoon of raisins or a teaspoon of cranberries with them and things like that. They get, they get very into getting their variety of healthful foods in ways that, you know, kind of feel, feel good, and feels like a new habit,

Lee: right? Because we crave variety, which is another one of your instincts, but you can get [00:34:00] healthy variety.

So we'll talk about that in a couple of episodes. I love that. Something else that I learned from your work is that it's not just our stomach that makes us hungry or our hormones, our eyes can make us hungry. Our nose can make us hungry. The way we respond to these signals makes us hungry. You wanna talk about that a little bit?

Dr. Roberts: Sure. Yeah. I mean that's, that's the environmental effect and, and it is such a pervasive thing that when you see food, when you see food, when you smell food, we are, effectively, you know, like every other animal in the kingdom. Here we are, we are. Living in, in equilibration with our environment, when we see food, when we smell food, we have what's called a cephalic phase response.

We have a sympathetic nervous system mediated surge of insulin, which drops blood glucose. We have a relaxation of stomach muscles, which means we have a larger [00:35:00] stomach that needs more food to fill it before you activate the stretch receptors. We have increased gastric motility, which means that any food that you swallow gets digested more quickly because the intestine is pushing it down the intestine faster, and that's just from seeing and smelling the food.

It's our body's way to anticipate eating in a way that we can, if we're in an, if we're in an environment with a lot of food, it encourages us to eat more food. And, I think in evolutionary terms, this this mechanism was really useful in another way, which is that, in an environment where there was no food,

you could tighten your belt, you wouldn't get hungry, you wouldn't have a large stomach, and you could, go off for a couple of days and find another wilderbeast or whatever to eat. So it's not just that it encourages you to overeat in an environment where there's excess food. It also makes it [00:36:00] tolerable to live quite comfortably in an environment where there's no food.

So I think it, in evolutionary terms, , it really helped us deal with this. The fact that food was only intermittently available. You know, you didn't collapse on your bed when there was no food around you. You were okay. You did fine, and you were able to guide and hunt for something else, but in today's environment,

especially in America, we have food all around us and that means that we are never taking the useful side of that basic food instinct that, you know, we can cope without food in the environment very easily. We're only just getting triggered by the excess availability all the time.

Lee: Right? More and more every year.

We're surrounded by these signals, so they make us eat.

Dr. Roberts: Yeah, that's right. When I, when I go to Africa a couple of times a year, which I do for my malnutrition research out there, actually lose weight every time. And I do that just because, [00:37:00] it's a country where there's still no food really available except at mealtimes.

You know, you go and work in the villages, there's no stores, there's no restaurants, there's no street food on the villages. You're just there and you don't think about the food because there's not around. I mean, I routinely lose a pound or two over the course of a week just because, you know, I have breakfast,

and then I go to the villages for about eight or nine hours to do our research study. And then I come back and I have dinner and there's no snacks, there's no anything else. And, and I, I'm not more hungry than usual. It's just the wonderful fact that when the food is not there, it gets really easy to control.

That is a great

Lee: tip.

So on this week's theme of hunger, you say in your book, it is possible to reduce hunger during weight loss by choosing the right foods. And in fact, your diet was shown to make people less hungry during weight loss than they are when they were [00:38:00] gaining weight, which blows my mind. How does that work?

Let's help people understand some ways to make good choices to reduce their hunger day to day.

Dr. Roberts: So when I summarized all the research literature on food composition and hunger, it was clear that there was several different ways to, to use food composition to reduce hunger. One of them was high protein diets, another one was low glycemic index carbs.

Another one was high protein foods. Another one was high volume foods and all of those research areas were, done by different scientists in different labs. And so what my lab has been doing really has been focusing on putting those, putting those four factors together and trying to use them in a flexible way.

So, within our menus, what we say is that on any given meal or snack, I want at least [00:39:00] two of those factors. High protein, high fiber, both low glycemic index carbs or volume. I want two of those in every meal and snack, and that allows us to get the kind of, if you like, the additive benefits of having

more than one factor. And it also allows us to, to kind of very flexibly have different kinds of foods as part of the menu plan.

Lee: Excellent. So if I'm listening to this, and I'm thinking about losing a few pounds, I want to think about increasing my fiber in each meal, increasing my protein, possibly in each meal, reducing the carb impact of the meal with slower digesting carbs and eating things that are

lower in calories and higher in volume. Like green vegetables, for example.

Dr. Roberts: Exactly.

Lee: Exactly. Okay, cool. And there's a fifth factor too, that you learned in Africa. It's a great story. Would you like to share that story with us?

Dr. Roberts: Oh, oh, peppers and hot [00:40:00] spices. Yes.

Yes. I mean . So in fact, I've worked in a number of different countries in Africa, but when I was, when I was just 21, I went out and worked in The Gambia in West Africa for 18 months with a University of Cambridge team who, which was working there. And it was one of the local traditions that, the different tribes used to have, somewhat rude things that they would say about other tribes.

It was just a way of, I think, creating cultural identity within their tribe. But, the village where I worked were Mandinka Tribe, and they used to talk about another tribe, and they were very dismissive in saying that the people were so cheap that they used to put huge amounts of, red pepper in their food so that it was so spicy people couldn't eat too much.

And actually subsequently research has shown that capsaicin which is the active ingredient in cayenne pepper and in, in hot peppers, does in fact seem to have a beneficial [00:41:00] effect in reducing calorie intake. You know, I, I don't think that that's a be all and end all. I mean, if someone really hates spicy food, I would say you don't need to eat spicy food, but if you love spicy food, go ahead and you know, have as many as you like.

And it may be helpful.

It's one of those things where, You know, there's enough studies that, it looks like it's a real effect. I, I always think with research that you can't rely on just one study.

You really need multiple studies to have the confidence in nutrition that something's a repeatable replicatable finding. And, and capsaicin has that, but why? I don't think anybody has a really good idea.

Lee: Interesting. So our last question on hunger is what's a typical day for you like? What are some of your favorite hunger suppressing foods that you keep going to

week after week?

Dr. Roberts: So my favorite hunger suppressing foods, [00:42:00] I, I think the single easiest hunger suppressing food that anyone can eat is a high fiber cereal. You know, there's a bunch of brands out there. General Mills has a brand Kellogg's has a brand. Trader Joe's has a brand. Some of the supermarkets have their own generic

brands and, and they all taste pretty good, especially if you mix 'em with a few berries or something like that. So I pretty much like to reckon that, you know, most days I have a bowl of high fiber cereal, one way or the other. It might be for breakfast or it might be for snack, or it might be for dessert.

But I like, to get some fiber in that way. I, I also, I have to admit, it sounds obsessive, but I make bread. And I make bread because one of my family members has genetically high triglycerides and so he really needs to eat a very, very low GI diet. And, and I've created a bread recipe, which is it's actually modification of one of the ones we have in [00:43:00] the book, which is, which is extraordinary low in glycemic index, but it's a great tasting bread and it's much better than the bread

things you can buy in a regular supermarket. So another low glycemic index breakfast I really love is a, is a thick slice of that toast with crunchy peanut butter and maybe a little honey or something, or banana on top of that. That's another great breakfast I like, or some scrambled eggs, or even being English and having a boiled egg.

Then for lunch, I would usually have, something I bring to work, you know, I've given up going to Chinatown. It's it's really hard to manage my weight if I eat in Chinatown all the, all the time. So I save that for a treat and I'd bring in some soup and some bread, or a salad or some leftovers from dinner last night.

And then dinner is actually, most of the things are in the book. When I was creating the book recipes, I really started with the food I loved. So we have, we might have grilled [00:44:00] chicken or lasagna or meatballs or some curried kebabs or some grilled fish with, with vegetables. And that that would form the foundation of, of what we eat most days.

that sounds really

Lee: good.

So we should all be reading those labels and choosing if we have an option. Foods higher in fiber, like breads that are higher in fiber. Cereals that are higher in fiber, and making sure we get enough protein in each meal.

Dr. Roberts: So I think if you're not making bread which, obviously most people are not going to do.

The brands are really important. But there's a few brands which, which are really, they're high in fiber and, or they're high in protein and, and you know, that turns them, they're still called bread, but they're actually, a thing that you can build a sandwich with that is actually helpful for weight loss because it fills you up and doesn't make you hungry in two hours.

Lee: Well, thank you so much Dr.

Roberts. [00:45:00] This has been a fascinating conversation about hunger, hunger, control, how hunger works in the body. I've learned a lot. And now we're gonna conclude with a Q and A. So we're asking everyone listening. Please send us your questions. We would love to hear your questions. You can send them to info at

iDiet.com.

Week's question, I'll read it to you, Dr. Robert. Hi, Dr. Roberts. My husband does time restricted eating. Typically, he will eat only within a nine to 10 hour window each day.

That always exercises prior to eating each day. He tells me that there are a lot of experts who say, this is very healthy. Is it, should I be doing this too?

Dr. Roberts: I, I agree that time restricted eating is a helpful thing to do and you know, it's not easy for many people to do in the, in the stretch for modern life that we lead.

But if you are able to only eat within a 10 hour window, I [00:46:00] do think it has advantages, you know, and two advantages that immediately come to mind are, one is, for those of us who tend to walk back and forth to the fridge after dinner, with night eating, if you can make some hard and fast rules that,

I don't ever eat after 6:00 PM and you can stick with that. It cuts out hundreds of calories, so it can be kind of great from the psychological perspective. There's also some evidence that if you have, say a 14 hour period every day, when you don't eat, that may help your insulin sensitivity which will be another good thing that helps get your hunger under control.

I, I don't think that this is essential in the sense that I think that there's other ways to lose weight, but if you are able to do that, I do think it's a, it's a great way to eat.

Lee: Ah, and a lot of people are insulin insensitive. They've become immune to the [00:47:00] signals they've become immune to the level of insulin in their body, which affects their hunger.

So this can be helpful in those cases.

Dr. Roberts: Yeah, absolutely. I mean, time restricted eating, you know, does have these benefits. You know, it's not a magic bullet. There's no magic bullets, and I think that one of the problems we have with the media and dieting and weight loss right now is that they're always looking for the latest shiny object, the latest magic bullet.

But I don't think there is a single magic bullet. If, if weight loss was easy, we would've found the solutions decades ago and nobody would be struggling with their weight today. Weight loss is, weight loss is complicated. And so, you know, to try and say that, time restricted eating is the answer to everybody's problems.

No, I don't think it is. But I do think it is a useful thing for those people for whom it can work. And for someone like me, it's not gonna work frankly

because my husband doesn't get home from work until [00:48:00] about 8:00 PM. I'm a morning person and I like to be up at six. So if I want to eat dinner with my husband, it's impossible to do time-restricted eating.

And so I do my weight regulation another way, but for someone for whom everybody in the house gets home at 5:00 PM you have dinner at six and then you don't eat again until, you know, eight or nine in the morning. If, if that, if those kinds of times work for you, then yes, I think this is a healthy thing to contemplate.

Lee: Right.

So if you have the ability to control your schedule and you're the kind of person who works really well with hard and fast rules, or who needs hard and fast rules. This sounds like it's something to consider.

Dr. Roberts: Exactly. Exactly.

Lee: Wonderful. Well, thank you so much. This has been a fantastic conversation and we look forward to next week join us again where we'll talk about the second of the five

food instincts, availability. Thanks, Dr. Roberts.[00:49:00]

Dr. Roberts: Thank you, Lee.

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We look forward to visiting with you again in the next episode, until then you can check the show notes for helpful info. Visit instinct.diet.com for more on the book we discussed. And visit the [I diet.com](http://I.diet.com) for more on group programs and to find iDiet's social media channels. Remember to email us your questions at info@theidiet.com. Or check out the show notes for all these links. See you next time