

# Nutrition: Weight Loss – Part 1

Hey, everybody, in this presentation we're going to talk about specific nutritional tweaks for weight loss. According to the latest statistics, more than two-thirds of US adults are overweight, and 38 percent are obese. Americans spend more than \$60 billion a year trying to lose weight. Fifty percent of American adults are currently dieting. The average dieter makes four attempts per year to lose weight, and 90 to 95 percent of people who lose weight eventually regain it. That is probably the most sobering statistic of all when it comes to weight loss.

As I'm sure you've heard by now, the advice to eat less and move more is not particularly effective for most people, and that's because the brain has powerful mechanisms that override our weight loss efforts. So when we voluntarily reduce calorie intake, three different things happen: Number one, our resting metabolic rate goes down, so the amount of calories we expend just sitting there at rest drops. Number two, our appetite increases, and then number three, we absorb more calories from the same exact amount of food. So we can eat the same amount of food but actually harvest more calories, and these are evolutionary survival mechanisms that were designed to keep us safe during times of food shortage, which from an evolutionary perspective, that was the challenge. We didn't have 7-Eleven or Costco, we couldn't just go down and get food whenever we wanted it, and so these mechanisms are hardwired survival mechanisms that would have protected us throughout the vast majority of our evolutionary history, but they backfire in an environment such as the modern one that we live in today, where food is readily available. Willpower is a limited resource, this has been studied, and if you're fighting these hardwired survival mechanisms, eventually most people are going to lose. It's just impossible almost to overcome these hardwired physiological signals.

So, what does this mean? It means that the holy grail of weight loss is some kind of intervention that causes a spontaneous reduction in calorie intake. That is what will lead to weight loss, and as I just said, voluntarily reducing calorie intake engages all of these survival mechanisms that work against our weight loss effort, but spontaneous calorie reduction, meaning just involuntary reduction in calorie intake, doesn't appear to engage those mechanisms. So to put this in layperson's terms, we're talking about eating less without trying to eat less. That sounds pretty good, of course, doesn't it? The really compelling argument for a Paleo type of diet is that this is exactly what it has been shown to do, and it's why Paleo works so well for weight loss for so many people, because it spontaneously reduces calorie intake.

So a little bit more about this: Paleo doesn't require calorie counting; most people are terrible at tracking their calories accurately and can't even do that if they try; and Paleo's been shown to be more satiating, satisfying, per calorie consumed compared to Mediterranean diets and low-fat diets. So that means given the exact same number of calories, a patient that's eating a Paleo diet will feel more satisfied than they will eating a Mediterranean and low-fat diet, and that naturally leads to lower calorie consumption, so again, that's the holy grail of weight loss approach. Paleo's been shown to improve metabolic health, stabilize blood sugar, decrease triglycerides and bad cholesterol, reduce inflammation; it doesn't require forced restriction of any macronutrient, so it allows for flexible intake

of carbohydrate, fat, and protein, depending on the individual's needs, and it tends to be higher in protein than other diets, especially vegetarian and vegan diets, and the reason that's important is that protein is the most satiating of all macronutrients, and higher-protein diets are consistently shown to help reduce body fat. And finally, Paleo provides a high level of variety of nutrient-dense foods, so it's healthy overall and it's easier for patients to stick with.

But even within Paleo, there are particular strategies that can be used to improve weight loss. Number one is keep the food simple. Eating simpler food leads to eating less, because of hedonic mechanisms that regulate food intake, so the brain has a very sophisticated set of systems for regulating food intake. One is the homeostatic system, which is based on energy balance, and the other is the hedonic system, which is based on the taste properties of food. We're hardwired to seek out foods that have certain tastes, particularly sweet taste, but also just more complex and dynamic flavors because those tastes would represent broader nutrient profiles and a higher availability of calories and energy, and like I said, in an environment of food scarcity, those are things that would benefit us. But when we have an environment of food abundance, eating foods that are highly rewarding and palatable and lead to more eating can be a problem and can lead to overconsumption of calories and weight gain. So the corollary there is if we eat simpler foods by reducing the number of ingredients, flavorings, seasonings, and added fats that can lead to spontaneously reduced calorie intake. The easiest way to think about this is, if you sat down to two different meals and one meal was sweet potatoes and butter and salt, and the other meal was just sweet potatoes that have been steamed with no butter and no salt, which would you be likely to eat more of? And of course, the answer is, for most people, sweet potatoes with butter and salt. So reducing your added fats and added seasonings to meals and sticking to plainer foods instead of the higher-palatability foods like bacon, chocolate, French fries, and things like that can be a very effective strategy for weight loss. So, one of the most effective ways to implement this strategy if your patient is willing and is really committed is to instruct them to eat the same meal throughout the day for two to three days a week, so, for example, they'd choose chicken and broccoli and sweet potato, they would eat that for breakfast, lunch, and dinner, two to three days a week, and because of the limited variety and reduced reward value and palatability of that meal choice, they would spontaneously eat fewer calories on those days and lose weight. The most extreme version of this approach would be something like the potato diet, which you may have heard of, where people eat nothing but white potatoes, typically without any fat or even salt, and people can lose a dramatic amount of weight on these diets, and they've been shown to be safe for weeks at a time. So that obviously requires another level of commitment altogether, but if the patient really wants to lose a significant amount of weight in a short period of time, that's one of the most effective approaches.

The second principle would be to paradoxically be sure to eat enough. Many patients with stalled weight loss were shocked to learn that they were under-eating when we actually measured their calories, and under-eating is significantly more than a 20 percent calorie deficit over the long term, which can lead to some of those metabolic adaptations that we talked about that actually work against us and promote weight storage rather than weight loss. They can lead to increases in cortisol and other stress hormones which promote the accumulation of belly fat, and they reduce our adaptation to exercise and lead to less muscle growth, and less muscle means less fat-burning capacity, and it can cause fatigue and malaise if the high-calorie deficit is maintained chronically. I

know this may sound paradoxical given what we just talked about on the last slide about spontaneously reducing calorie intake, but as we've discussed throughout the entire course, you really have to consider the individual needs of each patient. So, in some cases if a patient has been on a calorie-restricted diet for a significant period of time and their weight loss efforts have plateaued or they've even started to gain weight, having a patient eat a little bit more can actually kick-start their weight loss efforts, so that's something to consider as you look at the history of the patient, what they've done over time.