



The Skinny

The New Year brings new resolutions and topping the list again this year for many people is weight loss. Ugh. I know.

Obesity is defined as a body mass index (BMI) of greater than 30 kg/m². While the BMI will inaccurately call a very muscular person obese, it is a reliable measure for those of us who aren't chiseled in marble.

According to the CDC, the obesity epidemic is getting *bigger*, not better. In 1986, fewer than 10% of Tennesseans were obese. In 1996, 15-19% were obese. In 2007, more than 30% of Tennesseans have a BMI greater than 30. This trend is expected to continue.

What is a physician to do?

Sadly, due to time limitations, many physicians are ill-equipped to help patients effectively deal with this very important issue. Even more sad, is that when physicians do take the time, their efforts are thwarted by biology and human nature.

For this reason, we've put together an endocrine-based weight loss plan which you can share with your patients. We hope this guide will help them overcome biology and human nature and turn them into healthier individuals.

For those who are interested, the next page contains the endocrine basis for weight gain, how the endocrine system makes it hard to lose weight and how to combat this problem.

The two final pages have our prescription for weight loss, which you can share with patients.



What's Behind the Skinny

The Endocrine System Opposes Weight Loss.

This is sad, but true. Obese people have:

- Higher insulin levels (insulin promotes fat deposition by inhibiting lipase enzymes).
- Leptin resistance.
- Slower metabolism

Insulin resistance occurs with obesity and causes insulin levels to increase. When glucose and insulin levels are high, fat storage is rapid. Muscle becomes insulin resistant, but fat cells remain sensitive.

Leptin Resistance: Leptin is a hormone secreted by fat cells. When fat is stored, leptin is released and sends a signal to decrease food intake. With obesity, people become resistant to leptin. Women are more resistant than men, which is one reason why women are more likely to be obese. Sadly, as people lose weight, leptin decreases and promotes increased food intake, thus making it hard for people to sustain their new weight.

The metabolic rate of an obese person is much lower than that of a lean individual. Sadly, with acute weight loss, the metabolic rate slows even more to conserve energy. This causes the weight loss achieved with many diets to plateau and makes it tougher to sustain weight loss.

Important Counseling Points

- Many women store fat easily in the hips and thighs. This fat remains sensitive to insulin therefore is not associated with coronary artery disease and hypertension. However, it is more difficult to lose. Abdominal fat is much more dangerous. An abdominal circumference of 35 inches or more is associated with coronary artery disease.
- When on a diet, we all want to lose the weight quickly. But fast losses are associated with rebound weight gain. The most effective weight loss is achieved when calorie intake is 500 to 1,000 calories below an individual's daily energy requirement. Losing 1-2 pounds per week is preferred.
- One can calculate the daily energy requirement using the Harris Benedict formula; however, most patients find this tedious. The formula is available through many websites. An easy to use calculator can be found at: <http://www.caloriesperhour.com>. It follows the formula:

Women: $BMR = 655 + (9.6 \times \text{wt in kg}) + (1.8 \times \text{ht in cm}) - (4.7 \times \text{age in years})$

Where, 1 inch = 2.54 cm, and 1 kg = 2.2 lbs. Multiply this result by 1.2 if the patient is sedentary, by 1.375 if they do light exercise 1-3 days per week, 1.55 with moderate exercise, 1.725 with hard exercise 6 days a week.

Target caloric intake should be 500 to 1000 calories below that calculated by this formula.

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Weight Loss Rx

Make A Plan

The most effective way to change any behavior is to plan ahead. Before starting a diet, identify your weakness and bad habits. For example, if you have a weakness for chocolate make a mental note. Then figure out how you are going to deal with this weakness. If you have a plan, you'll have a better chance of beating your temptations.

Set Realistic Goals

Set goals and reward yourself for reaching them. You can set short and long-term goals. Just make sure the goals are realistic. We all want to lose weight fast, but if you lose more than 1-2 pounds per week, there is a higher chance you will gain it right back. The best rewards for reaching a goal include things that will encourage more weight loss. For example, when you reach a target weight, allow yourself to run an extra mile, buy new workout clothes or even have a facial. Just don't reward yourself with food!

Eating Right, Eating Often

Unless given a higher calorie count, limit your intake to 1200 calories per day. Some foods are definitely better than others; however, it's more important to restrict how much you eat than exactly what you do eat. ***Divide your daily calories into 5-6 meals per day. Eating more frequently will raise your metabolism and make it easier to lose weight!*** Never eat more than 500 calories in one sitting. Except for during sleep, don't go more than 4 hours without eating something. Protein rich meals will minimize how much insulin you make, thus decrease the fat you store. Protein rich meals are also slower to digest, so you stay full longer.

Drink plenty of water and eat more protein and/or fiber-rich foods (fruits, vegetables, fiber-rich breads and cereals) which keep you full longer. Unsalted, no sugar-added nuts, such as almonds are also excellent to keep you feeling full and your metabolism pumped. Choose sensible serving sizes. For example, a portion of meat should equal the size of a deck of cards. A portion of rice should be the size of your fist.

- Breakfast** is essential. (A small 2-3 egg omelet, yogurt, or a cup of cottage cheese are all rich in protein.)
- Mid-morning snack.** (15-20 almonds, fresh fruit, fresh vegetables) will curb your appetite and boost your metabolism.
- Lunch.** (Make it sensible.)
- Mid-afternoon snack.** (boosts your metabolism and curbs the appetite prior to dinner.)
- Evening meal.** (Again, make it sensible.)
- Evening snack.** Protein and vegetables keep your metabolism pumping.

Exercise

This is important! As you lose weight, your metabolism will slow down. To keep your metabolism revved up exercise is the best solution.

Walking is excellent for weight loss and it is the number one recommended exercise. We recommend a minimum of 45 minutes per day. But this does not have to be all at once. Walking boosts your metabolism.

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Aerobic exercise boosts your metabolism even more than walking. One hour of aerobic exercise will increase your metabolism for 4-5 hours.

Weight training, with weights, does not always help you lose weight, but it does promote the loss of fat. Muscle weighs more than fat. If you weight train, don't be discouraged by the scale. Pay more attention to your belt size. One hour of weight training will boost metabolism for 12 hours, or more!

Write It Down!

Keep a diary of all your calories and exercise. Note portion sizes and your emotional state while eating. This will help you identify weaknesses in your diet patterns of eating while you are stressed. Most of all, it will keep you honest. Studies have shown that diets are more effective when a patient keeps a diary.

Slow Down

Take time to chew slowly, savor your food and eat without distraction of TV or reading. You will be more likely to feel full with less food. Also, stop eating before you feel full. It takes about 20 minutes for your brain to register that your stomach is full.

Alcohol

Alcohol kills diets. It's a source of hidden calories, and alcohol itself promotes fat storage!

Why most diets fail

Very few diets fail due to genetics or hormonal imbalances alone. Most diets fail due to human nature. We don't eat the right foods at the right times. We don't keep track of how much we really do eat. And worse, we also reward our weight loss with food when we reach a goal.

We recommend that rewards for weight loss should be healthy. For example, when you reach a target weight, give yourself permission to run a 5K, or buy yourself a new article of clothing.

Hidden calories: most people know that sweet tea, juice and sodas are a big source of hidden calories. But so is restaurant food – which often has more butter than you might imagine. If you don't know for sure how many calories are in the food you are eating, avoid it if possible. If you can't avoid eating out, when your meal arrives, split it in half and ask the waiter to take half of it away, or box it up.

Low fat and fat free foods often have just as many calories as the traditional recipes, and many people eat higher quantities of these foods. Portion size is still essential.

Eating with your kids is a land mine for many people. Do not eat their extra chicken nuggets! If you do, make sure you count the calories.

Finally, the reason most diets fail is because we don't regard a diet as a lifestyle change. It is so much easier to lose weight than keep it off. If you are a person who has been heavy for a long time, then you will need to continue to closely monitor your intake until it becomes a new way of life. For many people, this can take years. **You cannot quit when you reach your goal!**

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