Body Weight Regulation:

A Calorie Is NOT A Calorie

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Learning Objectives

❖ Understand overweight/obesity as a chronic disease.
❖ Understand concept of a “weight set point”.
❖ Understand metabolic adaptation to weight change.
❖ Understand expected amount of weight loss from different approaches including diet, exercise, medication, or surgery.
❖ Understand expected benefits of dietary change, exercise, and weight loss.
❖ Understand strategies for weight regain prevention.
Overweight/Obesity as a Chronic Disease

- Not everyone has the same “metabolism.”
- Obesity is a spectrum of disease from mild to severe.
- There are many different forms of this disease, more aptly known as “obesities.”
Overweight/Obesity as a Chronic Disease

- Fat is metabolically active, causing a constellation of signs and symptoms in the rest of the body.

- Successful treatment needs to be individualized, comprehensive, and long term.
Your Weight Set Point

- Evolutionary advantage to maintaining a weight set point.
- Determined mostly by genetics and environment.
- Your weight history may reveal your weight set point and provide insight.
Your Weight Set Point

- Changes over time (10% per decade).
- Affected by various factors, such as medications, lifestyle, hormones, body composition changes, and other medical conditions.
- All weight changes tend to follow predictable curves from your weight set-point.
- Value and insight in determining your weight set-point for reference, rather than just a BMI chart.
Metabolic Adaptation to Weight Loss

- Constellation of responses to a change from weight set point.
- Promote a return to the weight set-point.
- Increase/decrease of resting metabolic rate.
- Increase/decrease in hunger and cravings.
- Increase/decrease in satiety/satiation.
Metabolic Adaptation to Weight Loss

❖ Last at least 12 months (longest studied), probably much longer.

❖ Seen regardless of how a person loses weight, whether surgical, medical, or lifestyle.

❖ Likely accounts for large portion of weight regain observed: 85% of people with lifestyle change, 45% with bariatric surgery.
Expected Weight Loss

- Exercise: not expected to cause weight loss.
- Dietary change: 5% over 1 year at a rate of one-half to one pound per week.
- Intensive lifestyle change: 5-10%
- Pharmacotherapy plus intensive lifestyle change: up to 27%
- Bariatric Surgery: up to 30%
Examples - Weight Loss

- Starting body weight: 250 lbs
- Dietary change: 237 lbs
- Intensive lifestyle change: 225 lbs
- Add anti obesity medication: 183 lbs
- Bariatric Surgery: 175 lbs
Benefits of Diet, Exercise, Weight Loss

❖ Nutrition quality improves metabolic health.
❖ Fitness improves adipocyte function.
❖ Weight loss:
  ❖ 3-5%: various health benefits
  ❖ 15%: reversal/remission of early type 2 diabetes
  ❖ 25-30%: reversal/remission of more established type 2 diabetes
Weight Regain Prevention

- National Weight Control Registry, Clinical trials
- Diet: structured, low variety, regimented
- Exercise: >60 minutes per day, most commonly walking
- Restaurant eating: <1 time per week
- Anti obesity pharmacotherapy
- Bariatric surgery revision
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