



# District Endocrine

## Obesity & Weight Loss

- The study of obesity is rapidly evolving and is incredibly complex including
  - Gut microbiome
  - Inflammatory processes
  - The math of calories
  - Effects on vitamin metabolism, insulin sensitivity, bone metabolism and heart
- So far, we have not identified a “magic bullet” to cure obesity with a medication
- Basic Principles of Energy Metabolism
  - Our ability to glean energy from ingested food was perfected eons ago when food was SCARCE
  - We developed an amazingly efficient way to preserve our energy stores
  - Even though we have an overabundance of energy available to us, we have NOT lost our inherent abilities to maintain our energy stores.
  - We take in food which is broken down by enzymes into its components and absorbed in the digestive tract to enter the bloodstream
    - Carbohydrates
    - Fats
    - Protein
    - Minerals/vitamins
  - Energy is extracted from these component molecules to operate cellular processes, build/repair tissues and transport various substances.
  - Any excess energy (from any component) is stored as FAT (1 lb = 3500 Calories)
  - Anytime there is an energy deficit, we mobilize energy from the fat stores by alternative metabolic pathways. We can also break down protein stores (i.e., muscle) to produce energy.
- Studies have shown that there are no long-term differences in terms of weight loss among different diets: low carb, low fat, calorie restriction, etc.
  - Low carb diets will have an early drop in weight, but eventually the other diets catch up.
    - So, the only diet that matters is one that makes sense to you and works with your lifestyle!
  - Weight loss is a MATH PROBLEM: calories in vs. calories out



# District Endocrine

- Here's the rub: because Nature is so good at self-preservation, whenever the body loses weight, it becomes MORE EFFICIENT at preventing additional losses.
  - Your heart rate & cellular processes slow down, everything reduces in order to keep you alive.
  - So, we hedge our bets by exercising more, and by weight training to build a larger muscle mass which requires MORE calories to maintain.
  - But every time you hit a plateau, you know that's where your body has become efficient enough to stop weight loss.
  - Example:
- If your BMI is  $\geq 40$  (or  $\geq 35$  with at least 1 other obesity-related diagnosis) you are eligible for bariatric surgery, which is the MOST effective means for weight loss.
- If your BMI  $\geq 30$  (or 27 with at least 1 other obesity-related diagnosis) you are eligible for medical therapy to treat obesity.
  - Medications are selected based on the what is contributing to your obesity.
- Obesity Medications
  - Plenity - Approved by FDA in April 2019, it is the only medication that is not absorbed in the GI tract; it is a form of plant fiber that expands in the stomach leaving only a small amount of room for the meal, and passes through much like Metamucil.
    - Expected 10% weight loss from baseline
  - Contrave - combination of extended release naltrexone (which treats opiate addiction) and extended release bupropion (an antidepressant) to reduce the reward associated with food intake and decrease feeding behavior.
    - 8-12% weight loss from baseline
  - QSymia - combination of phentermine & extended release topamax, these drugs work synergistically together to reduce appetite and stimulate metabolism.
    - 9-12% weight loss from baseline
  - Saxenda - the high-dose cousin of the diabetes drug Victoza, is slows down gastric emptying thereby reducing appetite.
    - 9% weight loss, reduces progression from prediabetes to diabetes by 80%.
  - Ozempic – the high dose Ozempic 2.5 mg shows that it can impact upto 15% weight loss in recent trials. FDA approved is pending.



# District Endocrine

- Orlistat - blocks fat absorption in the gut; very effective but people don't like it because of diarrhea and flatulence.
  - Helps double the effects of lifestyle and behavioral counseling alone
- How do I start??
  - #1, never drink your calories - get rid of soda, juices, sweet tea, lemonades, alcohol, etc.
  - #2, consider use of meal replacements to aid in portion control
    - Premier Protein shake
    - Pure Protein bars
  - Systematically reduce your caloric intake in 200 calorie increments until you begin to lose.
- Resources to help the weight loss process
  - YMCA Diabetes Prevention Program: <https://amaymca.org/programs/health-wellness/diabetes-prevention/>
  - Figwee app for calories, portions, etc. - very user friendly!
  - MyFitnessPal for calories (even restaurants), logging exercise, etc.
  - The Calorie King pocket handbook - also is the source for the MyFitnessPal calorie database. <http://www.calorieking.com/>
  - Mayo Clinic [www.mayoclinic.com](http://www.mayoclinic.com)
  - Obesity Action Coalition <http://www.obesityaction.org/obesity-treatments>

Author: Dr. VanDyke– edited by Dr. Rehman.

Disclaimer:

This article is not medical advice. It is intended for general informational purposes and is not meant to be a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your physician or other qualified health provider with any questions you may have regarding a medical condition. If you think you may have a medical emergency, immediately call your physician or dial 911.