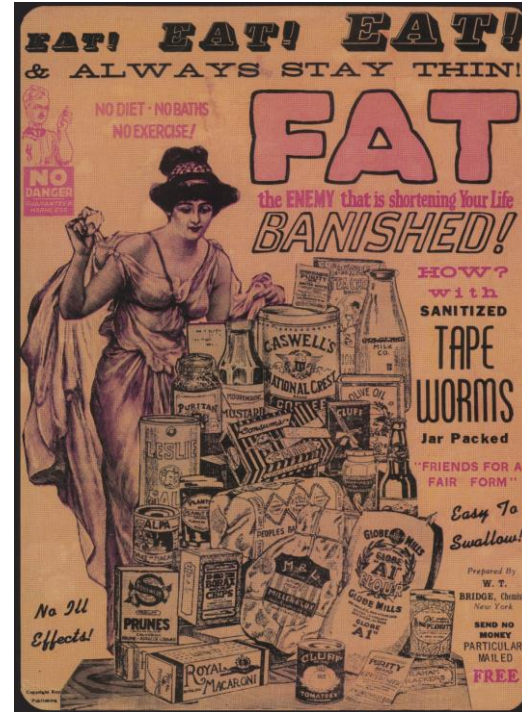


# Obesity Management

Janine V. Kyrillos, MD  
Diplomate, American Board of Obesity Medicine  
Associate Professor, Sidney Kimmel Medical College  
[Janine.Kyrillos@Jefferson.edu](mailto:Janine.Kyrillos@Jefferson.edu)

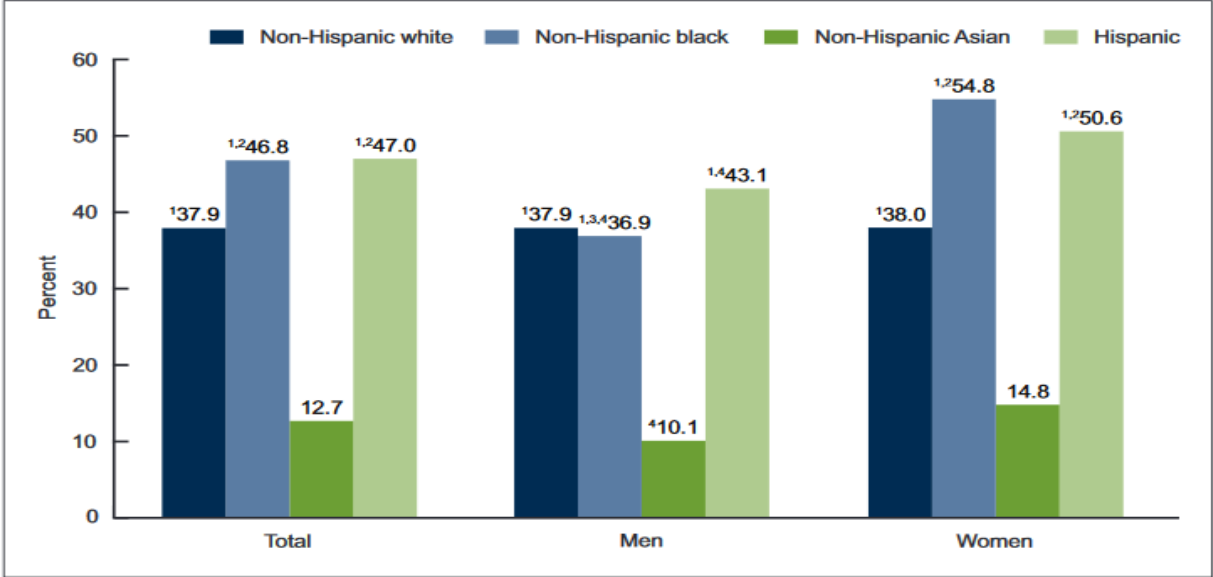
# What is Overweight and obesity?

- Abnormal or excessive fat (energy) accumulation that may impair health
- Commonly measured by Body Mass Index (BMI)  $\geq 30$
- Other measures:
  - Waist circumference
  - Body fat percentage
  - Metabolic markers
  - Other objective and subjective indicators



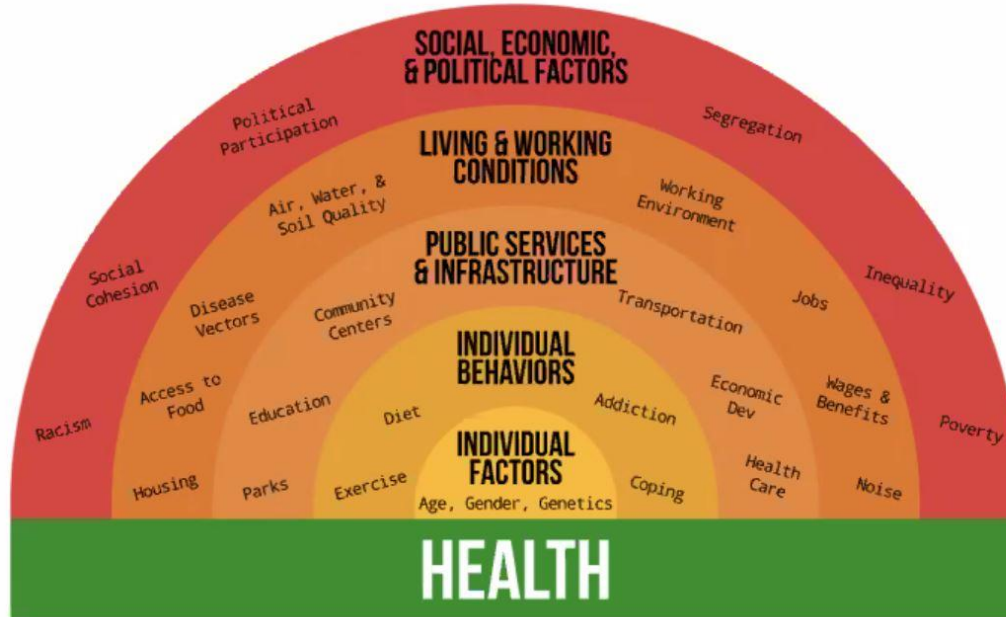
# Differences by gender and race/origin

Figure 2. Age-adjusted prevalence of obesity among adults aged 20 and over, by sex and race and Hispanic origin: United States, 2015–2016



<sup>1</sup>Significantly different from non-Hispanic Asian persons.  
<sup>2</sup>Significantly different from non-Hispanic white persons.  
<sup>3</sup>Significantly different from Hispanic persons.  
<sup>4</sup>Significantly different from women of same race and Hispanic origin.  
 NOTES: All estimates are age adjusted by the direct method to the 2000 U.S. census population using the age groups 20–39, 40–59, and 60 and over. Access data table for Figure 2 at: [https://www.cdc.gov/nchs/data/databriefs/db288\\_table.pdf#2](https://www.cdc.gov/nchs/data/databriefs/db288_table.pdf#2).  
 SOURCE: NCHS, National Health and Nutrition Examination Survey, 2015–2016.

# Social Determinants of Health Or Weight?



<https://www.communitypoweredchange.com/values-guiding-principles-frameworks>

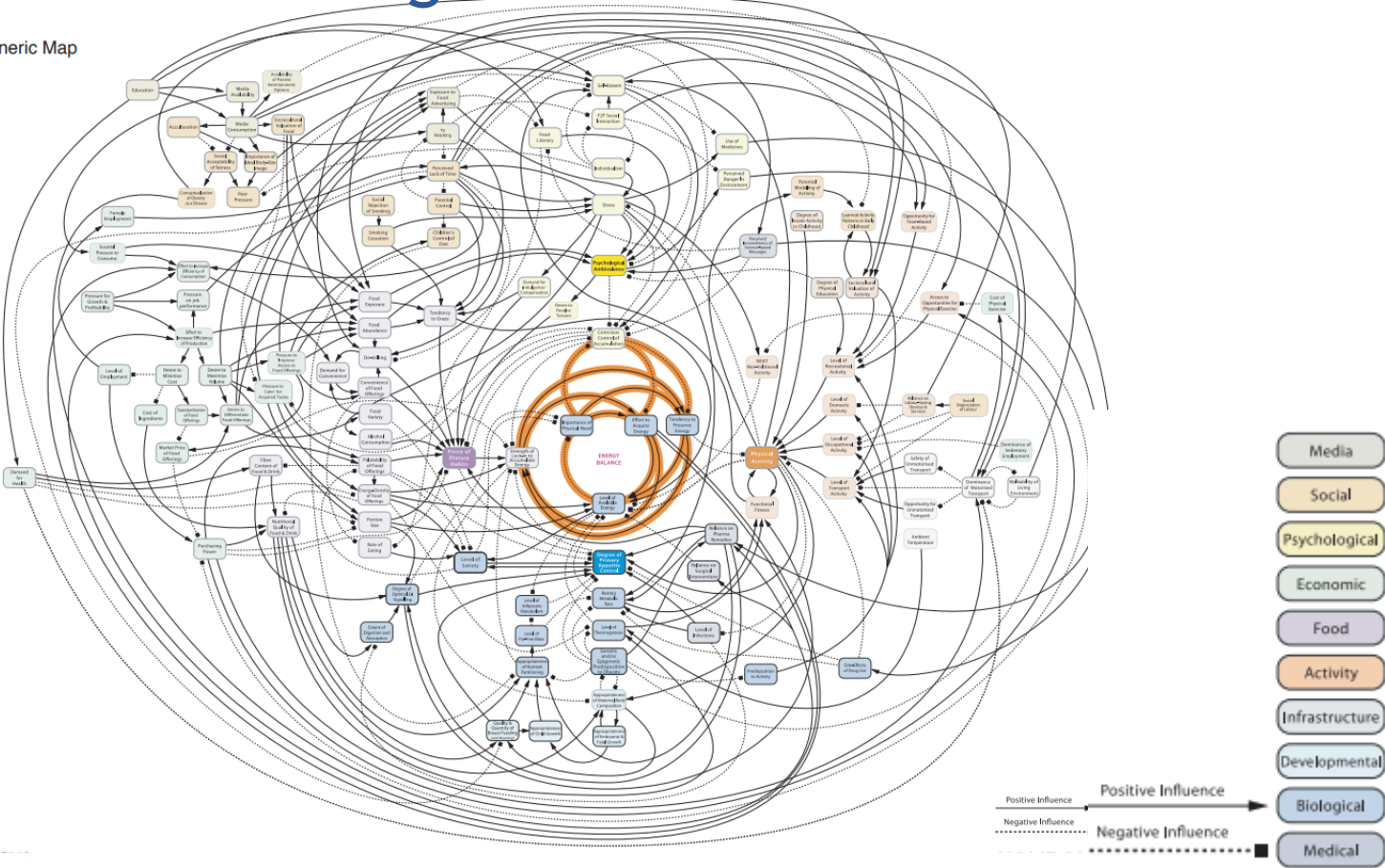
# Conventional Wisdom

- Lifestyle Choice
- Character Flaw
- Lack of Will Power
- Calories in  $\leftrightarrow$  Calories out

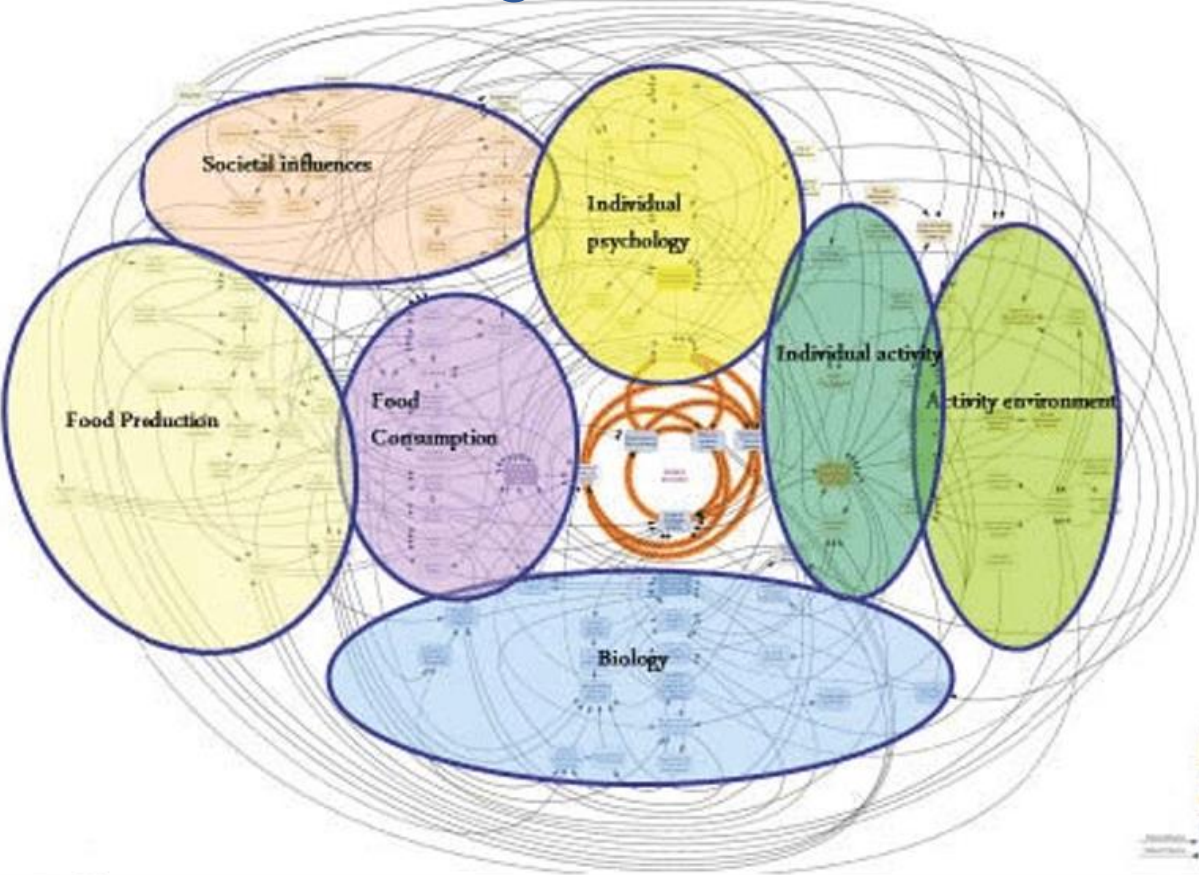


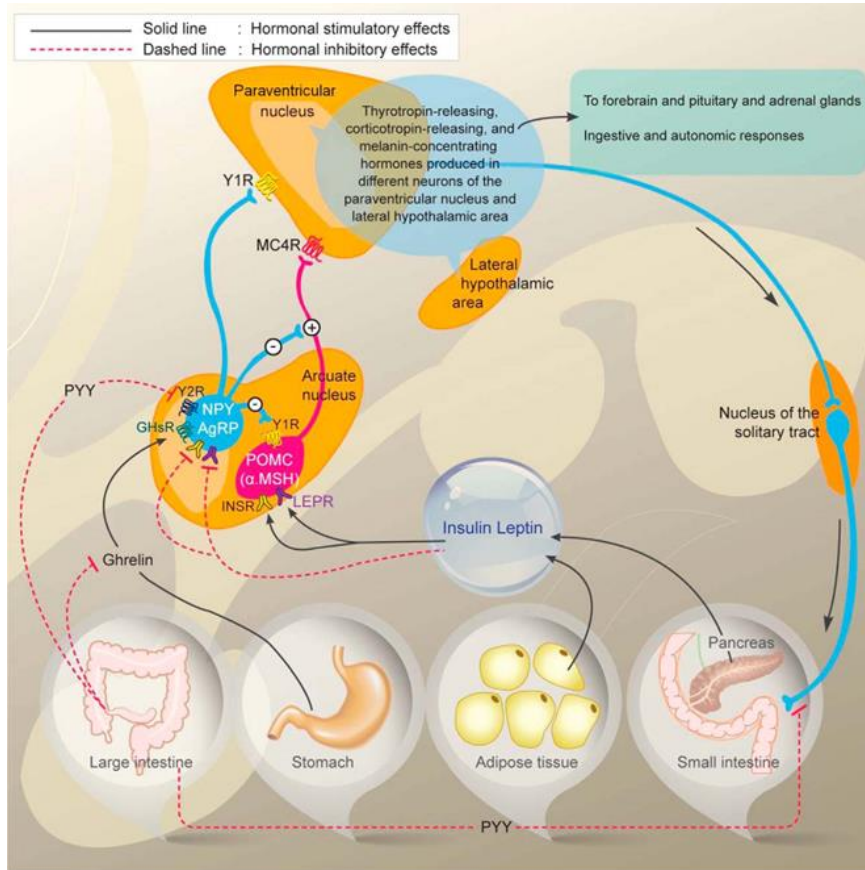
# New Understanding

Map 0  
Full Generic Map



# New Understanding





# Appetite and Energy Regulation

>150 Signals: Stomach, Intestines, Pancreas, Adipose Tissue  
 ↔ Brain

Complex hormonal balance

Duplicate pathways to maintain energy balance and homeostasis

Compensatory mechanisms to protect against starvation



# Patient Case

- 40 y/o woman with history insulin dependent T2DM, HTN, HL, GERD, Anxiety and Depression
- Lifelong obesity. She has tried to cut back and calorie count numerous times.. She's tried supplements and Herbalife. She's "always hungry and can't stay on a diet." Her PCP recommended bariatric surgery, but she is reluctant.
- Works as a pharmacy tech and as an Uber driver
- Single mom with 3 children
- She reports being an emotional eater
- She's too tired to exercise
- Sleeps about 5-6 hours per night, snores loudly, always tired

## Diabetes since age 15.

- Has always been on insulin. Thinks she's type 2, but not sure
- Currently taking metformin 1000mg bid
  - Basaglar 60 units HS
  - Humalog 15u before meals.
- Glucose at home 80-200
- A1c: 7.2

## Other Medications

- Total insulin >100 units daily (causes **weight gain**)
- Paroxetine (can cause **weight gain**)
- Carvedilol (Beta blockers can cause **weight gain**)
- Famotidine
- Atorvastatin (can **worsen blood sugar**)

# Assessment and Plan

- Carbohydrate reduced diet (explained effects of carbohydrate intake and its effect on insulin needs and fat storage)
- Check labs for c-peptide, GAD-65 antibody
- Start semaglutide (GLP1-RA)
- Wean insulin to keep blood sugar <180
- Sleep evaluation
- “What is something you think you may be able to change to help you feel better?” Take 3-5 minutes every day to stretch, deep breathe, be mindful.

# One Month Later

- 1 month later
- Weight 312 (-16 pounds)
- Cut back carbs to 50-100gm/day
- Exercising more
- Happy with progress. Feels great about changes.
- Stopped all of her insulin!!
- Glucose usually 100-130. Occas high up to 190.

# 2 year trend (A1c 7.2 → 6.2 without insulin)



**BMI: 36?!**



# Weight Normative Approach



Weight

# Weight Normative Approach



# Weight Inclusive Approach



Health  
and  
Wellbeing



# Weight Inclusive Approach



The New York Times

# Why Do Obese Patients Get Worse Care? Many Doctors Don't See Past the Fat

teenVOGUE STYLE POLITICS CULTURE IDENTITY SUMMIT  
GETTY IMAGES

Health

## What It's Like to Go to the Doctor When You're Fat

EXPLORE Health

HOME > WEIGHT LOSS

# Are You Afraid to Go to the Doctor Because You're Fat?

Does stepping on the scale in front of your doc give you a panic attack? Learn how to fight size discrimination in the doctor's office.

VICE

Identity

## How to Find a Fat-Positive Doctor Who Won't Just Tell You to Lose Weight

In many doctors' opinions, weight loss is the only treatment for fat patients regardless of their health concerns, as though the answers to our problems are written all over our bodies. But I have the right to be fat and healthy.

By Charlotte Zoller


SELF Fitness Food Health Love Beauty Culture

Health | June 26, 2018

## Weight Stigma Kept Me Out Of Doctors' Offices for Almost a Decade

Please believe patients when they say fat bias happens.

By Your Fat Friend



**BODY WORK** Johanna Youngmans September 17, 2019 11:41 AM

## "Fat Shaming" Won't Solve Obesity. Science Might.

*A round up of 15 research papers and articles from Michigan Medicine proving why the treatment for obesity can't adopt a "one size fits all" approach.*

EXPLORE SHAPE

SHAPE.COM > LIFESTYLE > MIND AND BODY

# I Was Fat Shamed By My Doctor and Now I'm Hesitant to Go Back

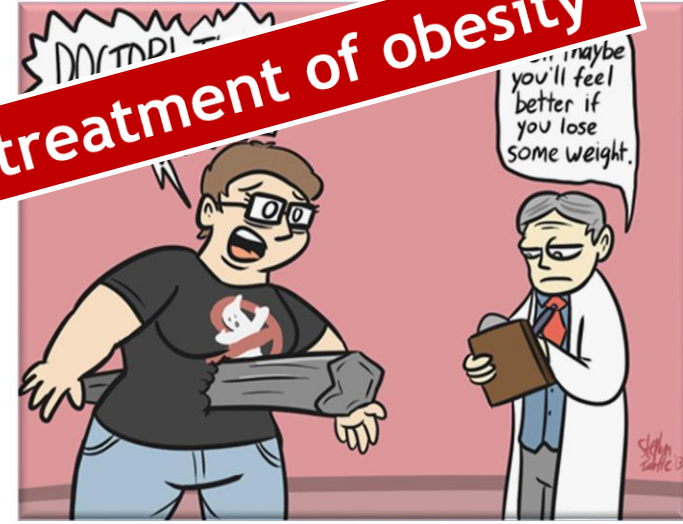
Sizeism in the medical community, which can lead doctors to fixate on a patient's weight, doesn't cause psychological trauma, but potentially misdiagnosis. Here, one woman shares her story of what it's like to feel bullied by your own doc.

## How Obesity Bias/Stigma Affects Behavior

- 79% reported coping on multiple occasions by eating more food<sup>1</sup>
- 75% reported coping by refusing to diet<sup>1</sup>
- More frequent binge eating and refusal to diet
- More likely to avoid exercise<sup>3</sup>
- Less likely to seek preventive care<sup>4</sup>
- If feel judged, less likely to lose weight<sup>5</sup>

**Blame and Shame have no place in the treatment of obesity**

...more likely to visit the emergency room...  
but no more likely to be hospitalized<sup>6</sup>



1. Puhl RM, Brownell KD. Confronting and coping with weight stigma: an investigation of overweight and obese adults. *Obesity* (Silver Spring) 2006;14(10):1802-1815 [PubMed]
2. Puhl RM, Moss-Racusin CA, Schwartz MB. Internalization of weight bias: implications for binge eating and emotional well-being. *Obesity* (Silver Spring) 2007;15(1):19-23 [PubMed]
3. Vartanian LR, Shaprow JG. Effects of weight stigma on exercise motivation and behavior: a preliminary investigation among college-aged females. *J Health Psychol* 2008;13(1):131-138 [PubMed]
4. Amy NK, Aalborg A, Lyons P, Keranen L. Barriers to routine gynecological cancer screening for White and African-American obese women. *Int J Obes (Lond)* 2006;30:147-155. [PubMed]
5. Gudzone KA, Bennett WL, Cooper LA, Bleich SN. Perceived judgment about weight can negatively influence weight loss: a cross-sectional study of overweight and obese patients. *Prev Med*. 2014;62:103-107. [PMC free article] [PubMed]
6. Gudzone K.A., Bleich, S.N., Richards, T.M., Weiner, J.P., Hodges, K. and Clark, J.M. (2013), Doctor shopping by overweight and obese patients is associated with increased healthcare utilization. *Obesity*, 21: 1328-1334. <https://doi.org/10.1002/oby>

# People First Language

- A 45 year old, obese male with diabetes and colon cancer...
  - A 45 year old, cancerous male with obesity and diabetes...
  - A 45 year old male with obesity, diabetes, and colon cancer...
- Put the person before the disability or diagnosis.
- It is what the person has, not what the person is.

**Obesity is a disease. It doesn't define people**

# Treatment Options



## Lifestyle and Behavioral Changes

Support, structure, accountability  
Nutrition (Main focus is to avoid foods that spike insulin levels)  
Sleep  
Stress  
Movement/Activity



## Medications (be aware of obesogenic medications)



## Surgery and Procedures

Losing just 5% of weight shows significant health benefits!



# Nutrition

Eat real food

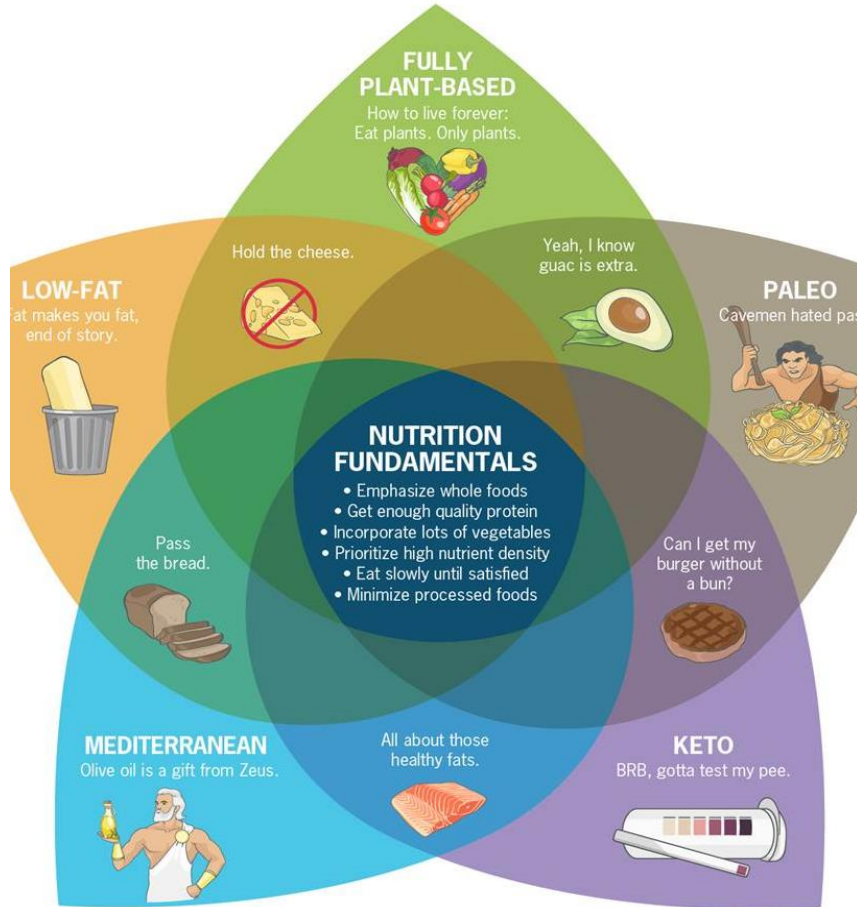
Prioritize protein

Control carbs

Don't fear fat

Minimize processed foods

Avoid Sugary Drinks



# How much sugar is in your blood stream now?

- If you have a normal blood sugar and could take all the sugar out of your blood and put it into a container? How much would you have?



**1 Teaspoon!**



## How much sugar is in that?

Sugar:  
4 grams = 1 teaspoon

65 g = 16.25 tsp.



20 fl oz

69 g = 17.25 tsp.



20 fl oz

74 g = 18.5 tsp.



20 fl oz

77.5 g = 19.3 tsp.



20 fl oz

50 g = 12.5 tsp.



20 fl oz

50 g = 12.5 tsp.



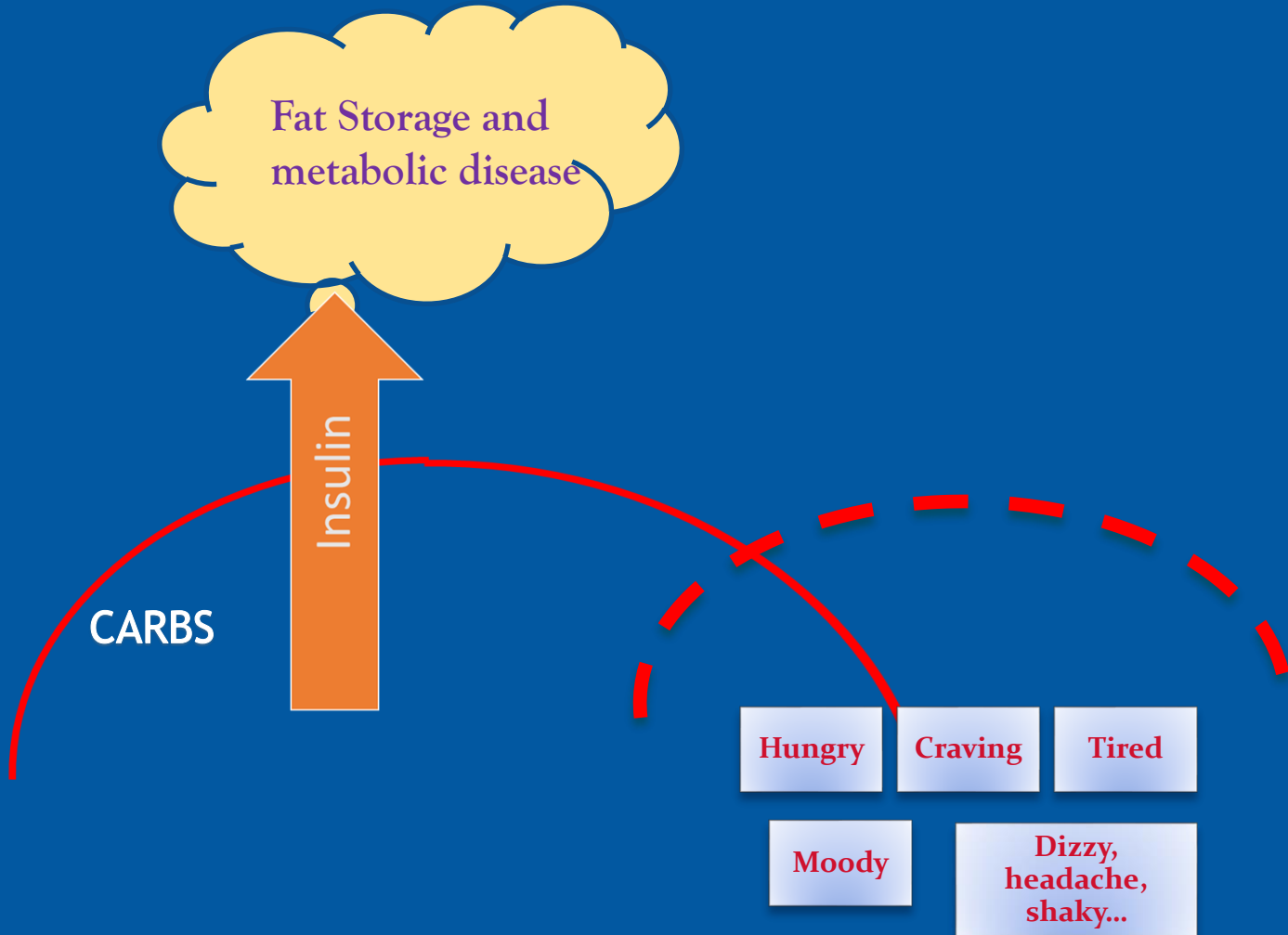
16 fl oz

41 g = 10.25 tsp.



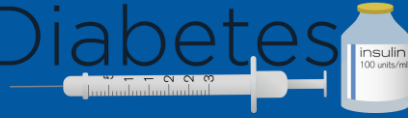
20 fl oz



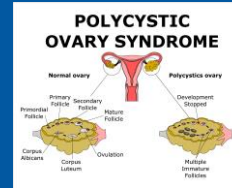
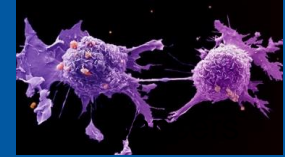
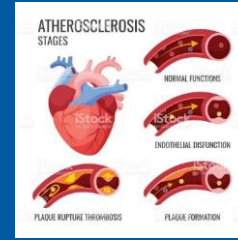


# Insulin

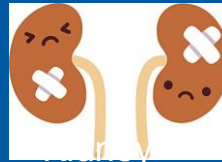
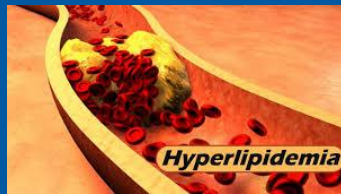
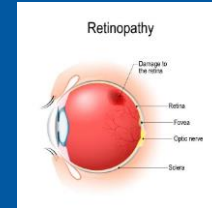
# Diabetes



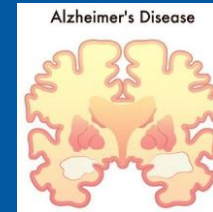
Fat Storage and metabolic disease



Fatty Liver



disease



Fat Storage and  
metabolic disease

Fat doesn't need insulin

You can use it for energy

No ups and downs of blood sugar driving appetite

Feel more satisfied

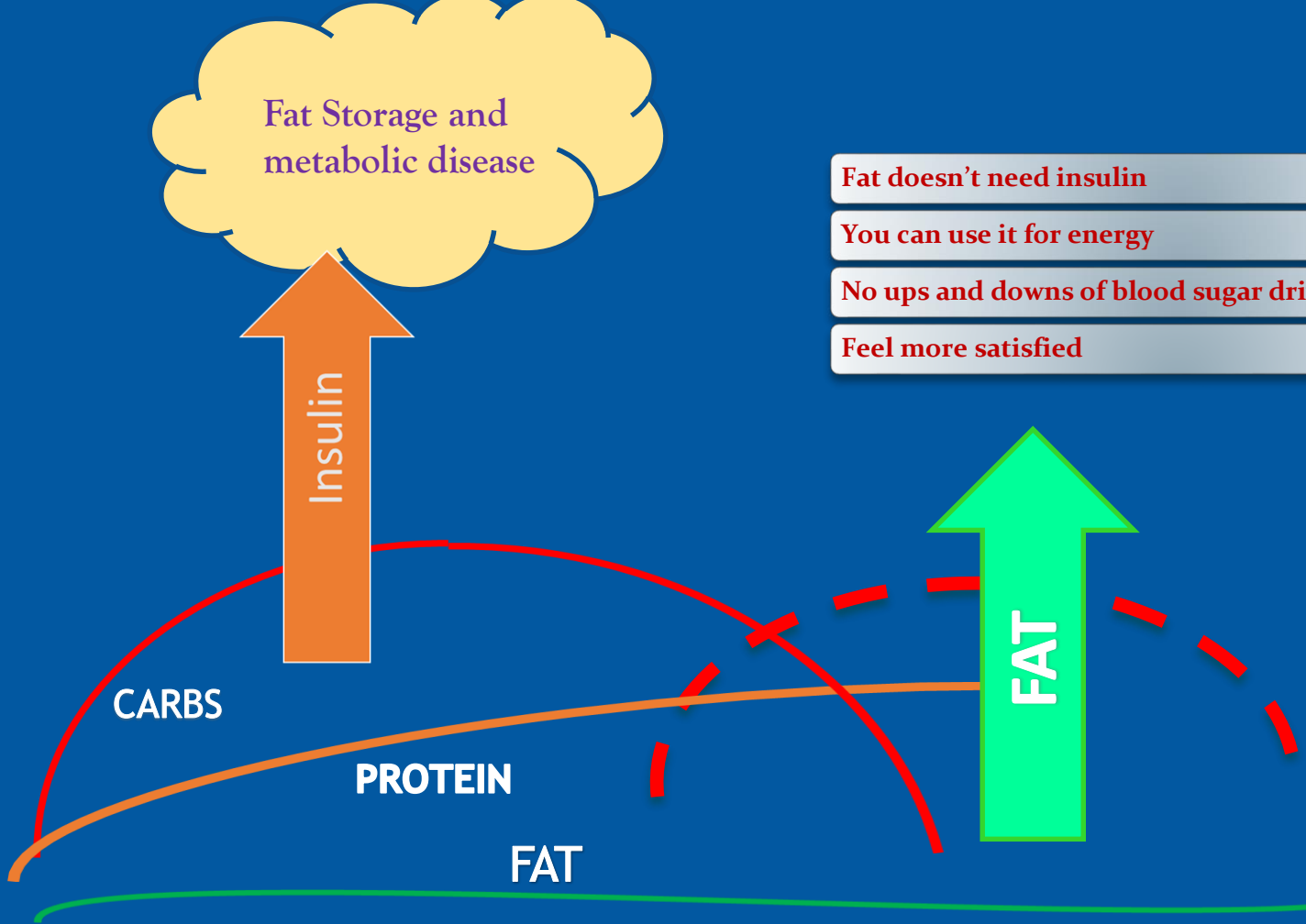
Insulin

CARBS

PROTEIN

FAT

FAT





Keep  
Insulin Low

## Dietary Intake

- Low Carbohydrates
- Moderate Protein
- Fat for fullness and flavor

## Timing of Intake

- 2-3 Meals per day
- Avoid Snacking
- Intermittent Fasting

# What to Eat



# What to Avoid



Used with permission: [www.Dietdoctor.com](http://www.Dietdoctor.com)



## Medications



 ADAM.

# Antiobesity Medications: General Principles

Not Magic. Tool to use to help make or maintain lifestyle changes

People lose more weight and maintain longer if add medications to lifestyle

Goal: 5-10% of body weight in 3-6 months and maintain 3-5%

- Consider adjustment or alternate if goal not met

Use medications long term

- People often regain weight when stopped




Avoid in pregnancy (especially topiramate)



# Medications

Optimize current meds first: Discuss insulin, antidepressants, antiseizure meds, antipsychotic, depo-provera, etc



Medication	How it works	Weight Loss	Common Side Effects/Considerations/cost
<b>Contrave</b> <b>(Naltrexone/bupropion)</b> Gradually increase to 2 tabs twice daily	Opiate blocker/ Dopaminergic antidepressant. Works on dopamine reward center.	++	Nausea if sensitive Blocks narcotic/opiate absorption  <i>Coupon card: Around \$95/month without insurance</i>
<b>QSymia</b> <b>(Phentermine/topiramate)</b> 1 pill daily. 4 different doses	Stimulant/ Seizure/migraine med. Decreases appetite	+++	Taste changes, numbness in fingers, vision changes, fogginess. Fetal deformity (must be on birth control if childbearing age) <i>Coupon card: around \$135/month without insurance</i>
 <b>Saxenda (Liraglutide)</b> Injection once daily (Start 0.6mg and increase by 0.6mg every week until max 3.0mg/daily)	GLP1 Agonist Decreases appetite, Increases satiety Slows gastric emptying. Modulates insulin	+++	Nausea, vomiting, GERD, bowel changes. Rare risk for pancreatitis or thyroid cancer  <i>Other GLP1s. Off label</i> Ozempic, Victoza, Trulicity, Bydureon, Rybelsus \$700-\$1200/month
 <b>Phentermine</b> 8mg and 37.5mg tabs 15, 30, 37.5mg caps	Stimulant, reduces appetite, feel full more quickly FDA approved for 12 weeks, but generally prescribed long term off label.	+++	Dry Mouth, constipation. Revved up, palpitations, anxiety, insomnia. Caution with heart disease, HTN. Generic: Usually <\$15/month with coupon Coupon for generic meds: <a href="http://www.goodrx.com">www.goodrx.com</a> ,
<b>Alli/Xenical (Orlistat)</b> 1 cap before meals	Blocks fat absorption No effect on appetite	+	Loose, oily stool, possible leaking stool OTC
 <b>Metformin (off label)</b> 500-2000mg daily	Decreases hepatic glucose production. Improves insulin resistance. Delays onset of full diabetes	+/-	Diarrhea, cramps (better over time) Insurance copay or free at <a href="http://ShopRite">ShopRite</a>
 <b>Plenity</b> <b>Suberabsorbant hydrogel</b> <b>particles</b> 3 Capsules BID with 16oz water	Increase volume of ingested food Increased satiety	??	Cramping, diarrhea. Similar to placebo Contraindicated if hx GI surgery, bowel obstruction  Only available online

## Off-Label Long-Term Use of Phentermine

- Phentermine is the most widely prescribed weight loss medication
  - It is not approved for long-term use
  - No long-term controlled safety and efficacy data
- Reasonable for clinicians to prescribe phentermine long term providing the patient:
  1. Has no evidence of serious CVD
  2. Does not have serious psychiatric disease or history of substance abuse
  3. Knows that other weight-loss medications have documented efficacy and safety for long-term treatment and phentermine does not
  4. Does not demonstrate a clinically significant increase in pulse or BP while on phentermine
  5. Demonstrates significant weight loss while on phentermine
- Start at 7.5 or 15 mg QD
  - Increase only if no clinically significant weight loss
  - Follow patient at least monthly during escalation, at least every 3 months when on stable dose



**Dr. Fisher's**  
Medical Weight Loss  
& Aesthetic Centers

**FREE Resources** **Book Appointment**

161 Bustleton Pike  
Feasterville, PA 19053  
**Call: (215) 987-4315**  
more locations here...

[About](#) [Weight Loss](#) [Body Shaping](#) [Beautiful Legs](#) [Skin Care](#) [Success Stories](#) [Reviews](#) [Gallery](#) [FREE Resources](#) [Blog](#) [Contact Us](#)

[Home](#)

[Follow us on Facebook!](#)

[Get our latest Tweets!](#)

[Member Login](#)

[Weight Loss](#) [Non-Surgical Body Shaping](#) | [Dr Jon Fisher](#) | [Philadelphia Weight Loss](#) [Beautiful Smooth Legs Program at your Philly Aesthetic Center](#)



## Lose Weight Fast and Keep It Off...

- Medically Proven Program
- FDA Approved Appetite Suppressants
- Diet Shots & Fat Burning Injections
- Dietician Developed Meal Plans
- NO Packaged Meals to Buy
- Free EZDietPlanner™ App & Community
- Plans for Adults and Children

**It's Not a Diet, It's a Way of Life!**

### Dr. Fisher's Program



### Enjoy Real Foods



### Free Online Tools



**EZDiet Planner & FITNESS TRACKER**  
*with your doctor's approval*

- Plan your meals
- Track your progress
- Connect with others
- Stay focused on your goals

### Success Stories



### Learn About Dr. Fisher's Weight Loss and Body Shaping Programs



### Success Stories



### Book an Appointment

Click here now to use our online appointment scheduler



### NEW Online Tools & App



**EZDiet Planner & FITNESS TRACKER**  
*with your doctor's approval*

- Plan your meals
- Track your progress
- Connect with others
- Stay focused on your goals

# Obesogenic Medications

	Weight Gain Potential	Weight Neutral/Loss Potential
Antidepressants	SSRI's (Paroxetine+++) TCA's Mirtazapine Lithium	Bupropion Nefazodone Newer SSRI's +/- Stimulants
Anti-Diabetic Medications	Insulin Sulfonylureas Thiazolidinediones	Metformin DPP4 Inhibitor GLP-1 Agonist SGLT2 Inhibitor
Antiepileptic Meds	Valproate Carbamazepine Gabapentin Pregabalin	Topiramate Lamotrigine Zonisamide
Antihistamines	Diphenhydramine	2 <sup>nd</sup> generation Antihistamines

# Obesogenic Medications (continued)

	Weight Gain Potential	Weight Neutral/Loss Potential
<b>Antihypertensives</b>	Older B-Blockers Atenolol Metoprolol	ACE-I/ARBs Diuretics CCB (can have edema) Newer B-Blockers
<b>Antipsychotic Meds</b>	Aripiprazole +/- Olanzapine Quetiapine Clozapine Risperidone Zotepine	Amisulpride Aripiprazole +/- Haloperidol Lurasidone Ziprasidone Cariprazine
<b>Contraceptive hormones</b>	Injectable/Implantable progestins	Combination pills +/- IUD
<b>Corticosteroids</b>	Oral/injectable corticosteroids	NSAID's Inhaled/Topical steroids Biologic agents/DMARD's
<b>Hypnotics/sleep meds</b>	Diphenhydramine	Other sleep meds (Trazodone, melatonin) Stimulus control Treatment of Obstructive Sleep Apnea



## Surgery and Procedures

Surgery: BMI > 40 or > 35 with comorbidity

Endoscopic BMI > 35 or > 30 with comorbidity

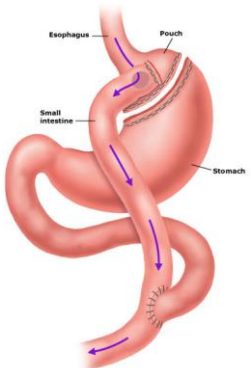
Lifelong vitamin and supplement use and monitoring

Tool not a cure. Still need lifestyle and medical management

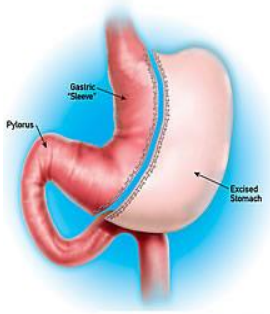
Can be life changing!

# Common Surgeries

Gastric Bypass



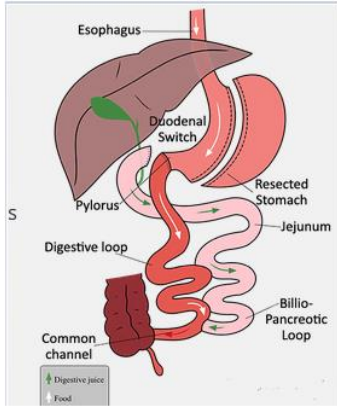
Sleeve Gastrectomy



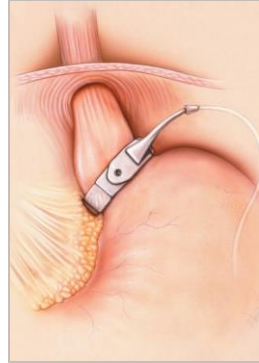
Duodenal Switch



SADI

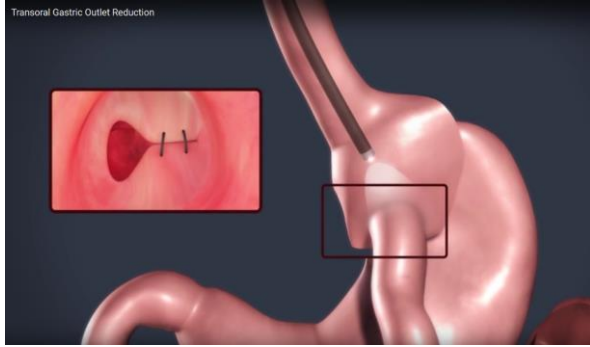


LAP-BAND

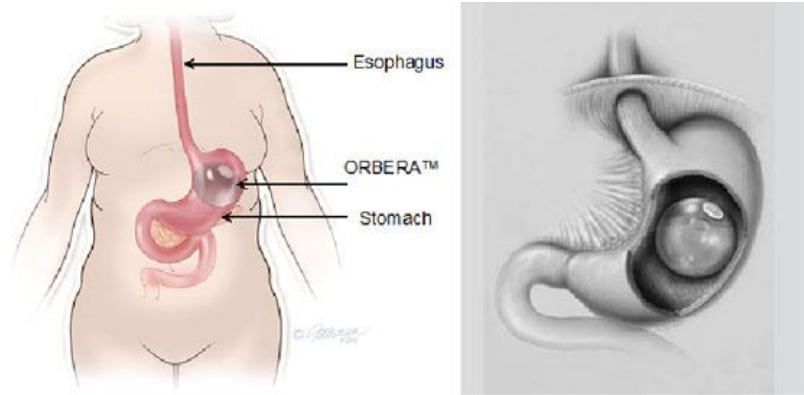


# Endoscopic Procedures

## Transoral Gastric Outlet Reduction



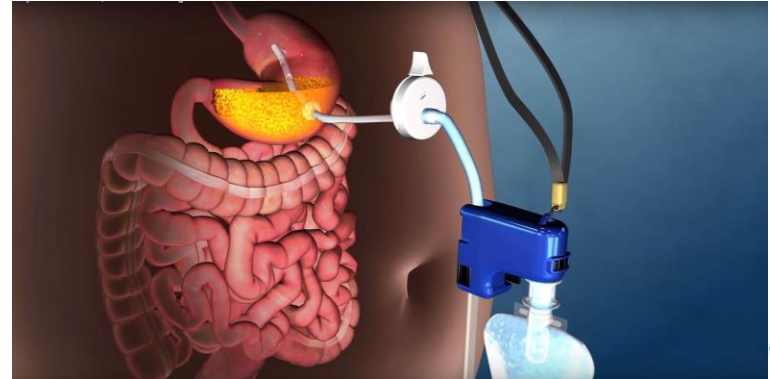
## Intragastric Balloons



## Endoscopic Sleeve Gastroplasty



## Aspire Assist





# Weight loss by intervention

Weight loss %	% of patients in behavior programs (WW, IBT) (Virta LCKD)	% of patients with surgery at 10 years <sup>3</sup>	% patients on liraglutide 3mg (Saxenda©) (Plus Bmod & MR)	% patients on semaglutide 2.4mg weekly <sup>1</sup> Phase III trial for obesity	% patients on phentermine/topiramate 15/92mg (Qsymia©)	% patients on bupropion/Naltrexone (Contrave©) (Plus Bmod)
> 5%	48% <sup>2</sup> (78%)	96.6%	63% (74%) <sup>5</sup>	90%	67%	42% (66%) <sup>4</sup>
> 10%	25% <sup>2</sup> (54%)		33% (52%) <sup>5</sup>	75%	47%	21% (41%) <sup>4</sup>
> 15%	12% <sup>5</sup>		(36%) <sup>5</sup>	56%	32%	10% (29%) <sup>4</sup>
> 20%	10% <sup>3</sup>	72%	6%	36%		
> 30%	4% <sup>3</sup>	40%				

1. Wadden T, Bailey TS, Billings LK, et al. Semaglutide 2.4 mg and Intensive Behavioral Therapy in Subjects with Overweight or Obesity (STEP 3). Presented at the 38<sup>th</sup> Annual Meeting of The Obesity Society (TOS) held at ObesityWeek®, November 2–6, 2020 [Oral o84].

2. Lancet. 2011 Oct 22; 378(9801): 1485–1492. 5. Obesity (Silver Spring). 2019 Jan; 27(1):75-86

3. JAMA Surg. 2016 Nov 1; 151(11):1046-1055.

4. Obesity (Silver Spring). 2011 Jan; 19(1): 110–120.

# Now what?

Do no harm

Approach all patients with empathy and respect

Remember that people are doing the best they can with what they have

You can make a dramatic impact on helping patients make meaningful changes

Losing just 5% of a patient's weight can have a significant effect on health.

There are safe, effective, science based treatments for weight and metabolic disease

# Resources

## The Obesity Medicine Association

- <https://obesitymedicine.org/>

## The Obesity Society

- <http://www.obesity.org/>

## The American Board of Obesity Medicine

- <https://www.abom.org/>

## Obesity Action Coalition

- <http://www.obesityaction.org/>

## Diet Doctor (CME on Carbohydrate Restricted Diets)

- <https://www.dietdoctor.com/cme>



# Thank You!



Janine V. Kyrillos, MD

Jefferson Weight and Metabolic Health at Bala

[Janine.Kyrillos@Jefferson.edu](mailto:Janine.Kyrillos@Jefferson.edu)