



Obesity Management in Primary Care: An Overview

Luz Fernandez, MD
KAFP meeting 09/16/2023

Disclosures

No financial disclosures-will discuss off label use of some meds



Learning Objectives

This presentation will attempt to summarize the best evidence available at this time for obesity management in adults in the fields of:

- 1. Nutrition**
- 2. Medication Management**
- 3. Procedures** (ex. Lap band, gastric bypass, gastric sleeve)
- 4. Exercise**

Biggest takeaway-a one size fits all approach will not work

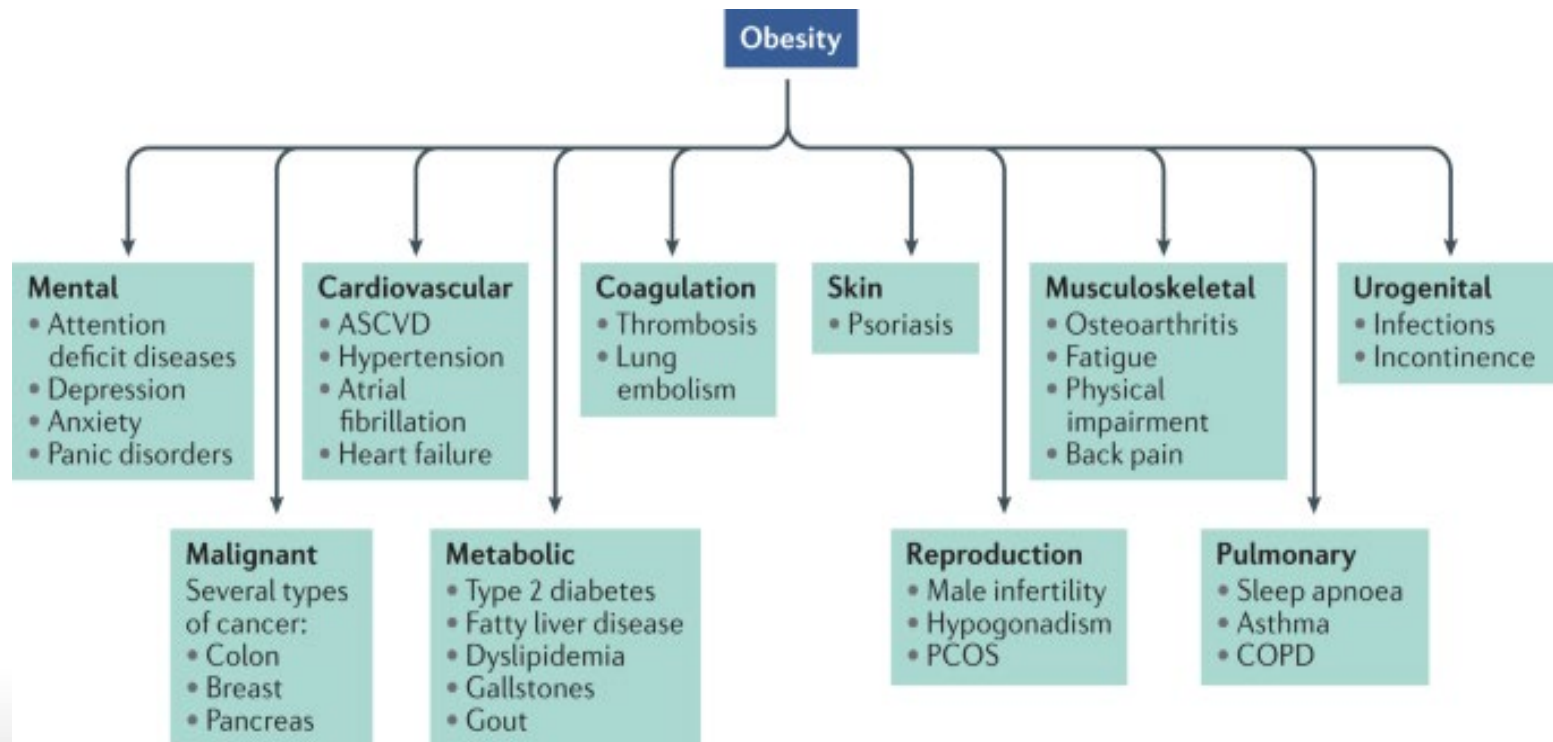
Table 1

Weight Classification by BMI

Classification	BMI (kg/m ²)
Underweight	<18.5
Normal weight	18.5-24.9
Overweight	25-29.9
Obese class I	30-34.9
Obese class II	35-39.9
Obese class III	≥40

Source: Reference 9.

Potential Consequences of Obesity



Behavior Change Model

Setting SMART goals

LOSE WEIGHT WITH S.M.A.R.T. GOALS!

<h1>S</h1> <p>S</p> <p>SPECIFIC</p> <p>I would like to lose 15 pounds in 3 months</p>	<h1>M</h1> <p>M</p> <p>MEASURABLE</p> <p>Dive further into your specifics</p>	<h1>A</h1> <p>A</p> <p>ACHIEVABLE</p> <p>Your goals must be realistic</p>	<h1>R</h1> <p>R</p> <p>RELEVANT</p> <p>Your goals should be your own</p>	<h1>T</h1> <p>T</p> <p>TIME-BOUND</p> <p>Give yourself a time frame</p>
---	---	---	--	---

Nutrition

<https://www.sciencedirect.com/science/article/pii/S0899900719301030>



KETO



PALEO



VEGETARIAN



VEGAN



MEDITERRANEAN



RAW



LOW CARB



NO SUGAR

WEIGHT LOSS DIETS HAVE THIS IN COMMON

CHOOSING THE MOST SUSTAINABLE METHOD TO ACHIEVE A CALORIE DEFICIT IS INCREDIBLY IMPORTANT.

DIET TYPE	RESTRICTS CARBS	RESTRICTS FATS	RESTRICTS FOOD GROUP(S)	RESTRICTS EATING WINDOW	CALORIE DEFICIT
KETO	✓		✓		✓
LOW FAT		✓			✓
INTERMITTENT FASTING				✓	✓
CARNIVORE	✓		✓		✓
PALEO			✓		✓
RAW FOOD			✓		✓
JUICE CLEANSE		✓	✓		✓
CALORIE RESTRICTION					✓



WEIGHT-LOSS DIETS



Factors of success:

- **Adherence**
- **Negative energy balance**
- **High-quality foods**



Manipulation of macronutrient content

Low-fat, High-fat,
High-protein, Low-carb

- Short-term: high-protein-low-carb (HP-LC) diets might present benefits
- HP-LC prescribed as jump-start with caution (adverse effects)
- Long-term: different ratio of macronutrients promotes similar weight loss (when associated with caloric restriction)

Manipulation of timing

Periodic fasting (5:2)
Alternate day fasting
Time-restricted feeding

- Some metabolic health benefits, but requires more evidence in humans
- May lead to over-eating
- Prescribed as jump-start with caution (adverse effects)
- Similar weight loss (when associated with caloric restriction)

Restriction of specific food and/or food group

Plant-based, Mediterranean,
Gluten-free, Paleo

Plant-based:

- Some evidence of success
- Requires further long-term studies
- Requires effective counseling and adequate nutritional supplementation

Mediterranean:

- Based on high-quality foods
- Evidence of weight loss in short- and long-term
- Strong-evidence of health and metabolic benefits

Gluten-free:

- Gluten: ↑ intestinal permeability, dysbiosis, and ↑ inflammation
- Obesogenic properties in humans require further studies

Paleo:

- Some evidence of success for weight-loss
- Requires further long-term studies to support health benefits
- Potential risk of nutritional deficiencies

Choosing a Nutrition Plan

Bottom Line

- [eat as many vegetables](#) as possible
- choose high-quality, nutritious whole foods and limit processed foods
- [prepare food themselves at home](#)
- avoid trans fats, added sugars, and refined carbohydrates
- Sustainable

Effect of Low-Fat vs Low-Carbohydrate Diet on 12-Month Weight Loss in Overweight Adults and the Association With Genotype Pattern or Insulin Secretion The DIETFITS Randomized Clinical Trial

file:///C:/Users/306838/Downloads/jama_gardner_2018_oi_180008.pdf



Medications: When to consider

FOR PATIENTS WITH A BODY MASS INDEX (BMI) ≥ 30 KG/M² OR BMI ≥ 27 KG/M² WITH WEIGHT-RELATED COMORBIDITIES:

- › CONSIDER ANTI-OBESITY PHARMACOTHERAPY WHEN NUTRITION, EXERCISE, AND BEHAVIOR MODIFICATION DO NOT PRODUCE SUFFICIENT WEIGHT LOSS. **A**
- › CONTINUE AN ANTI-OBESITY MEDICATION IF IT IS DEEMED EFFECTIVE AND WELL TOLERATED. **A**

STRENGTH OF RECOMMENDATION (SOR)

A GOOD-QUALITY PATIENT-ORIENTED EVIDENCE

B INCONSISTENT OR LIMITED-QUALITY PATIENT-ORIENTED EVIDENCE

C CONSENSUS, USUAL PRACTICE, OPINION, DISEASE-ORIENTED EVIDENCE, CASE SERIES

FDA-Approved Weight Loss Drugs



Medication Management

Weigh pros/cons

Alli/Orlistat

Phentermine

Metformin

Qsymia:Phentermine-topiramate

Plenity-

GLP-1 receptor agonists

Wellbutrin-bupropion

Contrave-bupropion/naltrexone



From The Journal of Family Practice | 2017;66(10):608-616



TABLE

Antiobesity medications: What to expect and who makes a good candidate^{9,14-39}

Medication	Mechanism, dosage, and available formulations	Trial and duration	Trial arms	Weight loss (%)	Most common adverse effects	Good candidates	Poor candidates
Phentermine (Adipex-P, ¹⁵ Ionamin, ¹⁶ Lomaira, ¹⁷ Suprenza ¹⁸) Schedule IV controlled substance NOTE: Approved for short-term use	Adrenergic agonist 8-37.5 mg/d Capsule, tablet	Aronne LJ, et al ¹⁹ 28 weeks	15 mg/d 7.5 mg/d Placebo (topiramate ER and phentermine/-topiramate ER arms excluded)	6.06* 5.45* 1.71	Dry mouth, insomnia, dizziness, irritability	Younger patients who need assistance with appetite suppression	Patients with uncontrolled hypertension, active or unstable coronary disease, hyperthyroidism, glaucoma, anxiety, insomnia, or patients who are generally sensitive to stimulants; patients with a history of drug abuse or recent MAOI use; patients who are pregnant
Orlistat (Alli, ²⁰ Xenical ²¹)	Lipase inhibitor 60-120 mg tid with meals Capsule	XENDOS ²² 208 weeks	120 mg tid Placebo	9.6 (Week 52)* 5.25 (Week 208)* 5.61 (Week 52) 2.71 (Week 208)	Fecal urgency, oily stool, flatus with discharge, fecal incontinence	Patients with hypercholesterolemia and/or constipation who can limit their intake of dietary fat	Patients with malabsorption syndromes or other GI conditions that predispose to GI upset/diarrhea; patients who cannot modify the fat content of their diets; patients who are pregnant
Phentermine/topiramate ER (Qsymia) ²³ Schedule IV controlled substance	Adrenergic agonist/neurostabilizer 3.75/23-15/92 mg/d Capsule	EQUIP ²⁴ 56 weeks CONQUER ²⁵ 56 weeks SEQUEL ²⁶ 108 weeks (52-week extension of CONQUER trial)	15/92 mg/d 3.75/23 mg/d Placebo 15/92 mg/d 7.5/46 mg/d Placebo 15/92 mg/d 7.5/46 mg/d Placebo	10.9* 5.1* 1.6 9.8* 7.8* 1.2 10.5* 9.3* 1.8 (Weeks 0-108)	Paresthesias, dizziness, dysgeusia, insomnia, constipation, dry mouth	Younger patients who need assistance with appetite suppression	Patients with uncontrolled hypertension, active or unstable coronary disease, hyperthyroidism, glaucoma, anxiety, insomnia, or patients who are generally sensitive to stimulants; patients with a history of drug abuse or recent MAOI use; patients with a history of nephrolithiasis; patients who are pregnant

TABLE

Antiobesity medications: What to expect and who makes a good candidate^{9,14-39} *continued*

Medication	Mechanism, dosage, and available formulations	Trial and duration	Trial arms	Weight loss (%)	Most common adverse effects	Good candidates	Poor candidates	
Lorcaserin (Belviq, Belviq XR) ²⁷ Schedule IV controlled substance	Serotonin 5-HT _{2C} receptor agonist 10 mg bid or 20 mg/d ER Tablet	BLOOM ²⁸ 52 weeks	10 mg bid Placebo	5.8* 2.2	Headache, dizziness, fatigue, nausea, dry mouth, constipation	Patients who report inadequate meal satiety	Patients on other serotonin modulating medications; patients with known cardiac valvular disease; patients who are pregnant	
		BLOSSOM ²⁹ 52 weeks	10 mg bid 10 mg/d Placebo	5.8* 4.7* 2.8				
		BLOOM-DM ³⁰ 52 weeks	10 mg bid 10 mg/d Placebo	4.5* 5.0* 1.5				
Naltrexone SR/bupropion SR (Contrave) ³¹	Opioid receptor antagonist/dopamine and norepinephrine reuptake inhibitor 8/90 mg/d-16/180 mg bid Tablet	COR-I ³² 56 weeks	16/180 mg bid 8/180 mg bid Placebo	6.1* 5.0* 1.3	Nausea, vomiting, constipation, headache, dizziness, insomnia, dry mouth	Patients who describe cravings for food and/or addictive behaviors related to food; patients who are trying to quit smoking, reduce alcohol intake, and/or have concomitant depression	Patients with uncontrolled hypertension, uncontrolled pain, recent MAOI use, history of seizures, or any condition that predisposes to seizure such as anorexia/bulimia nervosa, abrupt discontinuation of alcohol, benzodiazepines, barbiturates, or antiepileptic drugs; patients who are pregnant	
			COR-II ³³ 56 weeks	16/180 mg bid Placebo				6.4* 1.2
		COR-BMOD ³⁴ 56 weeks		16/180 mg bid Placebo				9.3* 5.1
			COR-DIABETES ³⁵ 56 weeks	16/180 mg bid Placebo				5.0* 1.8
Liraglutide 3 mg (Saxenda) ³⁶	GLP-1 receptor agonist 0.6-3 mg/d Prefilled pen for subcutaneous injection	SCALE Obesity and Prediabetes ³⁷ 56 weeks	3 mg/d Placebo	8.0* 2.6	Nausea, vomiting, diarrhea, constipation, dyspepsia, abdominal pain	Patients who report inadequate meal satiety, and/or have type 2 diabetes, prediabetes, or impaired glucose tolerance; patients requiring use of concomitant psychiatric medications	Patients with an aversion to needles, history of pancreatitis, personal or family history of medullary thyroid carcinoma, or multiple endocrine neoplasia syndrome type 2; patients who are pregnant	
			SCALE Diabetes ³⁸ 56 weeks	3 mg/d 1.8 mg/d Placebo				6* 4.7* 2
				SCALE Maintenance ³⁹ 56 weeks (after initial ≥5% weight loss with LCD)				3 mg/d Placebo

ER, extended release; GI, gastrointestinal; GLP-1, glucagon-like peptide-1; LCD, low-calorie diet; MAOI, monoamine oxidase inhibitor; XR, extended release.

**P*<.001 vs placebo.

Plenity

- indicated to treat overweight/obesity with BMI 25-40
- cellulose capsules: take 3 capsules with 16 oz of water 20 minutes before lunch and dinner

GLOW STUDY

~6/10

People who took Plenity lost at least 5% of their body weight.

Plenity responders lost on average 10% of their body weight.

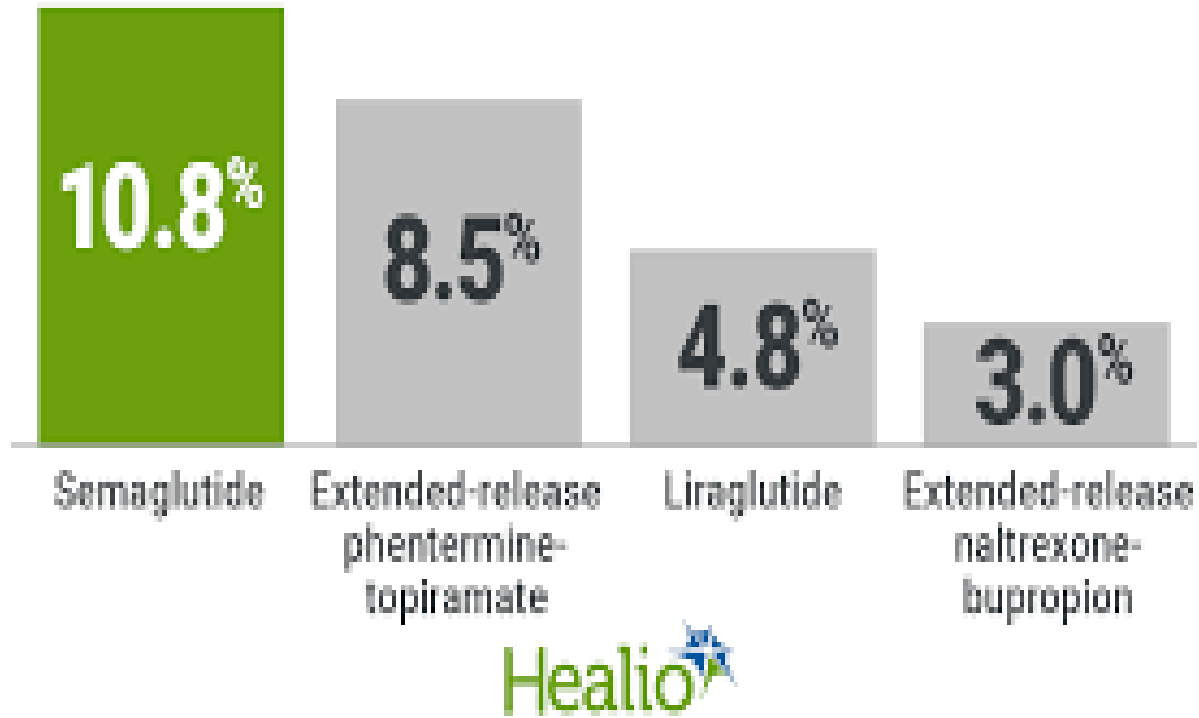
Average weight loss over 6 months was about 22 pounds.

most common side effects were fullness, bloating, flatulence, and/or abdominal pain.

Cost: \$98/month

<https://www.myplenity.com/about>

Most effective anti-obesity medications (by total body weight loss):



A Side-by-Side Comparison of Popular Weight Loss Drugs

	DOSAGE	DOSAGE FORM	SUITABLE FOR LONG-TERM USE	EFFICACY*
Metformin**	1-2 DAILY		YES	
Contrave*** (NALTREXONE/BUPROPION)	2 DAILY		YES	
Phentermine (ADIPEX-P)	1-3 DAILY		NO	
Diethylpropion	1-3 DAILY		NO	
Qsymia (PHENTERMINE/TOPIRAMATE ER)	1 DAILY		YES	
Saxenda (LIRAGLUTIDE)	1 DAILY		YES	
Wegovy (SEMAGLUTIDE)	1 WEEKLY		YES	
Tirzepatide** (MOUNJARO)	1 WEEKLY		YES	

* Efficacy isn't the whole picture when it comes to weight loss drugs. Having a choice of options allows you to find one that works best for you and your lifestyle.

** Currently only approved for Type 2 diabetes.

*** Dosing after initial titration.

Weight Loss Medication Pricing Chart

Medication	Average cost per month at full price in the US
Injectables (Wegovy & Ozempic) or Compounded versions	\$1,200-\$1,800 \$350-\$1,000
Phentermine	\$5-15
Diethylpropion	\$18-25
Contrave or Bupropion + Naltrexone	\$99 (w/ coupon) or \$500-\$615 \$20-30
Topamax (Topiramate)	\$5-35
Vyvanse (Lisdexamfetamine)	\$350-400

Disclaimer: these prices are estimates and may vary depending on factors such as location, pharmacy and insurance coverage

**as of August 2023*

Special Circumstances

Binge Eating Disorder: recurrent episodes of excessive food consumption accompanied by a sense of loss of control over the binge eating behavior without the inappropriate compensatory weight loss behaviors of bulimia nervosa.

FDA approved **lisdexamfetamine**

MOA: inhibits reuptake of dopamine and norepinephrine from the synaptic cleft and enhances the release of the Dopamine, Norepinephrine, and serotonin.

Rx: start at 30 mg dose, can titrate up to 70 mg dose. If no improvement after 12 weeks at maximum tolerated dose, stop med.

not for weight loss

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4841437/>

Setmelanotide

Only for certain genetic conditions causing obesity

FDA approved for use in adults and children 6 years of age and older with obesity due to:

The genetic conditions pro-opiomelanocortin (POMC), proprotein convertase subtilisin/kexin type 1 (PCSK1), or leptin receptor (LEPR) deficiency, and Bardet-Biedl syndrome (BBS)

MOA: Melanocortin-4 receptor agonist,

Must order an FDA-approved test to confirm POMC, PCSK1, or LEPR deficiency

- Potential side effects: **Depression, suicidal thoughts and behavior (26%)**
- **Problems with sexual function:** unplanned penile erections (23%)
- Darkening or discoloration of the skin (78%)
- Not recommended for use in pts with CKD

Uncovering Rare Obesity Program

Genetic Testing for Some Forms of Obesity



Eligibility: **≤18 yrs old** with a BMI in the **≥97th** percentile

Or

≥19 yrs old with a BMI **≥40**

and a history of childhood obesity

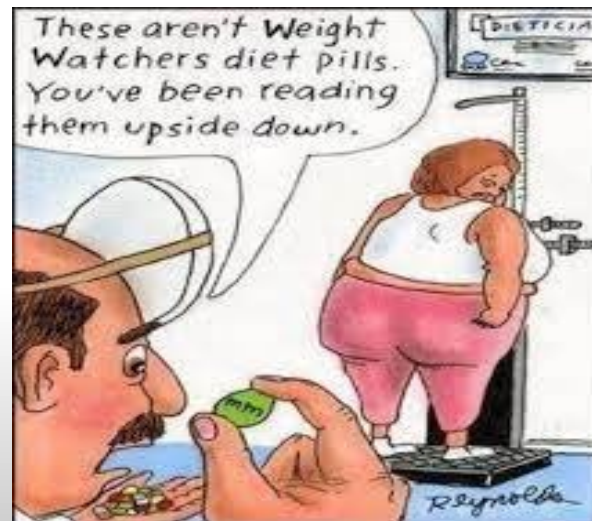
An immediate family member of select, previously tested patients
 Showing clinical symptoms that suggest Bardet-Biedl syndrome, as
 the test may help provide additional evidence to support diagnosis
https://uncoveringrareobesity.com/?gclid=EAlaIQobChMI7PjJwr-sgQMVph2tBh3tSQMJEAAYASAAEgLADvD_BwE&gclsrc=aw.ds

Bottom Line for Medication

Can be very efficacious—but do require foundation of lifestyle modifications

Shared decision making—risks and benefits

Account for comorbid conditions, insurance eligibility/coverage, and availability of medicine



Struggling to find a
weight loss program
that really works?



Weight loss Procedures

Criteria for consideration:

1. BMI of 40 or more
2. BMI of 35 or more with a serious health problem linked to obesity, such as type 2 diabetes, heart disease, or sleep apnea.
3. BMI of 30 or more with type 2 diabetes that is difficult to control with medical treatments and lifestyle changes

Typical Procedures offered:

Gastric banding

Gastric bypass

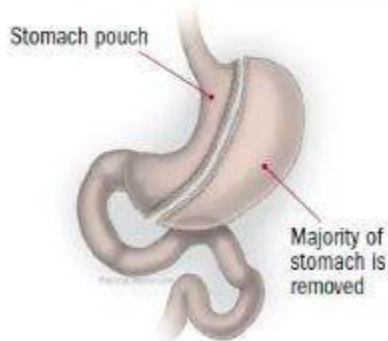
Gastric sleeve

Weight Loss Procedures

	Adjustable Gastric Band	Gastric Bypass	Sleeve Gastrectomy
Weight Loss	55 percent excess weight loss (5 years)	Rapid initial weight loss	Rapid initial weight loss
Length of Stay	Discharged same day as surgery	2.5 days	Three to four days
Recovery Time	Seven days	18 days	No data yet
Reversability	Band can be removed easily	Not easily reversed	Non-reversible
Nutrient Absorption	Not affected	Some minerals not easily absorbed	Not affected
Risks of Complications	Low	Moderate	17.1 percent experience had at least one complication



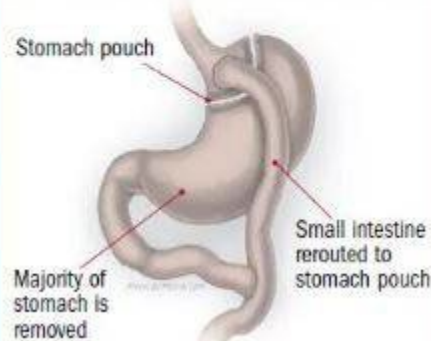
Weight-loss surgeries



▲ Gastric sleeve

Removes about 80% of the stomach, leaving a banana-shaped tube.

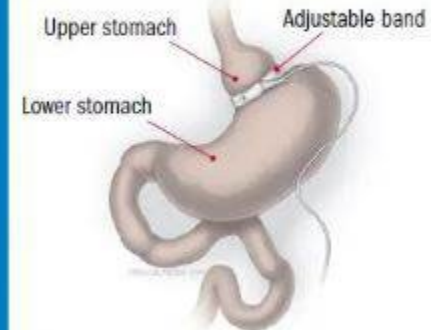
- Use expanded over the past 10 years; now accounts for about 70% of bariatric surgeries
- Less invasive than gastric bypass because small intestine is not cut
- Average excess weight loss: 50% to 60%



▲ Gastric bypass

Converts upper stomach into an egg-sized pouch; reroutes small intestine to the pouch.

- First done in the 1960s; long considered the gold-standard surgery
- Now increasingly replaced by the less invasive gastric sleeve procedure, but has the best results for both weight loss and improving type 2 diabetes
- Average excess weight loss: 60% to 70%



▲ Gastric banding

Restricts stomach size to a small upper chamber with an adjustable, beltlike band.

- FDA approved in 2001; popular for a decade or so; now rarely used
- Weight regain was very common, and device-related complications led to the removal of about one-third of the bands
- Unpredictable weight loss; some lost 40% of excess weight but others lost very little

Success Stories





Exercise Recommendations

How much activity do I need?

Moderate-intensity aerobic activity

Anything that gets your heart beating faster counts.

at least
150
minutes
a week

AND

Muscle-strengthening activity





Do activities that make your muscles work harder than usual.

at least
2
days
a week



Tight on time this week? **Start with just 5 minutes.** It all adds up!

*CDC recs

Goal	Time per Week	Type of Activity
 For good health	2 hours and 30 minutes	Moderate-intensity aerobic activity (i.e. brisk walking) every week and muscle-strengthening activities at least 2 days a week that work all major muscle groups*
	OR	
 For even better health or more weight loss	1 hour and 15 minutes	Vigorous intensity aerobic activity (i.e. jogging or running) every week and muscle-strengthening activities at least 2 days a week that work all major muscle groups*
	OR	
 For even better health or more weight loss	5 hours	Moderate-intensity aerobic activity (i.e. brisk walking) every week and muscle-strengthening activities at least 2 days a week that work all major muscle groups*
	OR	
 For even better health or more weight loss	2 hours and 30 minutes	Vigorous intensity aerobic activity (i.e. jogging or running) every week and muscle-strengthening activities at least 2 days a week that work all major muscle groups*

* All major muscle groups includes legs, hips, back, abdomen, chest, shoulders and arms.

Genetic Testing in Obesity

[Time Magazine Headline June 2023](#)

A New Genetic Test Could Determine
Which Weight Loss Drug Will Actually
Work For You

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4073883/>

<https://time.com/6290767/weight-loss-drug-genetic-test-ozempic-wegovy/>

<https://www.phenomixsciences.com/providers/clinical-research>

Phenotyping to Help with Weight loss

Acosta, A., Camilleri, M., Abu Dayyeh, B. (2021) Selection of Antiobesity Medications Based on Phenotypes Enhances Weight Loss: A Pragmatic Trial in an Obesity Clinic. *Obesity*, 29(4) 662-671. <https://doi.org/10.1002/oby.23120>.

Dr. Andres Acosta at the Mayo Clinic: 4 Phenotypes based on genetic factors:

- **Hungry Brain:** people who never feel full, rx: A low-calorie diet with more dietary fiber in a time
- **Hungry Gut:** those who eat until they're full but get hungry again within an hour or so, have accelerated gastric emptying in relation to lower postprandial concentrations of GLP-1, might benefit from a high protein diet with protein preloads to improve GLP-1.
- **Emotional Hungry:** those who eat to reward themselves or cope with emotional issues rather than based on physiological hunger, rx: behavioral intervention and mindfulness-based approaches
- **Slow Burn:** those whose metabolism makes it difficult for them to burn calories properly, rx: resistance training and muscle hypertrophy. low-carbohydrate, high-protein diets
- Developed MyPhenome saliva test, [Phenomix Sciences :: Double the effectiveness of weight-loss](#), \$349

Technology: Apps

Some popular apps to help with weight loss:

Myfitness pal

Noom

BetterMe

WW (former Weight Watchers)

LoseIt!

Waybetter

Dietbet

Stepbet



THE SPARK LIFE WAY



Ditch the diet



Find the fun



Mindfulness

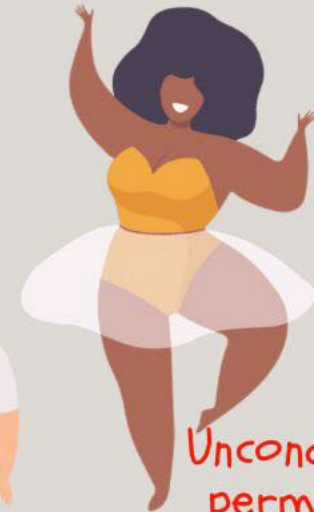
Self
compassion



Gentle nutrition



Social justice for all bodies



Unconditional
permission
to be me

Health at Every Size

lifestyle that encourages healthy eating and enjoyable physical activity as a way to feel better and live longer. Unlike other programs, it does not believe weight loss through dieting is the way to become healthy.

Tenants:

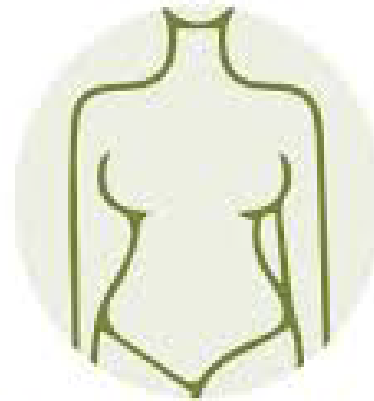
1. Size Inclusivity
2. Health Enhancement
3. Respectful Care
4. Eating for Well-being
5. Life-Enhancing Movement.



<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4386524/>

Focus on Health and Wellness

these patients were significantly less likely to report high trust in these providers.



21% of patients

with BMIs in the “overweight”
and “obese” ranges felt
that their doctor judged them
about their weight.

<https://pubmed.ncbi.nlm.nih.gov/25049164/>

Summary

- Treatment of overweight and obese patients should be patient centered
- Foundations of Nutrition, Exercise, Sleep, water must be sustainable
- Weight loss medications can be safe and efficacious for appropriately selected patients
- Mobile apps can help with accountability, calorie tracking, fitness tracking, meal planning, and CBT for weight loss
- Focus on health and wellness

HOW TO BURN 800 CALORIES



IN JUST 30 MINUTES