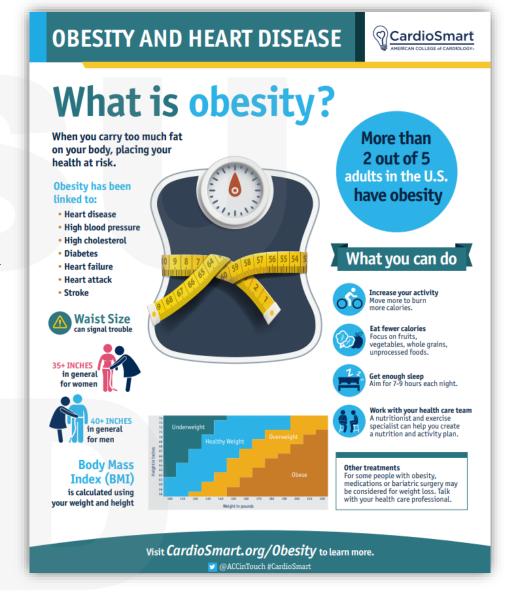


Objectives

- Understand new framework for accurate diagnosis of obesity
- Apply patient-centered strategies for comprehensive management of obesity
- Improve knowledge on non-pharmacologic and pharmacologic treatment for obesity
- Recognize indications for and risks/benefits of pharmacotherapy

Background

- Obesity (BMI ≥ 30) affects over 40% of women in the U.S.¹
- Obesity increases risk for cardiometabolic disease, sleep apnea, osteoarthritis, and multiple cancers
- Complex, chronic, multifactorial condition
 - Metabolic, hormonal, genetic, socioeconomic, neurobehavioral contributors²



- 1. Fryar CD, Carroll MD, Afful J. Prevalence of overweight, obesity, and severe obesity among adults aged 20 and over: United States, 1960–1962 through 2017–2018. NCHS Health E-Stats. 2020.
- 2. Keating MK, Woodruff RK, Saner EM. Management of Obesity: Office-Based Strategies. Am Fam Physician. 2024.

Obesity in Women

- Obesity disproportionately affects women, with those from ethnic/racial minorities and those living in poverty being more affected.
- Healthcare costs are higher for women with obesity as compared to men with obesity.
- Women with obesity experience more weight bias and stigmatization than men with obesity.
- Physiologic, societal, socio-economic, and interpersonal factors influence the development, progression, and persistence of obesity in women.
- Key stages of a woman's life when she is at risk of weight gain include adolescence, early adulthood, pre-conception, pregnancy, postpartum, mid-life, and older adulthood.
- PCOS is the most common endocrinopathy in women of reproductive age and is more common and severe in women with obesity.
- Maternal obesity contributes to infertility/subfertility, pregnancy complications, childhood obesity and has a negative impact on the health of the mother and her offspring.
- 8 Women with obesity have lower rates of breastfeeding intention, initiation, and duration.
- The hormonal changes that occur with menopause may increase the risk for excess weight gain and CV disease.
- Women with obesity are at higher risk of gynecologic cancers with endometrial cancer and post-menopausal breast cancer being the most notable. Data is limited for cervical, vulvar, and vaginal cancer, but screening is lower in women with obesity.

 Obesity Medicine Association Obesity Algorithm

Stages of a woman's life when she is at risk of weight gain:

Adolescence

- Puberty
- Social media

Early Adulthood

- · College
- · Establishing a career

Pre-conception

 Infertility treatments may contribute to weight gain

Pregnancy

Difficulty regulating weight gain

Postpartum

- Difficulty losing pregnancy weight
- Adjustment to parenthood and parenting
- Breastfeeding difficulties

Mid-Life

- Parenting, caring for aging parents
- Peri-menopause and menopause

Older Adulthood

- · Chronic health issues
- Disability

Weight bias

- Women and POC disproportionately affected
- Experience social devaluation and discrimination
- Bias and stigma worsen health!
- Healthcare providers are leading culprit in perpetuating weight bias

What can we do as clinicians?

- Talk about body size with trauma-informed and sensitive practices
- Focus on health outcomes and conditions rather than weight alone



Weight Bias in U.S. Adults

Weight bias is holding negative attitudes about people's weight or harming and shaming them because of their weight. Weight bias can exist in every aspect of life including employment, health care, education, media and someone's personal life.

Weight bias is prominent in the U.S.

90% of U.S. adults say it exists.1

42% of U.S. adults say they've experienced it.1

Weight shaming is actually bullying.

Studies show weight bias and shaming do not help people lose weight.4

46% of people who've experienced weight bias say it has impacted their ability to control their weight.1



Healthcare providers show weight bias.

In one study, physicians indicated that they would spend 28% less time with a patient with obesity than they would a patient of normal weight.3

10.3% of U.S. adults have experienced weight bias in healthcare.1





Weight bias also comes from family members.

In one study, 72% of respondents said they experienced weight bias from family members.²



Media surrounds us with negative images about weight.

Media is the number one area where adults who say they've been the subject of weight bias experienced it.1

Source: stopweightbias.com

A note on BMI

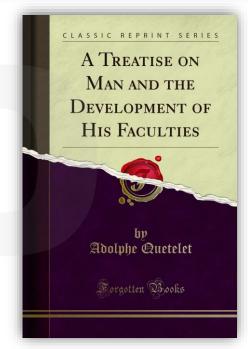
- Developed by Adolphe Quetelet, a Belgian mathematician, in his "Treatise on Man" publication in 1835
- Based on ideal body habitus of the Scottish Highland soldiers and French Gendarmerie

Therefore.... problematic

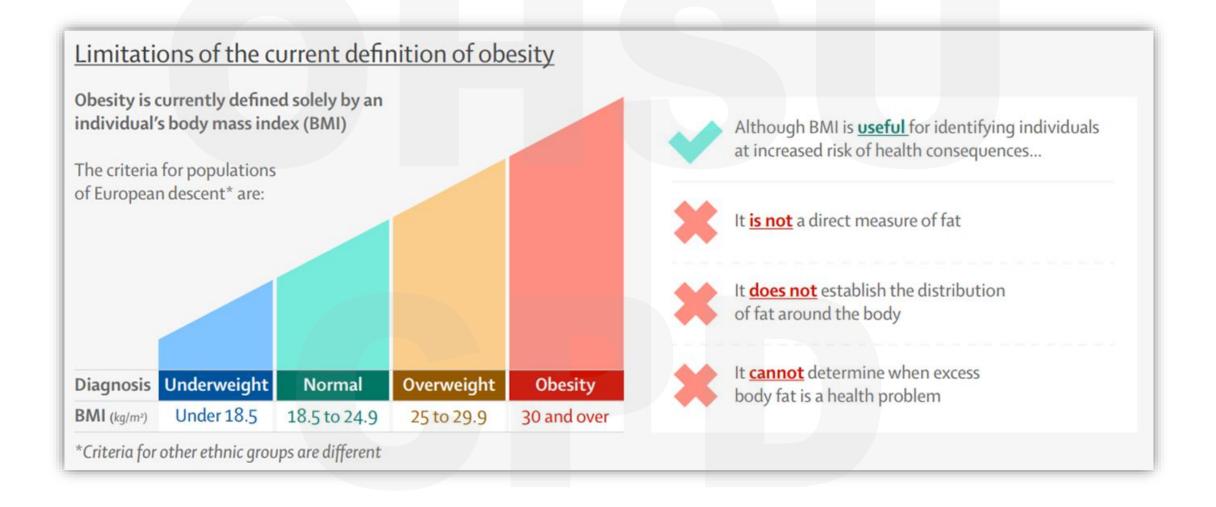
- Is still recommended as screening tool, but:
 - Does not distinguish between fat and lean mass
 - Notable variation across ethnic groups
 - Does not account for age related changes in body composition

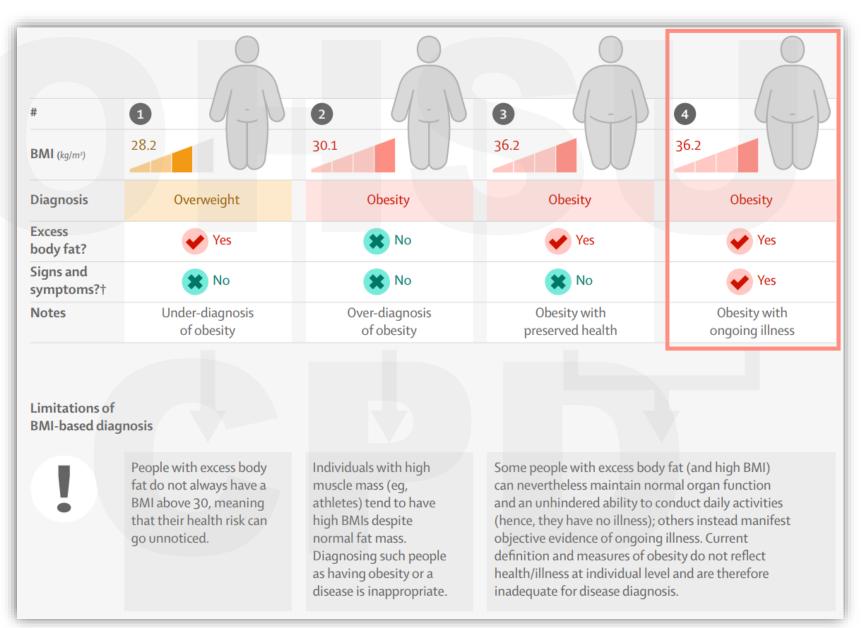


Source: Wikipedia



Changing the diagnostic framework





Rubino F, Cummings DE, Eckel RH, et al. Definition and diagnostic criteria of clinical obesity. Lancet Diabetes Endocrinol. 2025;13(3):221–262.

DIAGNOSING EXCESS BODY FAT



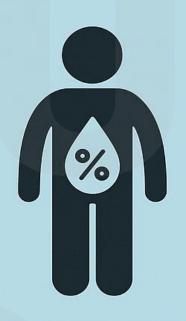
WAIST CIRCUMFERENCE

> >40 in (men) >35 in (women)

E >0.5

WAIST-TO-HEIGHT RATIO

>0.5

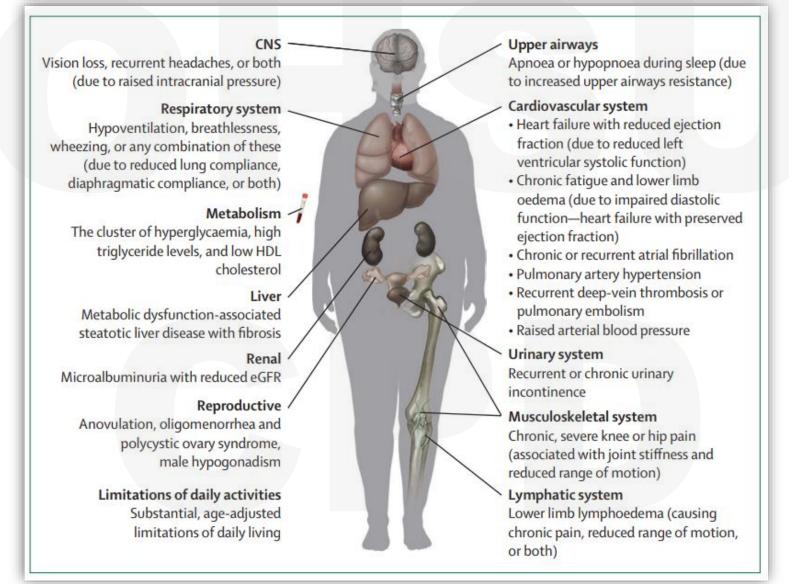


BODY FAT PERCENTAGE

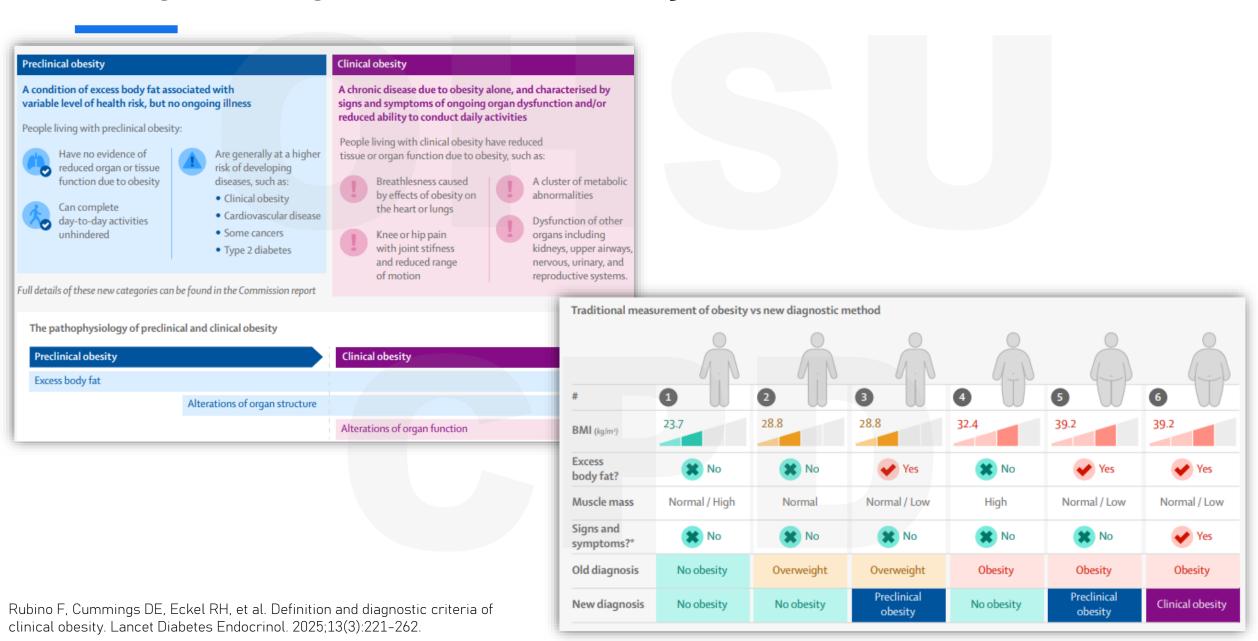
>25% (men)

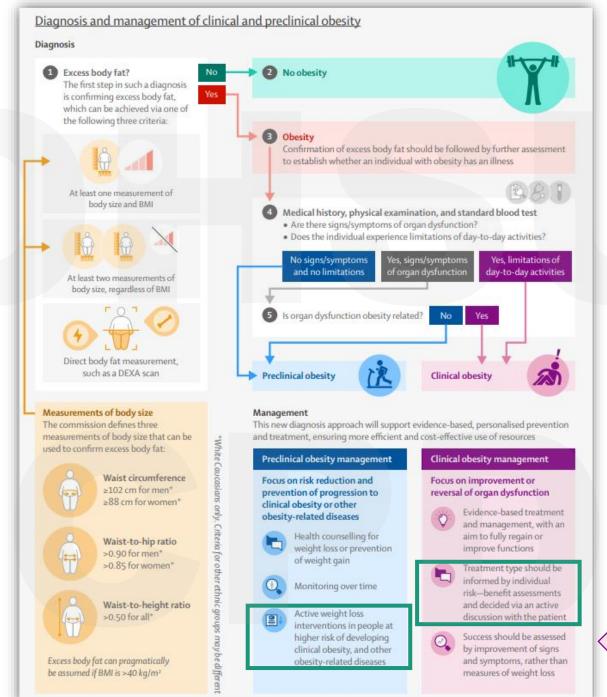
>32% (women)

Potential comorbidities



Diagnosing clinical obesity





Success should be assessed

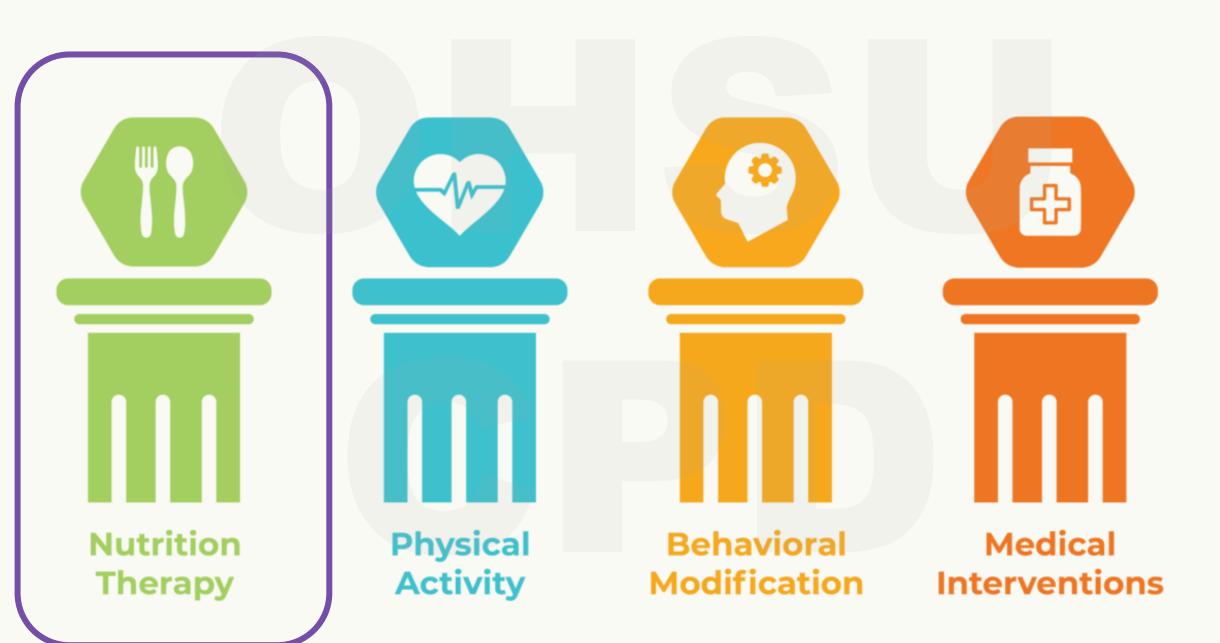
and symptoms, rather than

by improvement of signs

measures of weight loss

Rubino F, Cummings DE, Eckel RH, et al. Definition and diagnostic criteria of clinical obesity. Lancet Diabetes Endocrinol. 2025;13(3):221–262.

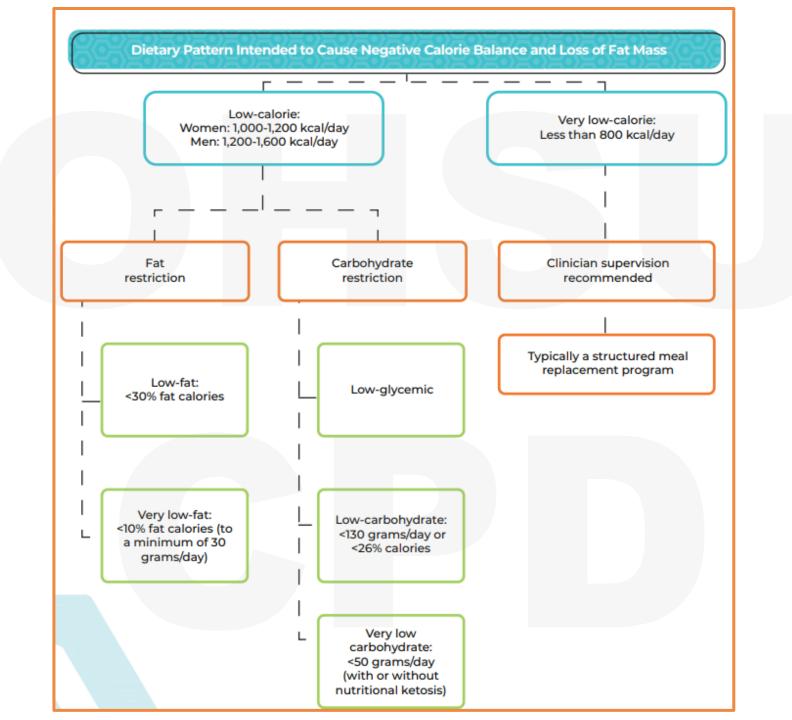
The Four Pillars of Obesity Treatment



- Health outcomes are most improved with nutrition therapy when the dietary interventions are evidence-based, quantitative, qualitative, and individualized to facilitate patient engagement and adherence.
- Proof composition, physiological, and psychological factors all influence the feelings of hunger, appetite, cravings, satiation, and satiety.
- Low calorie dietary patterns are ~ 1000 1200 kcal/day for women and 1200 1600 kcal/ day for men. Very low-calorie dietary pattern is generally < 800 kcal/day and should be medically supervised.
- Dietary protein is used for structural purposes in the body with a dietary reference intake (DRI) of 0.8 2.0 gram/kg/day depending on age, gender, physical activity, and overall health.
- Fat restricted dietary patterns are often defined as < 30% of total calories from fat per day.
- 6 Carbohydrate restricted dietary patterns diet is generally defined as < 26% of total calories from carbohydrates per day; a very low-carbohydrate ketogenic diet is generally < 50 grams of carbohydrates per day.
- 7 A caloric deficit improves cardiovascular disease risk more than isocaloric substitution of any carbohydrates or fats.
- A variety of dietary patterns may be used for nutrition therapy, including Mediterranean, DASH, vegetarian, ketogenic, and others.
- The recommended dietary fiber intake for adults is at least 25-30 grams per day for any dietary pattern.
- Fasting (alternative day, intermittent, or time-restricted eating) may contribute to overall caloric restriction and weight reduction.



Refer or work with a registered dietician if you can!!

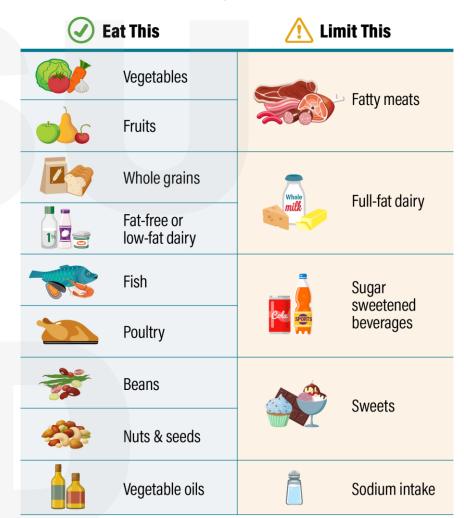


Nutrition approaches

- Mediterranean
- DASH (dietary approaches to stop hypertension)
- Therapeutic Lifestyle Change
- Ornish
- Vegetarian or vegan
- Paleolithic (Paleo)
- Ketogenic (modified Atkins)
- Intermittent fasting / time restricted eating
- Structured meal replacement programs

DASH Eating Plan

The Benefits: Lowers blood pressure & LDL "bad" cholesterol.

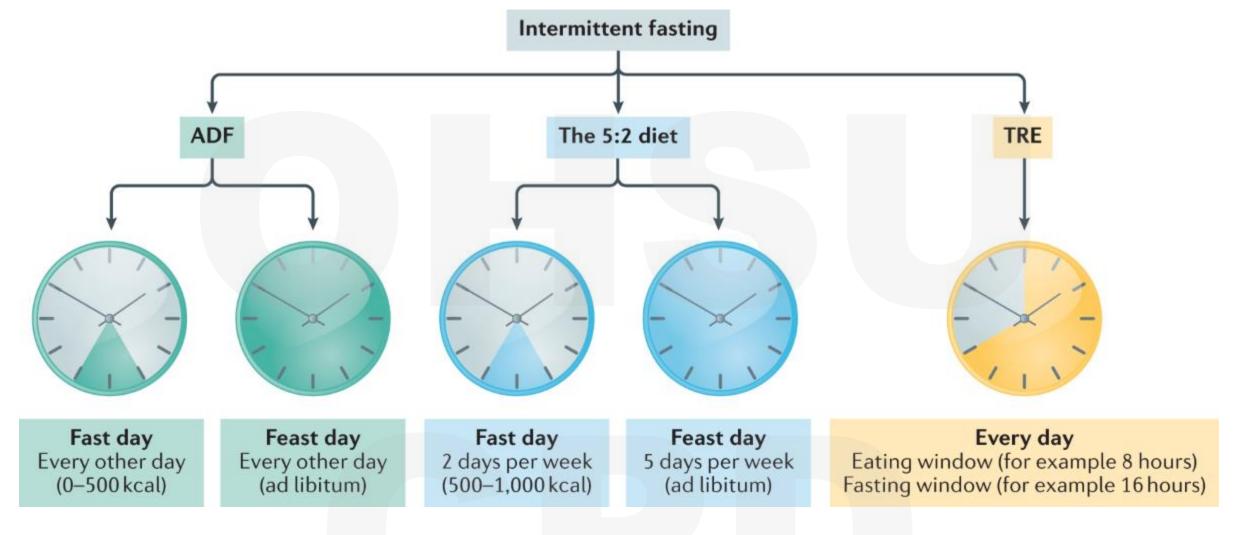


www.nhlbi.nih.gov/DASH









- Comparable in effectiveness to caloric restriction
- However, weight loss is greatest in first year, less sustained over time
- Recent metanalysis suggests alternate day fasting (ADF) might be best approach

Khalafi M, Maleki AH, Ehsanifar M, Symonds ME, Rosenkranz SK. Longer-term effects of intermittent fasting on body composition and cardiometabolic health in adults with overweight and obesity: A systematic review and meta-analysis. Obes Rev. 2025;26(2):e13855.

Image source: Varady, K.A., Cienfuegos, S., Ezpeleta, M. et al. Clinical application of intermittent fasting for weight loss: progress and future directions. Nat Rev Endocrinol 18, 309–321 (2022)

The Four Pillars of Obesity Treatment



Physical Activity Goals

[In addition to routine non-exercise activity thermogenesis (NEAT)]

5,000 (minimum) to over 10,000 steps per day and/or

150 to 300 minutes or more moderate-intensity aerobic activity per week or 75–150 minutes or more vigorous-intensity aerobic activity per week

Resistance training/ muscle strengthening at least two times a week





Obesity Medicine Association Obesity Algorithm ;Image sources: MDVIP, adobe stock

From American College of Sports Medicine

Moderate-intensity physical activity between 150-250 minutes per week

- Effectively prevents weight gain but provides only modest weight loss
- Improves weight loss with moderate diet restriction but not severe diet restriction



Moderate-intensity physical activity greater than 250 minutes per week

· Provides clinically significant weight loss and improves weight maintenance

Moderate intensity physical activity of 200-300 minutes (or more) per week

· Is recommended for weight maintenance after loss and prevention of weight regain

Resistance training does not enhance weight loss but may improve the proportion of fat to fat-free mass loss

Even without weight loss, both aerobic training and resistance training improve health risk

Non-exercise activity thermogenesis (NEAT)

- Calories burned during the day that are not structured exercise, eating or sleeping
- NEAT tips:
 - o Take stairs everywhere!
 - o Use a standing desk
 - o Carry a luggage bag
 - o Stand or walk during virtual calls
 - o Use a farther away bathroom
 - o Get off the bus one stop early



The Four Pillars of Obesity Treatment



Behavioral Modification

- Frameworks to help adopt healthier habits (nutrition, body movement)
- Best delivered as a part of a multidisciplinary team
- Can help with 5–10% of initial body weight loss within first year
- Maintenance is harder over 1 year, estimated 5% of sustained weight loss

5 A's Framework

 Ask, Assess, Advise, Agree, Assist: a patientcentered structure for engagement

Motivational Interviewing

 Help explore ambivalence, set goals, enhance internal motivation

SMART Goals

Help craft goals that are Specific,
 Measurable, Attainable, Realistic, and Timely

Self-Monitoring

Use of food logs, activity trackers, sleep diaries

Problem Solving

 Identifying barriers and brainstorming solutions in collaboration with patients

Cognitive Restructuring

 Challenging negative thought patterns around food, weight, and failure

Stimulus Control

Changing environmental triggers (ex. removing high-calorie snacks from view

Stress Management

 Incorporating coping techniques like mindfulness, deep breathing, or journaling

Sleep Optimization

 Poor sleep is associated with weight gain; aim for regular sleep hygiene

Relapse Prevention

 Normalize setbacks and prepare for highrisk situations ahead of time

Self-Monitoring Resources











Noom

- CBT-based lessons + coaching
- Strong focus on habit change
- · Cost: \$70/mo

MyFitness Pal

- Large food database
- Calorie + activity tracking
- Cost: Free or \$20/mo

Lose It!

- Simple calorie logging
- Visual progress tracking
- Cost: Free or \$40/year

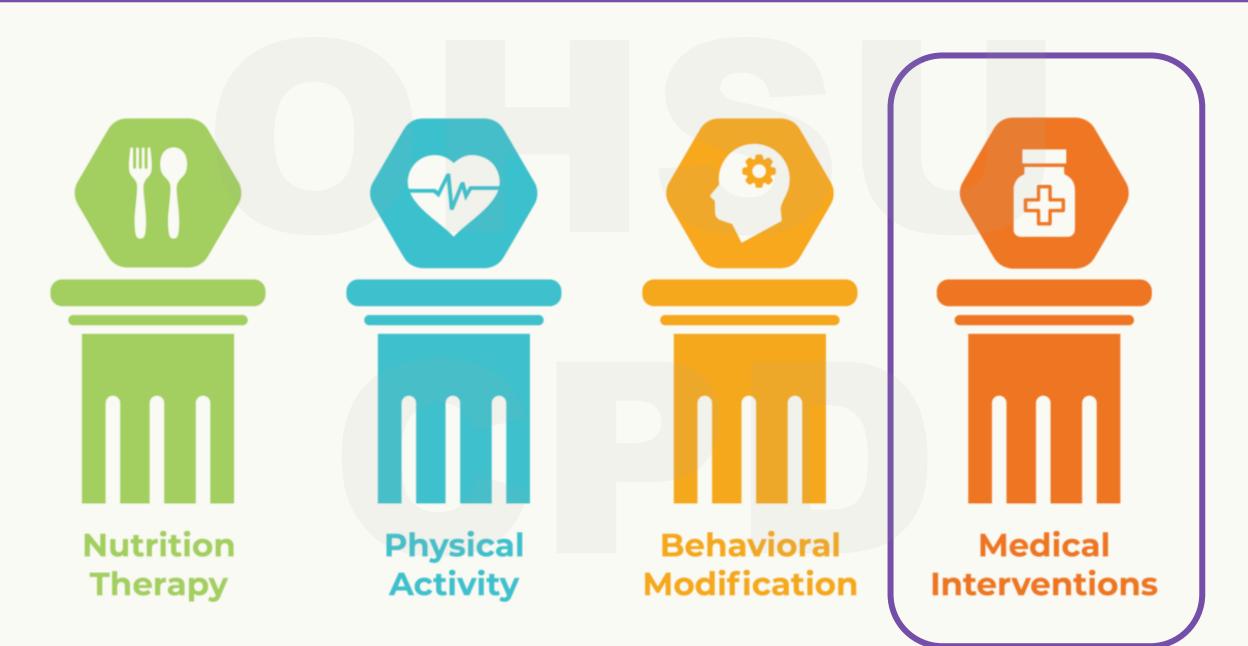
Foodsmart

- Personalized meal plans + grocery support
- Cost: Varies

WeightWatchers

- Points-based system
- Al enhanced food scanner
- Access to dieticians
- Cost: \$10-25/mo

The Four Pillars of Obesity Treatment



Pharmacotherapy vs Surgical Management?

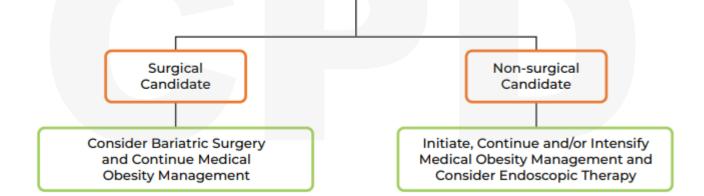
Does clinical evidence exist that the increase in body fat is pathogenic?

Did the patient make reasonable attempts to reduce body weight and improve health?

Was the patient evaluated by a clinician trained in comprehensive management of overweight and obesity (e.g., physician certified by the American Board of Obesity Medicine or provider credentialed in Advanced Education in Obesity Management)?

Does the patient demonstrate a commitment to follow post-operative recommendations, maintain necessary lifestyle changes and agree to life-long post-operative medical surveillance?

What are the specific insurance criteria that need to be met (e.g., documentation of prior unsuccessful weight loss attempts)?



Pharmacotherapy

PHARMACOTHERAPY

VS.

BARIATRIC SURGERY

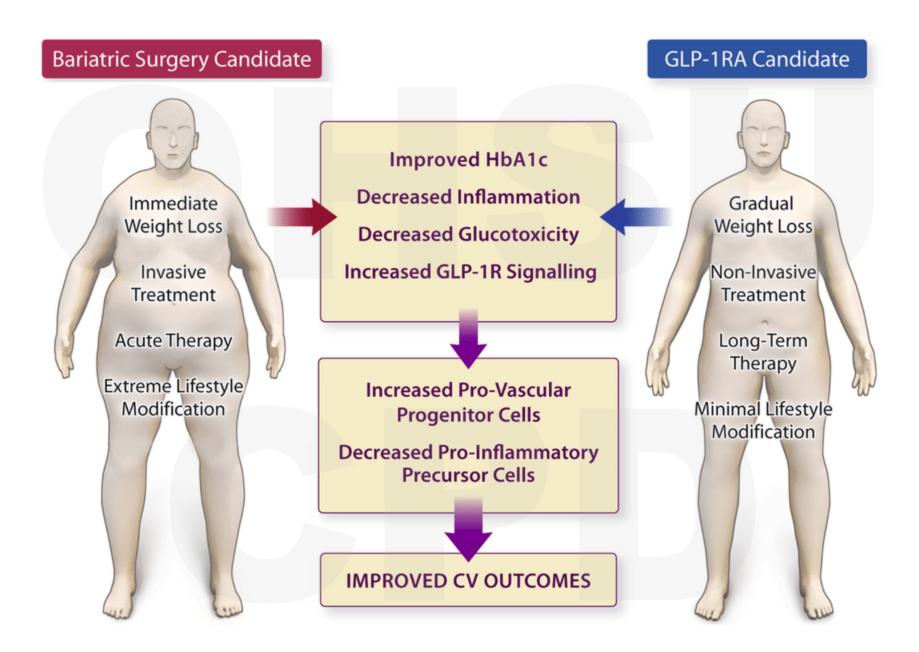


- BMI≥30 kg/m², or ≥27 kg/m² with ≥1 weight-related comorbidity
- Failed to achieve/maintain weight loss with lifestyle changes alone
- Prefers less invasive options
- Appropriate for long-term weight management
- May be adjunct to lifestyle change or bridge to surgery



- BMI ≥40 kg/m², or ≥35 kg/m² with ≥1 severe comorbidity (e.g., T2DM, OSA)
- Inadequate weight loss with lifestyle + pharmacotherapy
- Motivated and able to adhere to long-term follow-up and dietary changes
- Seeking substantial and durable weight loss
- May consider for BMI 30-34.9 kg/m² with T2DM





Bakbak E, Terenzi DC, Trac JZ, et al. Lessons from bariatric surgery: Can increased GLP-1 enhance vascular repair during cardiometabolic-based chronic disease?. Rev Endocr Metab Disord. 2021;22(4):1171-1188. doi:10.1007/s11154-021-09669-7

Pharmacotherapy

- Only 2.4% of patients are on pharmacotherapy for obesity
- The most effective treatment plans are multimodal including nutrition, exercise, behavioral and pharmacologic therapy
- While lifestyle modifications may convey a $\sim 5-10\%$ weight loss, an additional 10% is achievable with medication support
- Some medications may result in >20% body weight loss
- You should feel confident starting medication treatment for your patients!!

Medication	Mechanism / Class	Pros	Cons / Side Effects	Contraindications	Approx. Cost/month
Metformin	Biguanide antihyperglycemic	Some weight loss (1–3 kg); low cost; good for PCOS, prediabetes	GI upset, B12 deficiency (long-term use)	Renal dysfunction, acidosis risk	~\$10-20 (generic)
Phentermine	Sympathomimetic amine	Inexpensive; oral; short- term (12 weeks); 5-12% weight loss	Insomnia, dry mouth, constipation, tachycardia, † BP, restlessness	CVD, glaucoma, hyperthyroidism, MAOI use	~\$10
Orlistat (Xenical/Alli)	Lipase inhibitor	OTC option (Alli), long- term; ~5% weight loss	Oily stools, flatulence, fecal urgency; \(\psi \) fatsoluble vitamin absorption	Cholestasis, chronic malabsorption	\$50 (Alli) \$730 (Xenical)
Phentermine/Topiramate (Qsymia)	Sympathomimetic + antiepileptic	Greater weight loss (~10%); long-term option	Paresthesia, dizziness, insomnia, dysgeusia, teratogenicity	Glaucoma, hyperthyroidism, pregnancy	~\$170
Bupropion/Naltrexone (Contrave)	Dopamine/norepinephrine modulator + opioid antagonist	Targets cravings; long- term; 5-6% weight loss	Nausea, headache, insomnia, † BP, seizure risk	Seizure disorder, uncontrolled hypertension, opioid use	~\$200
Semaglutide (Wegovy)	GLP-1 receptor agonist	Best CV benefit; 15-16% weight loss	Nausea, vomiting, pancreatitis, gallbladder disease	Medullary thyroid cancer, MEN2, pancreatitis	~\$1,300
Tirzepatide (Zepbound)	Dual GLP-1 + GIP receptor agonist	Highest weight loss (22–23%); possible better GI tolerance	Nausea, diarrhea, vomiting, constipation, gallbladder issues	Medullary thyroid cancer, MEN2, pancreatitis	~\$1,000

Metformin



- Dose: Start 500 mg daily; titrate to 1,000–2,000 mg/day in divided doses
- Titration: Increase by 500 mg every 1–2 weeks as tolerated
- Effectiveness: Modest weight loss (~2-3 kg; ~2.5% BMI reduction)
- Best for: Patients with PCOS, prediabetes, insulin resistance
- Common Issues: GI upset, metallic taste, long-term B12 deficiency
- Notes: Often underutilized; low-cost option
- Cost: ~\$10-20/month (generic)

Phentermine

- Dose: 15-37.5 mg daily in the morning
- Titration: None typically; use lowest effective dose
- Effectiveness: 5–12% weight loss over 12 weeks
- Best for: Short-term appetite suppression, initial jump-start
- Common Issues: Insomnia, dry mouth, tachycardia, anxiety
- Contraindications: CVD, hyperthyroidism, MAOI use
- Cost: ~\$10/month (generic) use coupon code
- Pearls:
 - Often misused as a solo solution; should be part of a comprehensive plan
 - Can be a bridge to more intensive therapy or surgery



Phentermine + Topiramate

- Qsymia: 3.75 mg/23 mg daily × 14 days
 - Titration: Increase to 7.5 mg/46 mg; up to 15 mg/92 mg
 - Cost: ~\$170/month
- Separate generic prescriptions:
 - Phentermine: 15–37.5 mg once daily in the morning
 - Topiramate: Start 25 mg nightly
 - Titrate by 25 mg weekly to 50–100 mg daily as tolerated
 - Cost \$25-70/mo
- Effectiveness: ~9–11% weight loss at 1 year
- Best for: Patients needing potent oral therapy
- Common Issues: Cognitive fog, paresthesias, insomnia, teratogenicity
- Pearls:
 - One of the most effective oral options available
 - Topiramate component may help with binge eating, sleep



Orlistat (Xenical / Alli)

- Dose: 120 mg TID (prescription), 60 mg TID (OTC) with fat-containing meals
 - No titration needed
- Effectiveness: ~5% weight loss over 6–12 months
- Best for: Patients avoiding systemic drugs
- Common Issues: GI side effects (oily stools, urgency), vitamin malabsorption
- Cost: \$50-730/month
- Pearls:
 - Often overlooked due to side effects, but useful in select motivated patients
 - Needs strict low-fat diet to improve tolerability



Bupropion + Naltrexone

- Contrave (combo bupropion + naltrexone) Starting Dose: 1 tab (8/90 mg) daily
 - Titrate weekly to max 2 tabs
 - Cost: \$200/month
- Generic
 - Bupropion dose: 150 QD (either SR or XL formulation)
 - Titrate from 150 mg to 300 mg as tolerated
 - Naltrexone dose: 25 QD
 - Titrate from 25 to 50 mg as tolerated
 - Cost: \$20-60/mo
- Effectiveness: ~5–6% weight loss
- Best for: Emotional/stress eating, patients with concurrent depression
- Common Issues: Nausea, insomnia, headache ↑ BP; contraindicated in opiate use, seizure disorder, bipolar
- Pearls:
 - Unique for addressing reward pathways and cravings
 - Avoid in patients with high seizure risk or active substance use disorder





Semaglutide (Wegovy)

- Semaglutide: Start 0.25 mg SQ weekly
 - Titrate to 2.4 mg over 16–20 weeks
- Effectiveness: ~15% weight loss
- Best for: Cardiometabolic disease, long-term weight maintenance
- FDA approved for: Weight, diabetes type 2 (Ozempic), cardiovascular disease risk reduction
- Common Issues: GI side effects, gallbladder disease, cost
- Cost: ~\$1,300/month (brand only)
- Pearls:
 - Emphasize portion reduction to mitigate GI side effects
 - Watch for muscle loss. Encourage resistance training and protein intake (at least 60 g daily)
 - Long-term use required to maintain weight loss; regain common after discontinuation



Tirzepatide (Zepbound)

- Start: 2.5 mg SC weekly × 4 weeks
- Titration: Increase by 2.5 mg every 4 weeks to 15 mg max
- Effectiveness: ~21–23% weight loss over 72 weeks
- Best for: Profound weight loss in patients with or without diabetes
- FDA approved for: Weight, diabetes type 2 (Mounjaro), obstructive sleep apnea
- Common Issues: Nausea, diarrhea, constipation, cost
- Cost: ~\$1,000/month
- Pearls:
 - Most effective agent available short of bariatric surgery
 - Consider for patients who didn't respond to semaglutide
 - Counseling is key, often there is early dropout often due to GI effects and unrealistic expectations



How do I get insurance to pay for injectables?

- Only 18% of large employer insurance plans cover GLP1-A or GIP-RA for weight management
- If your patient has diabetes, likely will get covered under approved formulations for diabetes
 - Semaglutide: Wegovy = Ozempic
 - Tirzepatide: Zepbound = Mounjaro
- Medicaid in Oregon
 - Weight loss: No coverage
 - OSA: Possible with prior auth
 - Cardiovascular risk reduction: Possible with prior auth
- Medicare
 - Weight loss: No coverage
 - OSA: Not yet adopted
 - Cardiovascular risk reduction: Possible with prior auth for part D plans
- Can ask patient to apply for coupon / savings card but not available over long term

Direct pay options:

Manufacturers now have their own pharmacies where they ship directly to patients FSA/HSA accepted

Wegovy (semaglutide)

- Flat rate: \$499 for all strengths
- Prescriber process: Send prescription directly to NovoCare Pharmacy

Zepbound (tirzepatide)

- Available in single-dose vials (requires syringe draw-up)
- Pricing:
 - **2.5 mg**: \$349
 - 5, 7.5, 10 mg: \$499
 - 12.5 & 15 mg: Not available
- Prescriber process: Send prescription directly to LillyDirect Pharmacy



You pay \$499 per month^c of Wegovy[®]

No subscription necessary.

c28-day supply of Wegovy® is equivalent to 1 month of treatment.





Compounding pharmacies

- Many companies are offering compounded medications for cheaper than direct pay
- Pharmacy quality varies! Hard to verify safety.
- Previously permissible when tirzepatide and semaglutide were on FDA shortage list
- FDA determined that shortage has resolved for both tirzepatide and semaglutide
- Some companies continue to compound along with another additive (B12, glycine, niacinamide)
- Your patients are using these services, may ask you about these services or ask you to take over prescribing to the compounding pharmacy. Have an answer ready!

When to refer for bariatric surgery?

TABLE 5

Threshold BMI Levels for Consideration of Bariatric Surgery

American Society for Metabolic and Bariatric Surgery* and International Federation for Surgery of Obesity and Metabolic Disorders (2022) American Association of Clinical Endocrinology/American College of Endocrinology, The Obesity Society, American Society for Metabolic and Bariatric Surgery,* Obesity Medicine Association, American Society of Anesthesiologists (2019) American College of Cardiology/ American Heart Association/The Obesity Society (2013)

BMI ≥ 35 kg per m²

BMI ≥ 30 kg per m² with type 2 diabetes mellitus

BMI ≥ 30 kg per m² without substantial or durable weight loss or comorbidity improvement using nonsurgical methods

Persons of Asian descent*:

BMI ≥ 25 kg per m² with type 2 diabetes

BMI ≥ 25 kg per m² without substantial or durable weight loss or comorbidity improvement using nonsurgical methods

BMI ≥ 27.5 kg per m²

BMI \geq 40 kg per m²

BMI \geq 35 kg per m² with obesity-related comorbidity

BMI 30 to 34.9 kg per m² and type 2 diabetes with inadequate glycemic control despite optimal lifestyle and medical therapy

BMI ≥ 40 kg per m²

BMI ≥ 35 kg per m² with obesity-related comorbidity

BMI = body mass index.

*—American Society for Metabolic and Bariatric Surgery guidelines do not differentiate among Asian ethnicities.

Information from references 9, 55, and 56.

Conversational Tips



Ask Permission First

"Would it be okay if we talked about how your weight may be impacting your health today?"



Use Person-First, Strength-Based Language

• Say: "a person with a larger body size", "working on health goals"



Acknowledge Weight Stigma and Trauma

• "I know weight is a sensitive topic, and many people have experienced stigma. I want this to be a respectful and supportive space."



Center Health and Function Over Appearance

• "Let's focus on changes that support your well-being, not just the number on the scale."



Affirm Complexity and Remove Blame

• "Weight is influenced by genetics, stress, trauma, medications, and more – it's not about willpower."



Empower with Partnership and Choice

• "You're in charge. We can talk through options like lifestyle, medications, or nothing at all right now."



Normalize Long-Term, Supportive Care

ullet "Like managing blood pressure or anxiety, weight management is ongoing and individualized—we'll adjust as needed."

Summary

- Obesity is a chronic, complex, multifactorial disease
- Assessment should extend beyond BMI to include body fat and presence of sequelae
- Treatment should be individualized and guided by patient-centered goals across the life course
- Pharmacologic therapy is effective and often underutilized, especially among women with comorbidities or limited response to lifestyle intervention
- Focus on functional outcomes such as energy, mobility, sleep, and metabolic health rather than appearance or weight alone
- Trauma-informed communication and person-first language support safer and more effective counseling

Thank you