Obesity as a Chronic Disease: What Primary Care Clinicians Need to Know

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Objectives

Define	Understand	Recognize	Compare
Obesity as a chronic disease	Assessment of obesity in primary care	Indications of medical therapy for obesity	Efficacy and safety profiles of FDA approved anti-obesity medications

Case #1

- A 54 y/o F presents for a routine visit and expresses frustration with progressive weight gain since menopause. She reports eating a “healthy diet” and exercising regularly but feels increasingly fatigued and limited in activities she enjoys. Her BMI is 36 kg/m^2, BP is well controlled, and exam shows central adiposity.

What is the most appropriate next step?

A. Provide reassurance and reinforce diet and exercise recommendations
B. Explain that weight gain is expected after menopause
C. Acknowledge her concerns and assess functional limitations and obesity-related complications
D. Defer discussion until she expresses interest in weight loss medications

Case 1 - What is the most appropriate next step?

Provide reassurance and reinforce diet and exercise recommendations

0%

Explain that weight gain is expected after menopause

0%

Acknowledge her concerns and assess functional limitations and obesity-related complications

0%

Defer discussion until she expresses interest in weight loss medications

0%

Case #2

- A 45 y/o M with BMI 32 kg/m² presents for an annual exam. He has HTN and HLD. His waist circumference is 105 cm, and he reports decreased stamina and knee pain limiting physical activity.

Which finding most strongly supports a diagnosis of clinical obesity requiring treatment?

A. BMI above 30 kg/m² alone
B. Elevated waist circumference and obesity-related functional limitations
C. Patient-reported dietary indiscretion
D. Lack of prior attempts at weight loss

2. Which finding most strongly supports a diagnosis of clinical obesity requiring treatment?

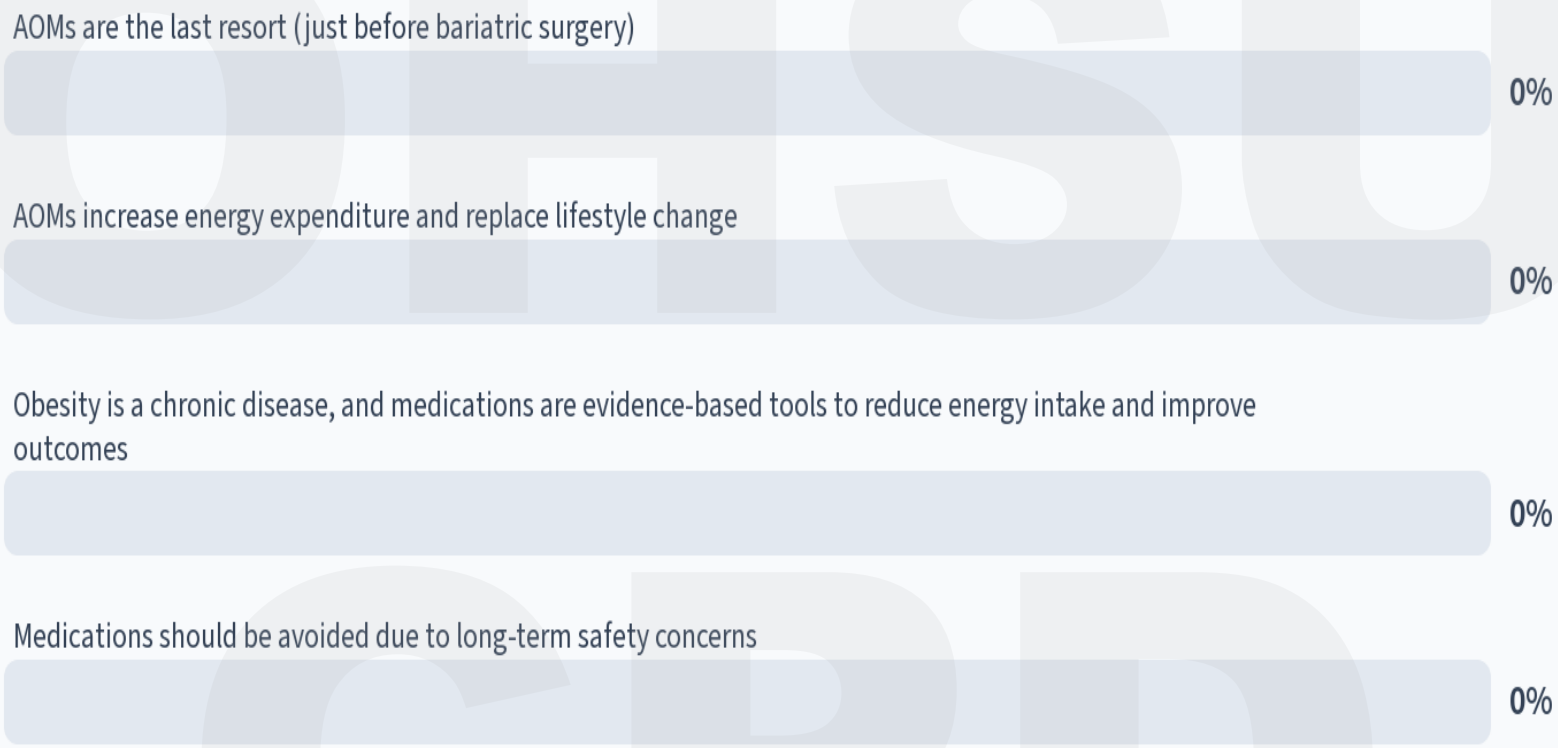
Case #3

- 52 y/o F with BMI 33 kg/m², HTN and OSA has participated in lifestyle modification programs with modest, unsustained weight loss. She asks about medication options for obesity.

Which of the following is the best rationale for offering AOM (anti obeity medication?

A. AOMs are the last resort (just before bariatric surgery)
B. AOMs increase energy expenditure and replace lifestyle change
C. Obesity is a chronic disease, and medications are evidence-based tools to reduce energy intake and improve outcomes
D. Medications should be avoided due to long-term safety concerns

3. Which of the following is the best rationale for offering AOM (anti obeity medication?



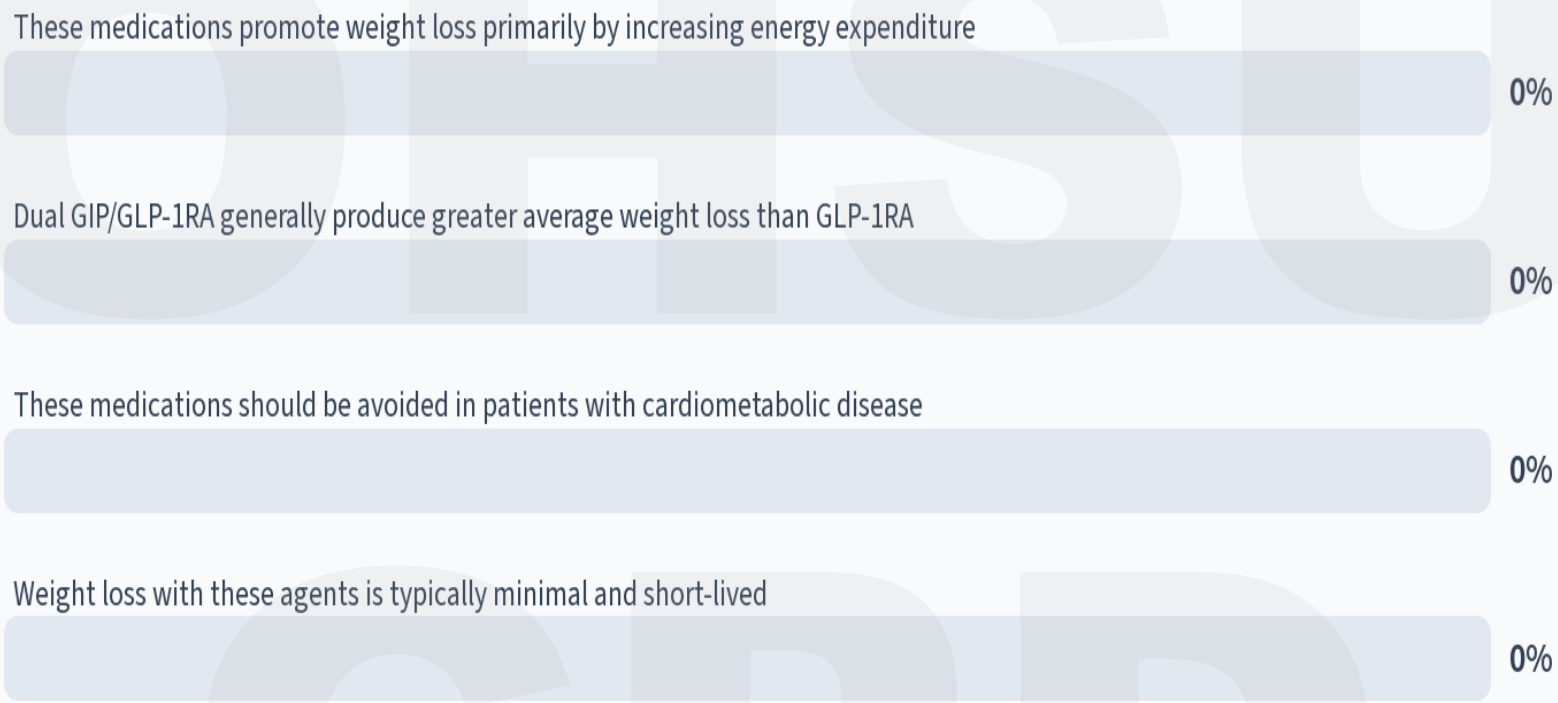
Case #4

- A 58 y/o M with BMI 38 kg/m^2, T2D, OSA, and MASLD is interested in injectable therapy for weight loss and cardiometabolic benefit. He is concerned about s/e and long-term outcomes.

Which statement best reflects current evidence regarding GLP-1RA and dual GIP/GLP-1RA?

A. These medications promote weight loss primarily by increasing energy expenditure
B. Dual GIP/GLP-1RA generally produce greater average weight loss than GLP-1RA
C. These medications should be avoided in patients with cardiometabolic disease
D. Weight loss with these agents is typically minimal and short-lived

4. Which statement best reflects current evidence regarding GLP-1RA and dual GIP/GLP-1RA?



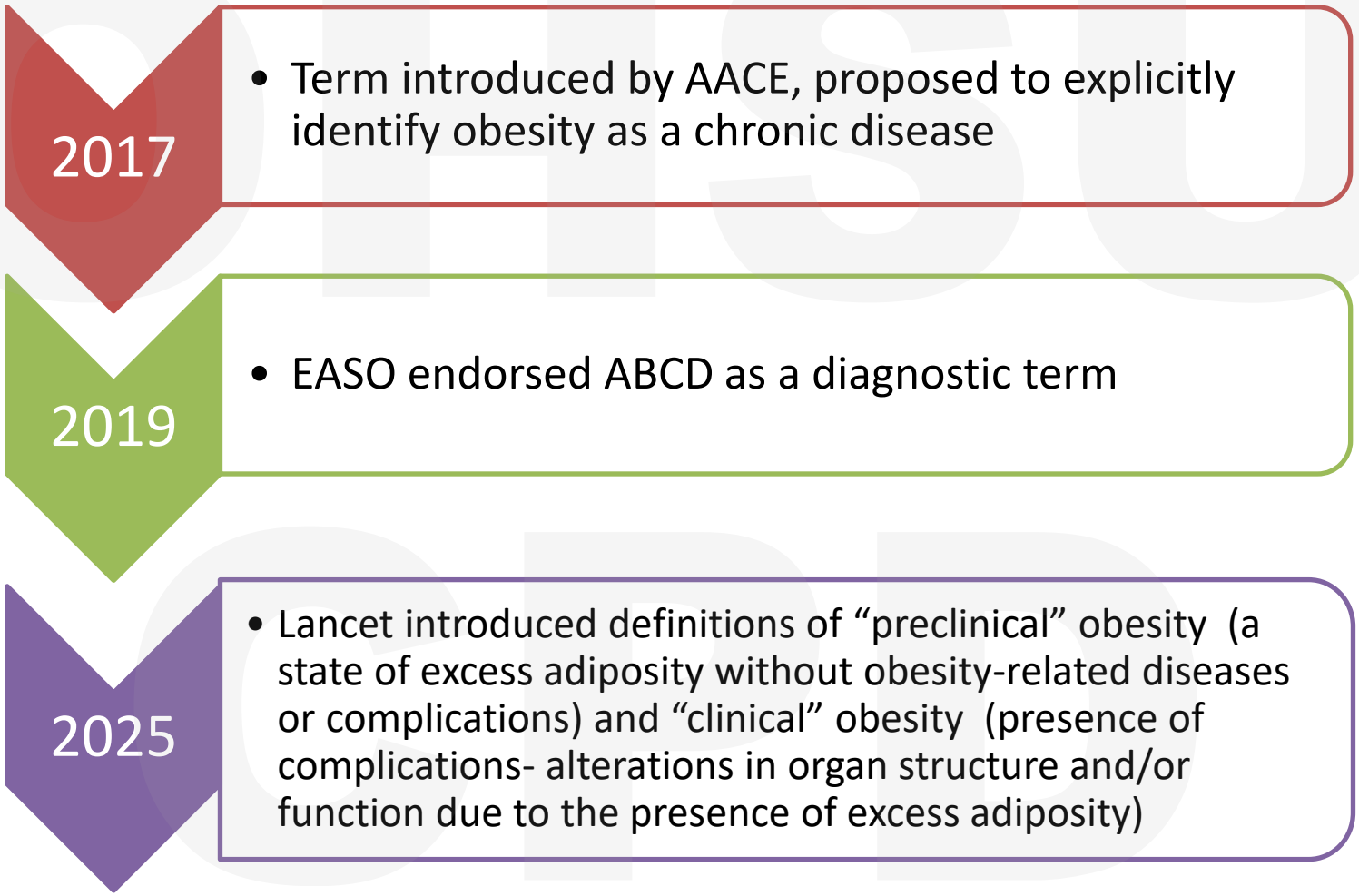
Who brings up the conversation?

Adiposity Based Chronic Disease

ABCD: neurohormonal-driven dysregulation of energy balance leading to abnormalities in mass, distribution, and function of adipose, and impaired satiety

Chronic disease with complications that impairs quality of life and confer morbidity and mortality.

Adiposity Based Chronic Disease



Assessment of Obesity

BMI	Overweight	Obesity		
		Class I	Class II	Class III
	25- 29.9	30- 34.9	35-39.9	≥ 40
"Asian"	23-24.9	≥25		
Prevalence in US adults	30.7%	42.4%		

Imperfect tool:

- X differentiate between fat and lean mass
- X account for differences in fat distribution and age-related changes in body composition

Diagnosis

- Involves both an **anthropometric component** to assess adiposity and a **clinical component** to determine disease severity and impact of adiposity on health and quality of life.

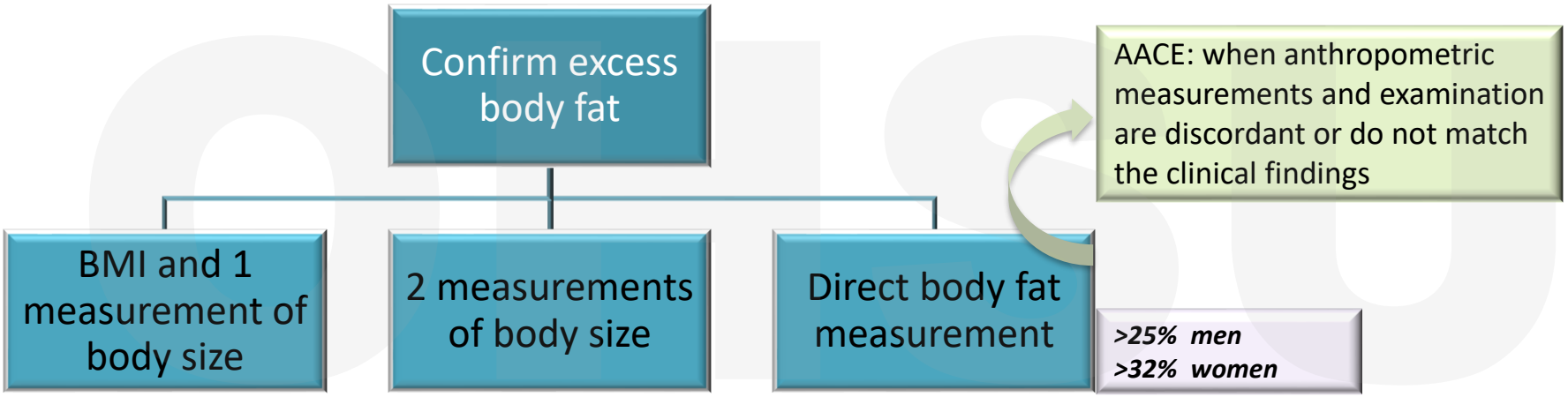
- Very high BMI (>40 kg/m^2) → excess adiposity can pragmatically be assumed, and no further confirmation is required

- Labs
  - Complete metabolic panel
  - CBC
  - Lipid panel
  - HbA1C
  - TSH*

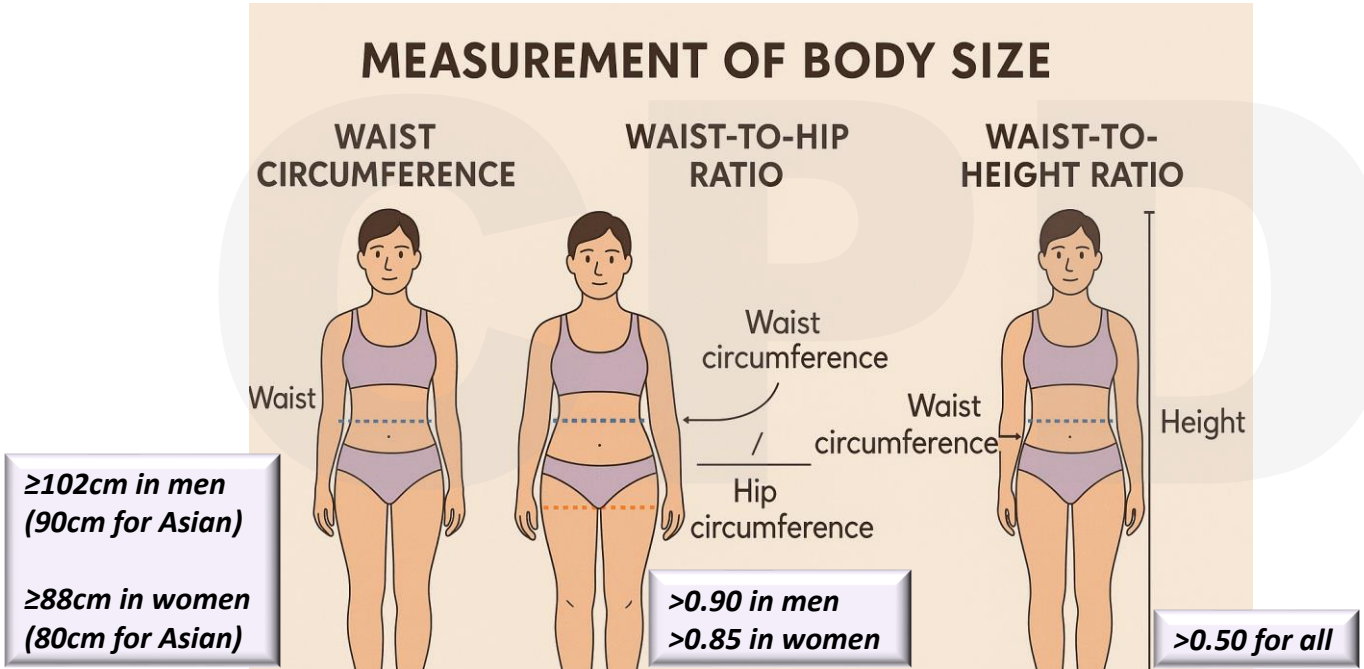
Free testing for rare genetic causes is available for patients with history of childhood obesity

PREVENTION GENETICS part of EXACT SCIENCES

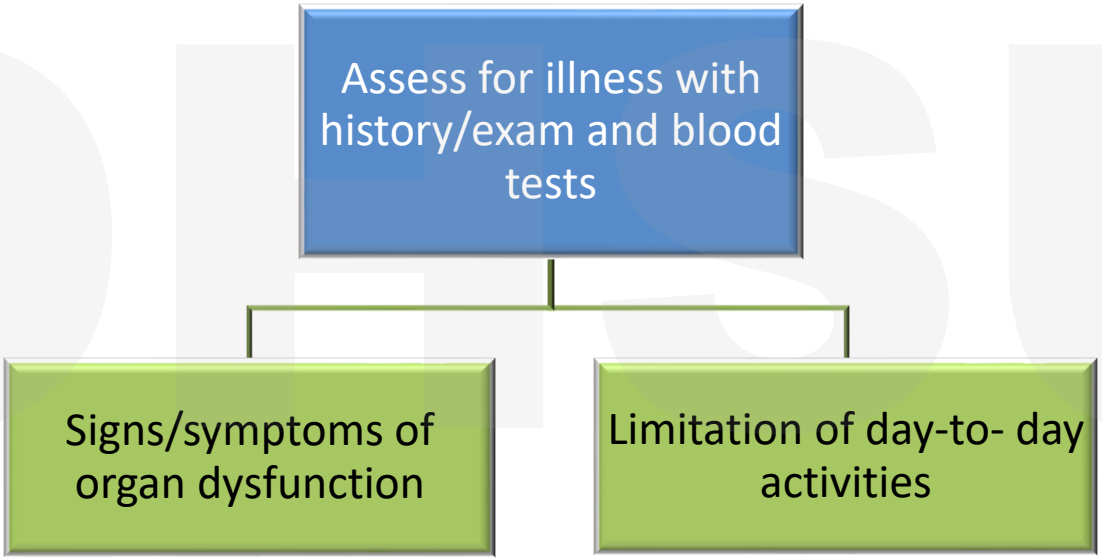
Diagnosis: Step 1 (Anthropometric Component)



Lancet Diabetes Endocrinol. 2025;13(3):221-262.



Diagnosis: Step 2 (Clinical Component)



Preclinical obesity

A condition of excess body fat associated with variable level of health risk, but no ongoing illness

People living with preclinical obesity:

- Have no evidence of reduced organ or tissue function due to obesity
- Can complete day-to-day activities unhindered
- Are generally at a higher risk of developing diseases, such as:
  - Clinical obesity
  - Cardiovascular disease
  - Some cancers
  - Type 2 diabetes

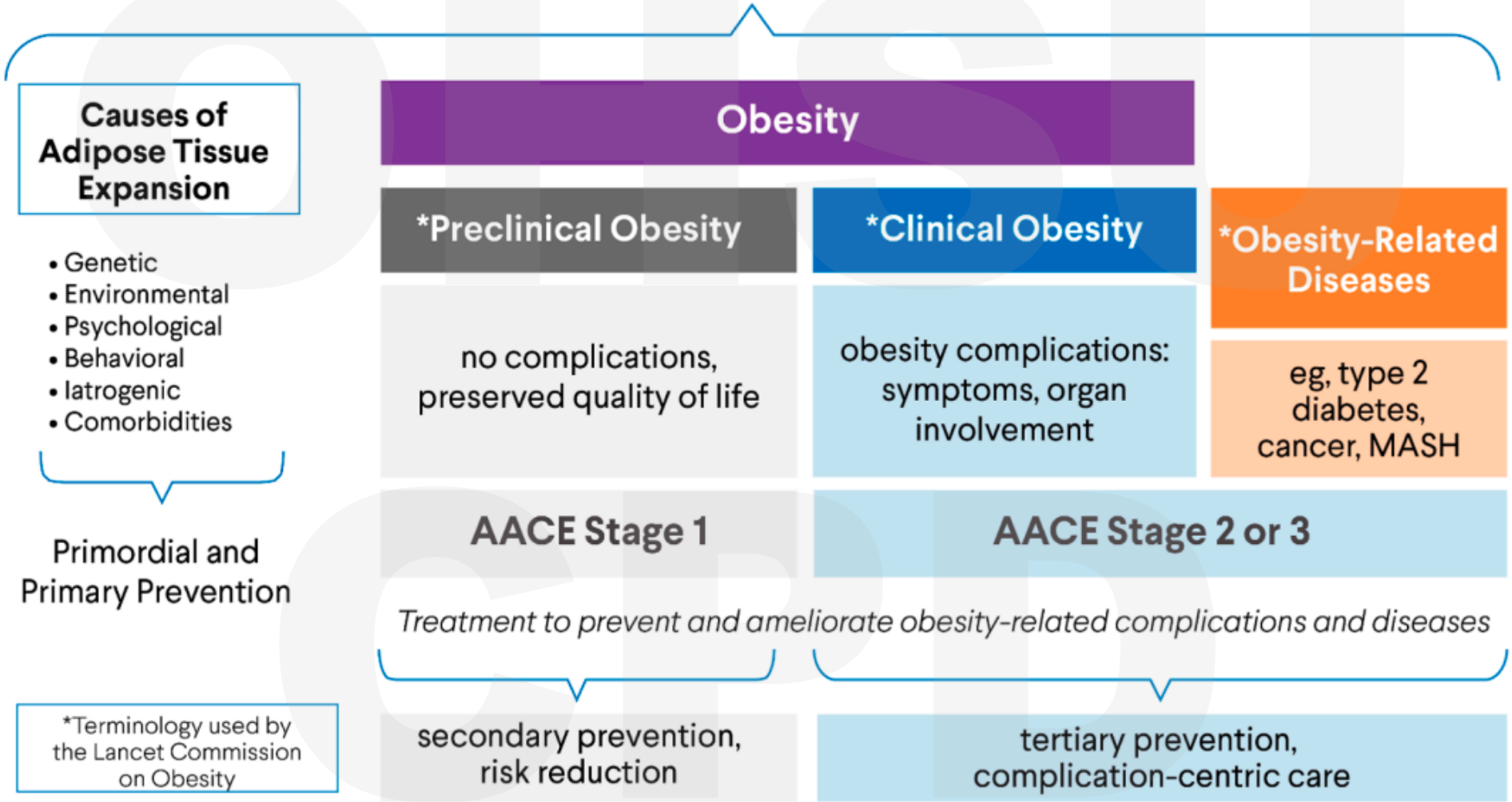
Clinical obesity

A chronic disease due to obesity alone, and characterised by signs and symptoms of ongoing organ dysfunction and/or reduced ability to conduct daily activities

People living with clinical obesity have reduced tissue or organ function due to obesity, such as:

- Breathlessness caused by effects of obesity on the heart or lungs
- Knee or hip pain with joint stiffness and reduced range of motion
- A cluster of metabolic abnormalities
- Dysfunction of other organs including kidneys, upper airways, nervous, urinary, and reproductive systems.

Adiposity-Based Chronic Disease



AACE Evaluation and Treatment of Adults with Obesity – 2025 Update: Endocrine Practice 31 (2025) 1351—1394

Goal of management: prevent and treat obesity related complications and diseases

Metabolic

- T2D
- HTN
- CVD
- HF
- MASLD
- Hyperlipidemia

Biomechanical

- OA (knee, hip)
- GERD
- OSA

Psychosocial

- Depression
- Weight stigma/bias

Four Pillars of Obesity Management

Obesity Medicine Association

Healthy intake of macro and micronutrients with:
- DASH
- Whole-Food, Plant-Based

Avoidance of crash/fad diets, ie "keto"

- Reduce sedentary time (increase non exercise activity time)
- Strength/resistance training

- Quality sleep
- Diabetes Prevention Program

Behavior modification

- CBT, mindfulness, goal setting → empower individuals to develop healthier habits and sustain long-term weight management

- r/o eating disorders- ask
  - "do you have complex relationship with food"?
  - Yes -->> SCOFF **screen**

SCOFF questions

- Do you make yourself **S**ick because you feel uncomfortably full?
- Do you worry that you have lost **C**ontrol over how much you eat?
- Have you recently lost more than **O**ne stone (14 lb) in a 3-month period?
- Do you believe yourself to be **F**at when others say you are too thin?
- Would you say that **F**ood dominates your life?

Eating disorder (binge eating, night eating syndrome) suspected? → psychologist trained in CBT- transformative for patient

BMJ 1999;319:1467–8

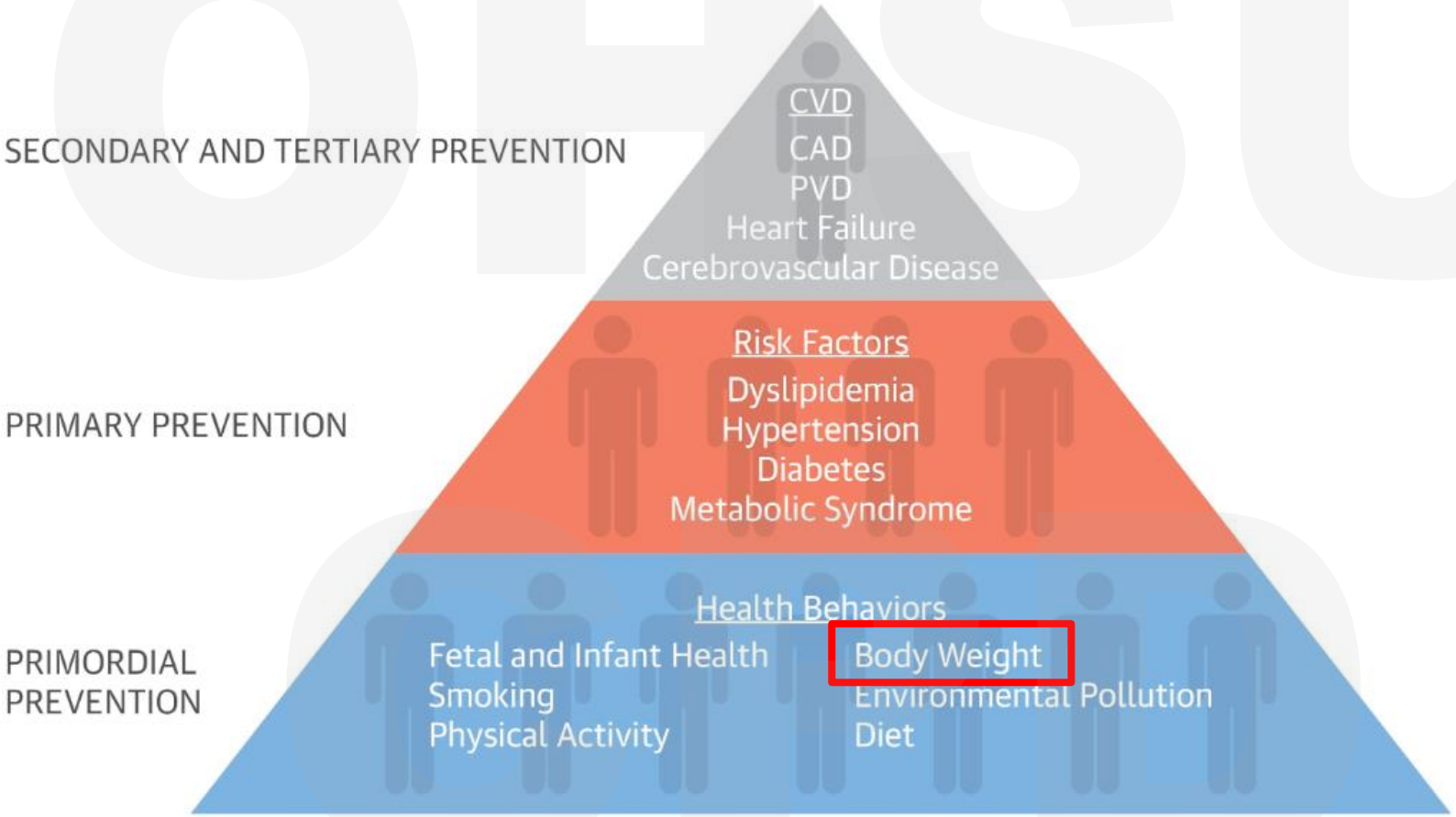
Avoid weight-promoting medications

- Discontinue when possible
- Consider co-prescribing metformin with antipsychotics
  - May reduce extent of weight gain by 4.03 kg (95% CI −5.78 kg to −2.28 kg) compared to controls

- Anti-depressants, anti-anxiety, mood stabilizers:
  - Selective serotonin reuptake inhibitors (SSRIs): Paxil, Zoloft, Celexa, Prozac
  - Older anti-depressants: Amitriptyline, Imipramine, Nortriptyline, Trazodone, Monoamine oxidase inhibitors (MAOIs)
  - Lithium
  - Benzodiazepines
- Antipsychotics:
  - Olanzapine, Clozapine, Risperidone, Quetiapine, Aripiprazole, Haloperidol
- Diabetes medications:
  - Insulin: Both short- and long-acting
  - Sulfonylureas: Glimepiride, Glipizide, Glyburide
  - Thiazolidinedione: Pioglitazone
  - Other: Nateglinide, Repglinide
- Steroid hormones:
  - Synthetic progestins: Medroxyprogesterone, Norethindrone, Levonorgestrel
  - Contraceptives: Oral contraceptive pills, Nexplanon
  - Corticosteroids: Prednisone, Methylprednisolone, Prednisolone
  - Chemotherapy: Tamoxifen, Arimidex
- Anticonvulsants, anti-migraine, neuropathic pain:
  - Gabapentin, Pregabalin, Valproic acid, Carbamazepine, Divalproex
- Opioids: All opioids may decrease metabolic rate and exercise tolerance
- Anti-hypertensive:
  - Beta-blockers: Atenolol, Metoprolol, Propranolol, Acebutolol
  - Alpha-blockers: Clonidine
  - Calcium channel blockers: Nisoldipine
- Antihistamines: Diphenhydramine, Fexofenadine, Cetirizine, Ranitidine, Azelastine
- Hypnotics: Remeron, Zolpidem, Doxepin
- Anti-retrovirals

Obesity Medicine Association, 2017
Schizophrenia Bulletin, 2025

Disease prevention and Health Promotion

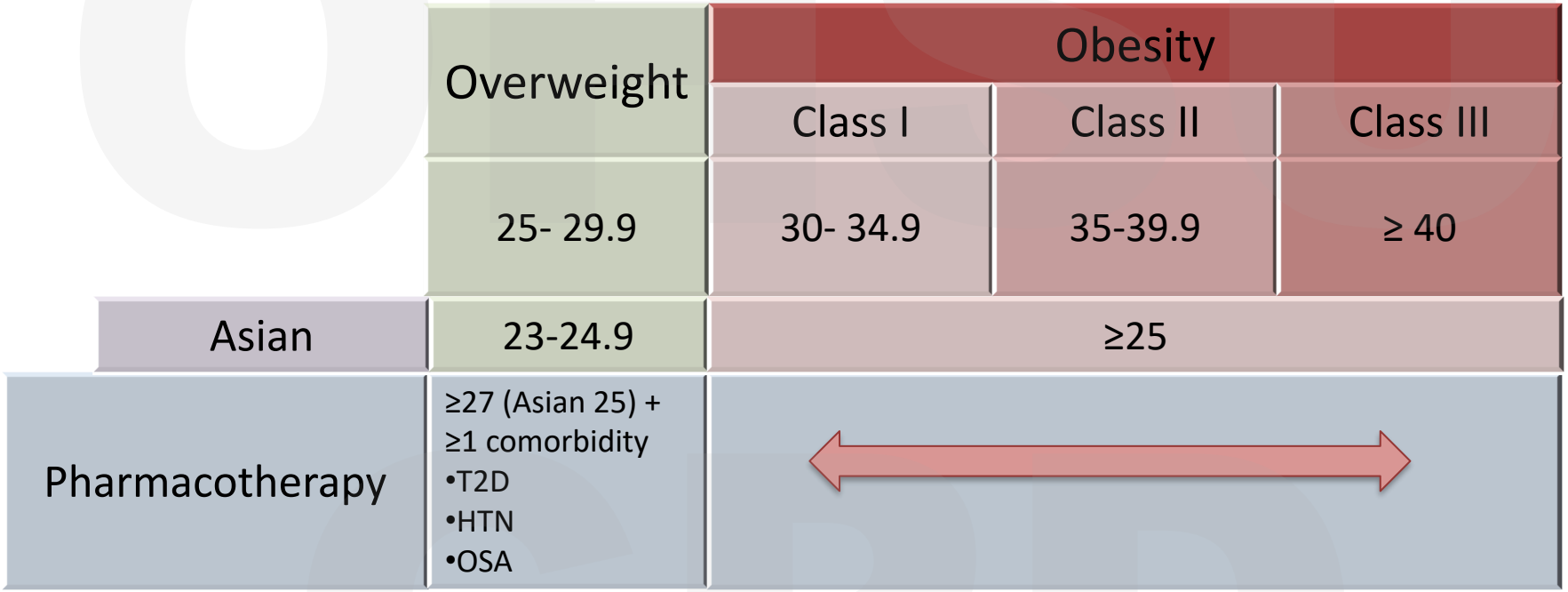


JACC. 2017 Oct, 70 (17) 2171–2185

Four Pillars of Obesity Management

Obesity Medicine Association

Indications for Antiobesity medications (AOM)



Mechanism of weight loss medications

INCREASE SENSATION OF FULLNESS

DECREASE SENSATION OF HUNGER

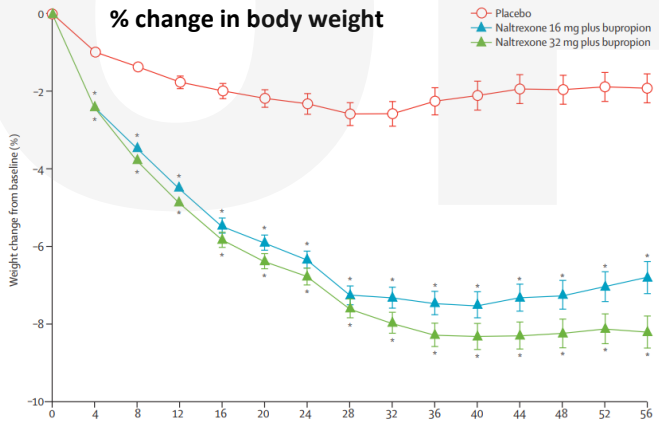
AOMs: tool to reduce energy intake,
Do NOT increase energy expenditure

Medication	Weight loss	Mechanism	Side Effects	Notes
Orlistat *(Alli, Xenical)* FDA approved 1999	~5-6%	Inhibits intestinal lipase, blocking absorption dietary fat	GI- oily stools, fecal discharge/urgency, flatulence	• Take MVT atleast 2 h apart to minimize risk of fat-soluble vit deficiency (A, D, E, K) • Caution in malabsorption or nephrolithiasis or on meds requiring reliable absorption (L-thyroxine, warfarin, immunosuppressant)
Bupropion + Naltrexone ER *(Contrave)* FDA approved 2014	~6%	Naltrexone: Opioid receptor antagonist, ↓reward pathways linked to food Bupropion: DA and NE reuptake inhibitor, appetite and cravings	Dry mouth, nausea, constipation, HA, increased BP and HR	C/I: Pregnancy, uncontrolled HTN, opioid use, seizure disorders, SI in <24 y/o with depression
Phentermine + Topiramate ER *(Qsymia)* Phentermine alone: FDA approved 1959 Combination: FDA approved 2012	~8-10%	Phentermine: Sympathomimetic amine, stimulates release of NE, ↓appetite Topiramate: Enhances GABA activity, ↓appetite and ↑satiety	Dry mouth, insomnia, dizziness, irritability, increased BP and HR Constipation, paresthesia, nasopharyngitis, nephrolithiasis, decreased cognition	C/I: Pregnancy, uncontrolled HTN, glaucoma, CAD,stroke, CHF, stimulant use

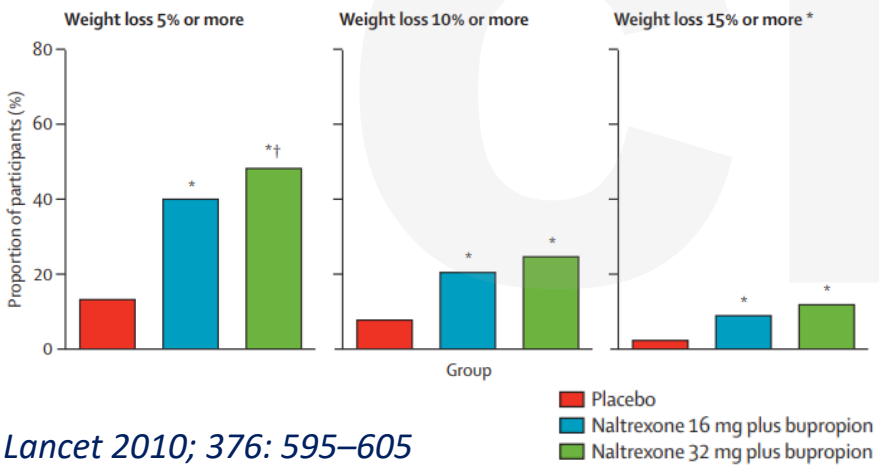
COR-I Study

- 18-65 y/o, BMI 30-65 or BMI >27 with HTN or dyslipidemia
- Naltrexone-Bupropion 32/360 *vs* 16/360 *vs* placebo for 56 weeks

Co-primary end point
% change in body weight



Co-primary end point
Proportion achieving ≥ 5% weight loss

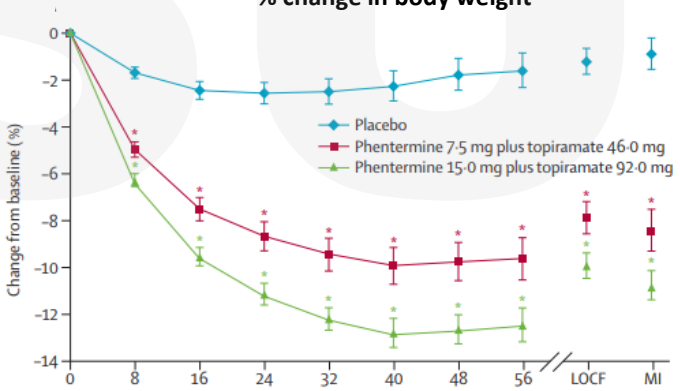


Lancet 2010; 376: 595–605

CONQUER Study

- 18-70 y/o, BMI >27 with ≥ 2 comorbidities (HTN, dyslipidemia, T2D)
- Phentermine- Topiramate 7.5/46 vs 15/92 vs placebo for 56 weeks

Co-primary end point
% change in body weight



Co-primary end point
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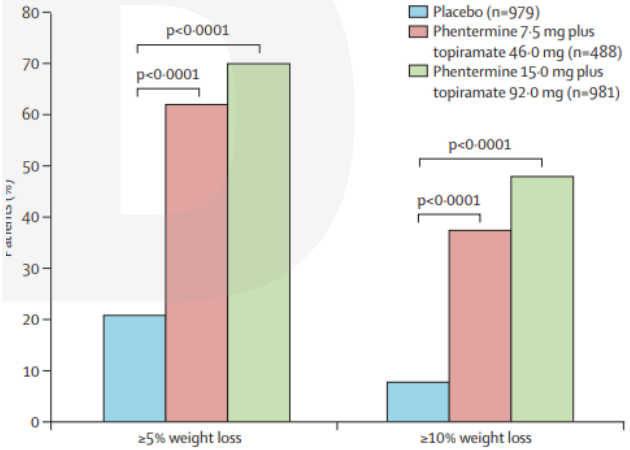


Lancet 2011; 377: 1341–52

Clinical pearls

Phentermine

- First drug approved for weight loss in 1959
- Due to stimulant effect, consider dosing first thing in morning
- Monitor BP and HR
- Start at 8 or 15mg and increase to 30 in 3 months (may not have much of an added benefit at 37.5mg)

Topiramate

- Anti-seizure med that slows brain wave activity
- Preferrable evening dosing due to its s/e of somnolence → can also help reduce nighttime cravings
- Can have effect of early satiety in addition to decreasing appetite
- Start at 25mg and titrate up to 100mg if needed.
- Avoid higher doses (150mg) due to concern for s/e (cognitive issues, paresthesias, word-finding difficulties)

Clinical pearls

Bupropion

- Can help with depression and obesity
- Start at 150mg SL BID, increase to 200mg BID in 3 months and continue to titrate to total of 450mg: 2tabs of SL 150 in AM and 1tab of SL 150 in PM
- Monitor BP and HR

Naltrexone

- 12.5mg in AM, slowly increase in 25mg BID in 1-2months
- Titrate slowly – nausea

Clinical pearls

Metformin

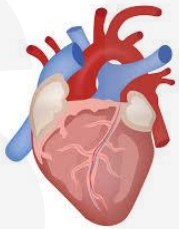
- Modest weight loss (~2–3 kg; ~2.5% BMI reduction)
- Best for: PCOS, prediabetes, insulin resistance
- Not FDA-approved for weight loss

Orlistat

- Not frequently used due to GI side effects (fecal urgency, oily stools)
- Needs strict low-fat diet to improve tolerability

GLP1RA and Dual GIP/GLP1 RA?

OSA

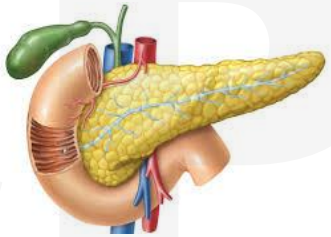


ASCVD
HF

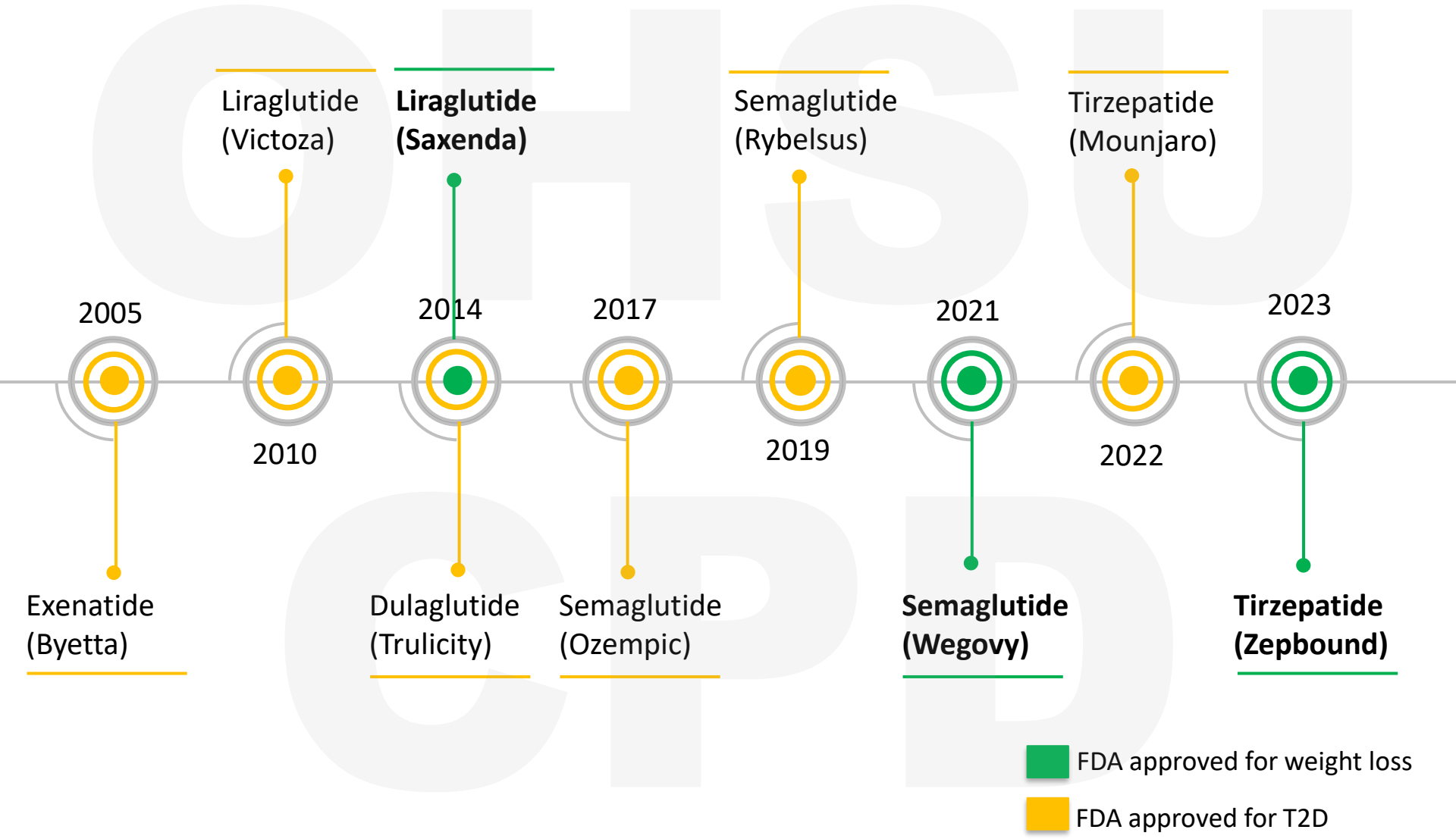
MASLD

CKD

DM



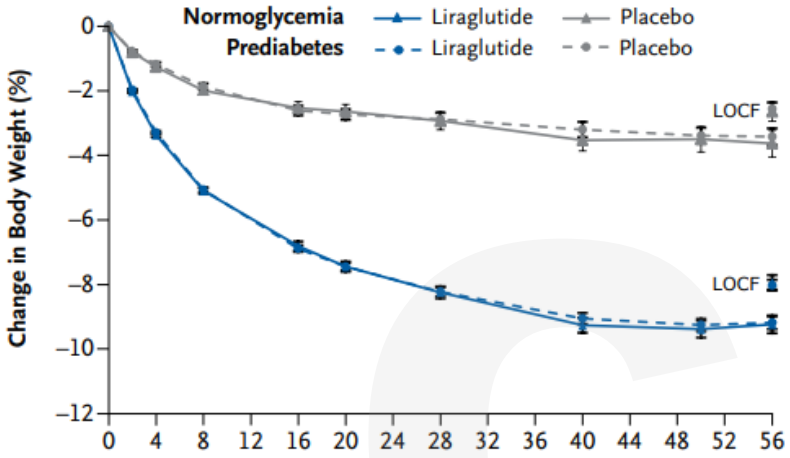
GLP1 and Dual GIP/GLP1 RA



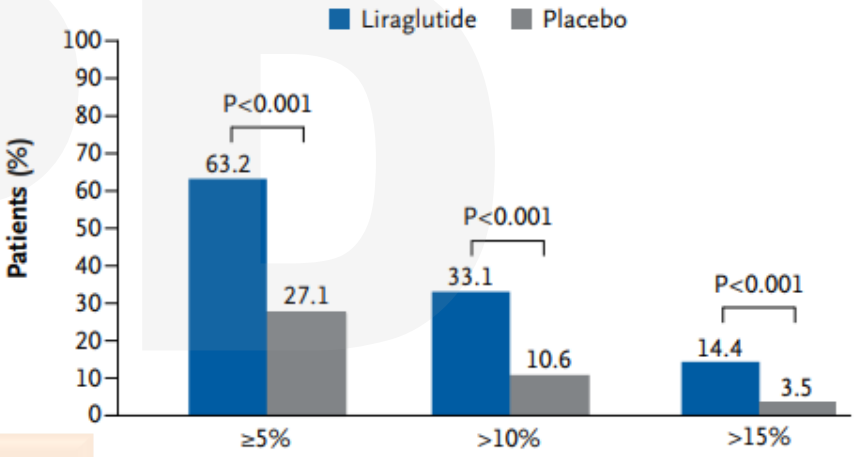
Scale Obesity and Prediabetes Trial

- BMI >30 or BMI >27 with HTN or dyslipidemia, NO DM
- Liraglutide 3.0mg *vs* placebo for 56 weeks

Co-primary end point
% change in body weight



Co-primary end point
Proportion achieving ≥ 5% and >10% weightloss



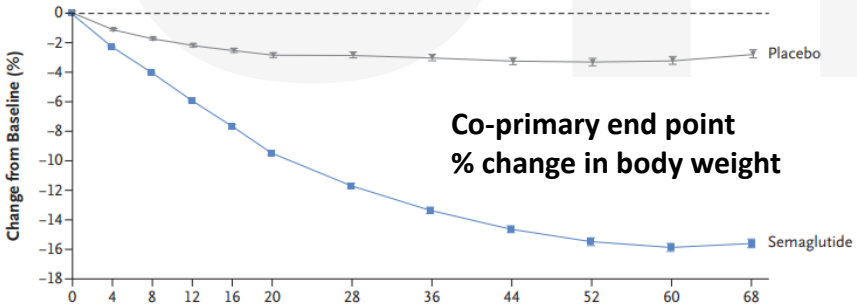
Average 8 % weight loss

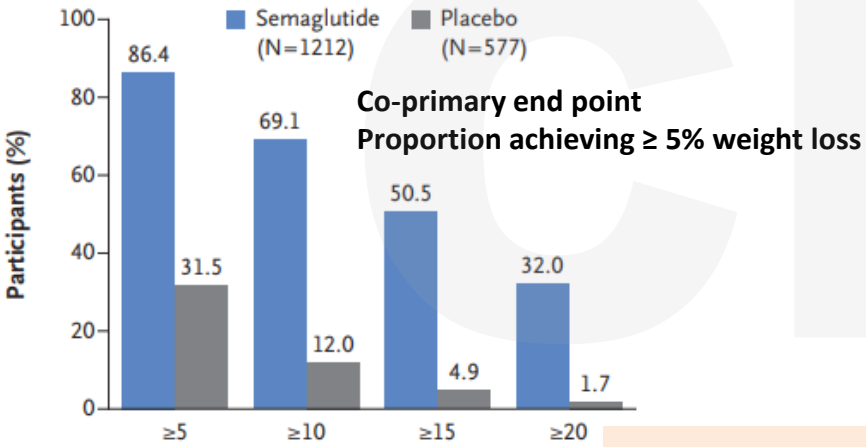
N Engl J Med 2015;373:11-22.

Semaglutide

STEP 1 Trial

- BMI >30 or BMI >27 with HTN or dyslipidemia, NO T2D
- Semaglutide 2.4mg *vs* Placebo for 68 weeks

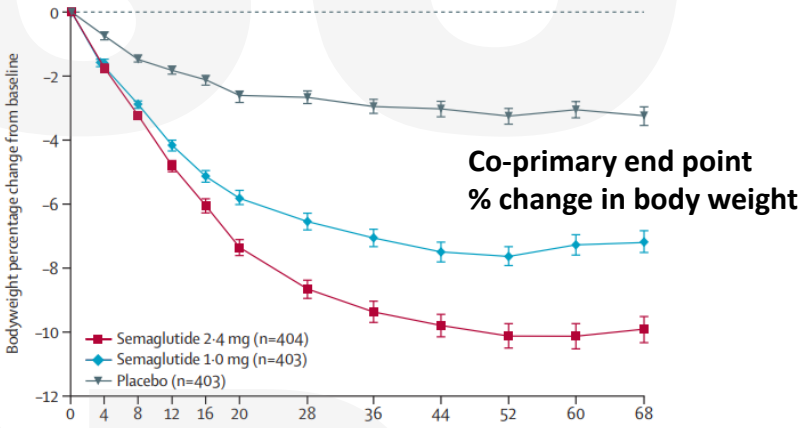


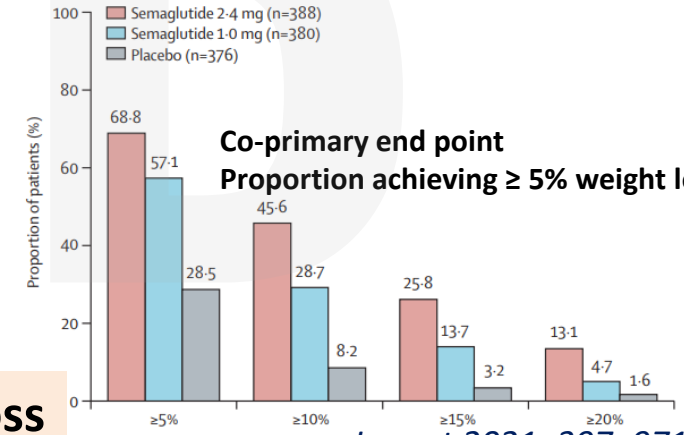


N Engl J Med 2021;384:989-1002

STEP 2 Trial

- BMI ≥27 with HbA1C 7-10, diagnosed with T2D in last 180days
- Semaglutide 1mg vs 2.4mg vs Placebo for 68 weeks





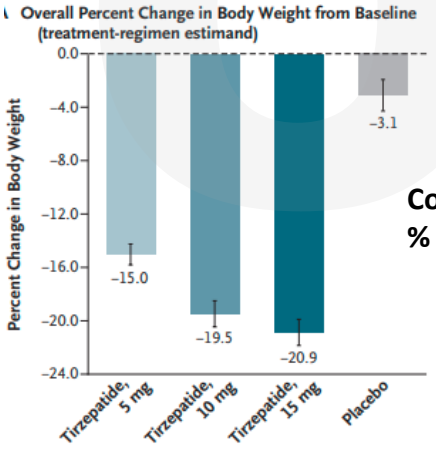
Average 15 % weight loss

Lancet 2021; 397: 971–84

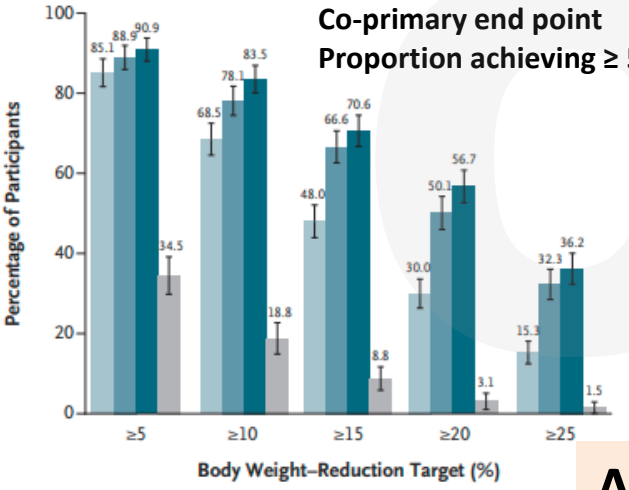
Tirzepatide

SURMOUNT- 1 Trial

- BMI >30 or BMI >27 with HTN or dyslipidemia, NO T2D
- 1:1:1:1 ratio once-weekly, sc tirzepatide (5 mg, 10 mg, or 15 mg) or placebo for 72 weeks



Co-primary end point
% change in body weight

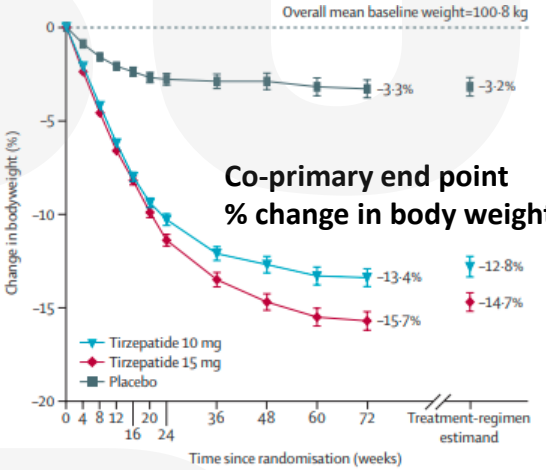


Co-primary end point
Proportion achieving ≥ 5% weight loss

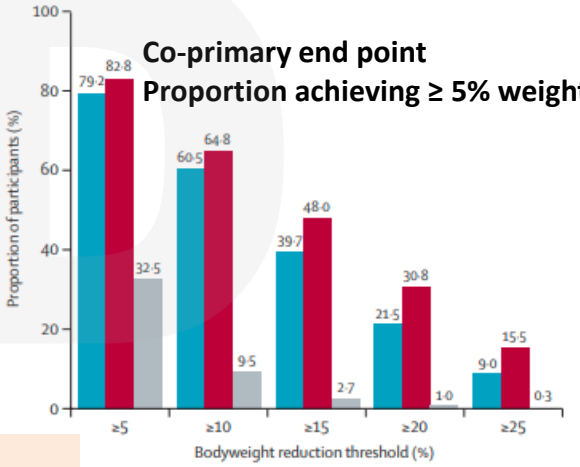
N Engl J Med 2022;387:205-16

SURMOUNT-2 Trial

- BMI ≥27 with HbA1C 7–10%
- Tirzepatide 10mg *vs* 15 mg *vs* Placebo for 72 weeks



Co-primary end point
% change in body weight



Co-primary end point
Proportion achieving ≥ 5% weight loss

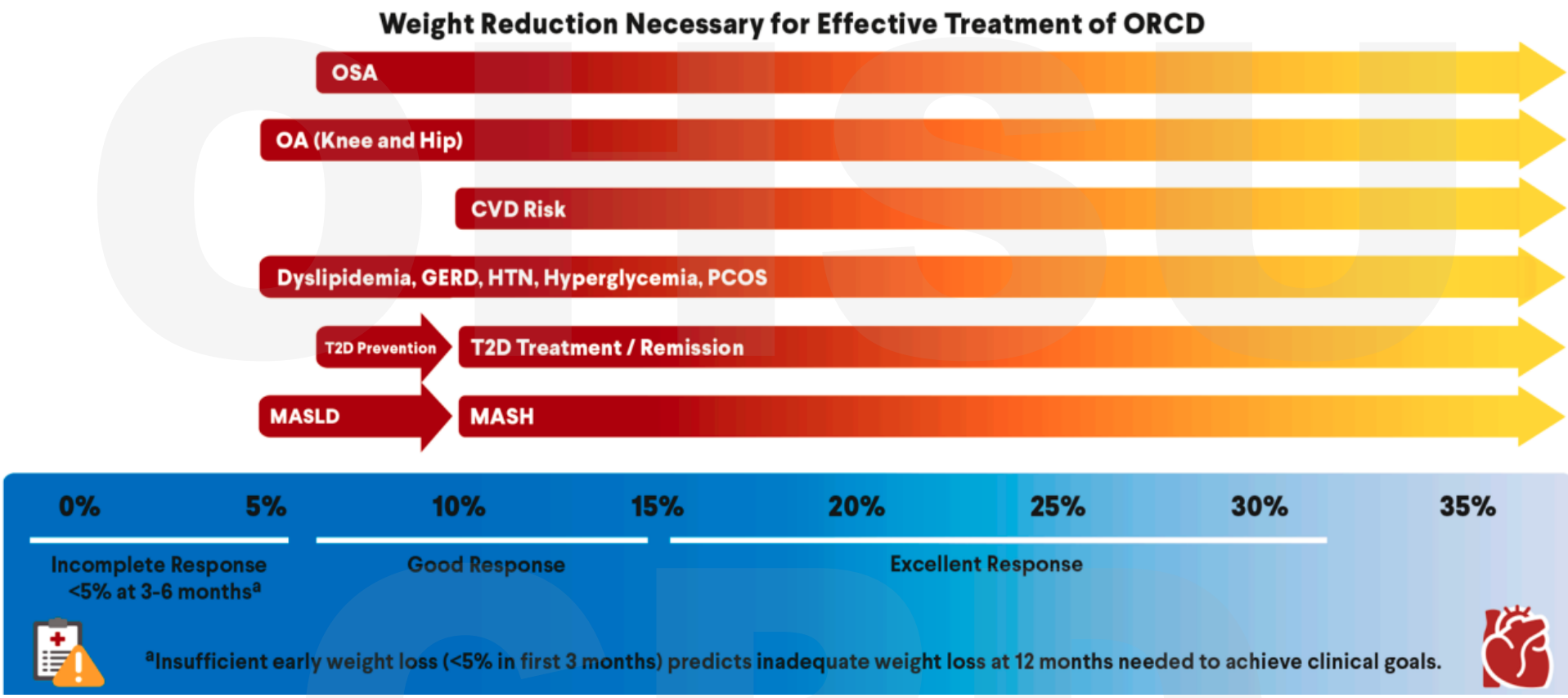
Lancet 2023; 402: 613–26

Average 20-22 % weight loss

Clinical pearls

- Start low and go slow → at least 4 weeks to titrate, even slower if adverse effects
- Resistance training
- Diet quality is still important!
  - Adequate lean protein
  - Small meal and add fiber (GI is slow, constipation)
- Do not take within 1 week of surgery
- Caution with long travel, immobility

RESPONSE TO THERAPY AND WEIGHT-LOSS TARGETS FOR PEOPLE WITH ABCD



Generally:

- ≤5% → incomplete response (insufficient to treat complications)
- 5-15% → good response (may or may not be optimal for certain complications
- >15% → excellent response (sufficient to treat or prevent a broad array of ORCD)

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Clinical pearls- All AOMs

Assess response after about **3 months** on treatment dose

<5% weight reduction

- Longer term efficacy likely insufficient
- Change therapeutic approach
- • Intensification of lifestyle approach
  • Different AOM
  • Combination of AOMs

≥5% weight reduction

- Continue current treatment
- Intensify if targets for improvement in ORCD not achieved

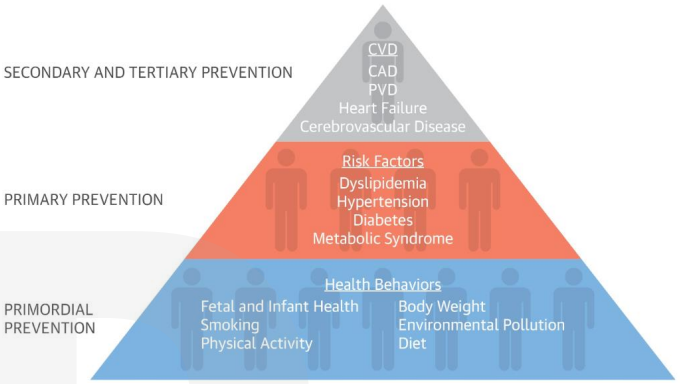
≥15% weight reduction

- Level achieved by second generation anti obesity medications
- Predictably prevents /improves a broad array of ORCD

Caveat: Insurance coverage for AOMs!

- Many insurance plans exclude coverage, only 18% of large employer insurance plans cover AOMs
- Some insurances require participation in a program of lifestyle modification for coverage.
- If T2D→ likely will get covered

- Medicaid in Oregon
  - Weight loss: No coverage
  - OSA: Possible with prior auth
  - CV risk reduction: Possible with prior auth



- Medicare
  - Weight loss: No coverage
  - OSA: Not yet adopted
  - CV risk reduction: Possible with prior auth for part D plans
  - As of April 2024, cover semaglutide for established CVD

Direct pay options

Manufacturers now have their own pharmacies where they ship directly to patients

✓ FSA/HSA accepted

Wegovy (semaglutide)

- Manufacturer program: NovoCare
- Prescriber: send prescription directly to NovoCare Pharmacy
- Website: https://www.novocare.com/pharmacy.html
- Typical self-pay pricing:
  - Starter doses: ~$199/month
  - Ongoing monthly cost: ~$349–$499/month
- Ships directly to patients through Novo Nordisk's mail-order pharmacy

Direct pay options

Zepbound (tirzepatide)

- Manufacturer program: LillyDirect
- **Prescriber: s**end prescription directly to LillyDirect Pharmacy
- Website: https://www.lilly.com/lillydirect/medicines/zepbound
- Typical self-pay pricing:
  - 2.5 mg vial: ~$299/month
  - 5 mg vial: ~$399/month
  - 7.5 - 15 mg vial: ~$449/month
- Supplied as single-dose vials for self-injection
  - (requires syringe draw-up)

Compounding pharmacies

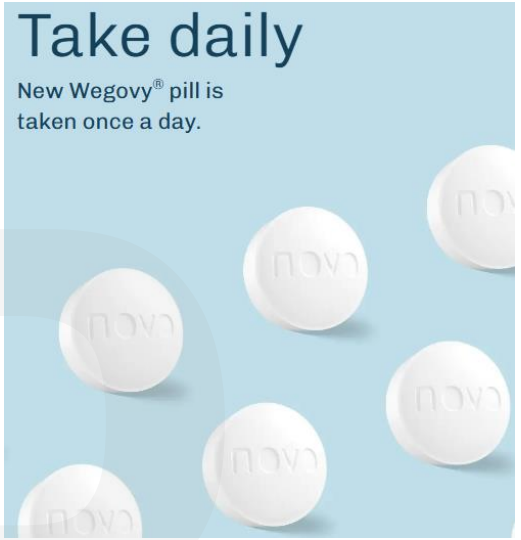
- Many companies are offering compounded medications for cheaper than direct pay
- Pharmacy quality varies! Hard to verify safety.
- Previously permissible when tirzepatide and semaglutide were on FDA shortage list
- **FDA determined that shortage has resolved for both tirzepatide and semaglutide**
- Some companies continue to compound along with another additive (B12, glycine, niacinamide)

Your patients are using these services, may ask about these services or ask you to take over prescribing to the compounding pharmacy. Have an answer ready!

News Flash!

- Dec 2025: FDA approved the first oral GLP-1RA for weight loss and to reduce the risk of major adverse cardiovascular events

- Novo Nordisk launched the once-daily oral semaglutide (Wegovy) 25 mg in the US in early January 2026

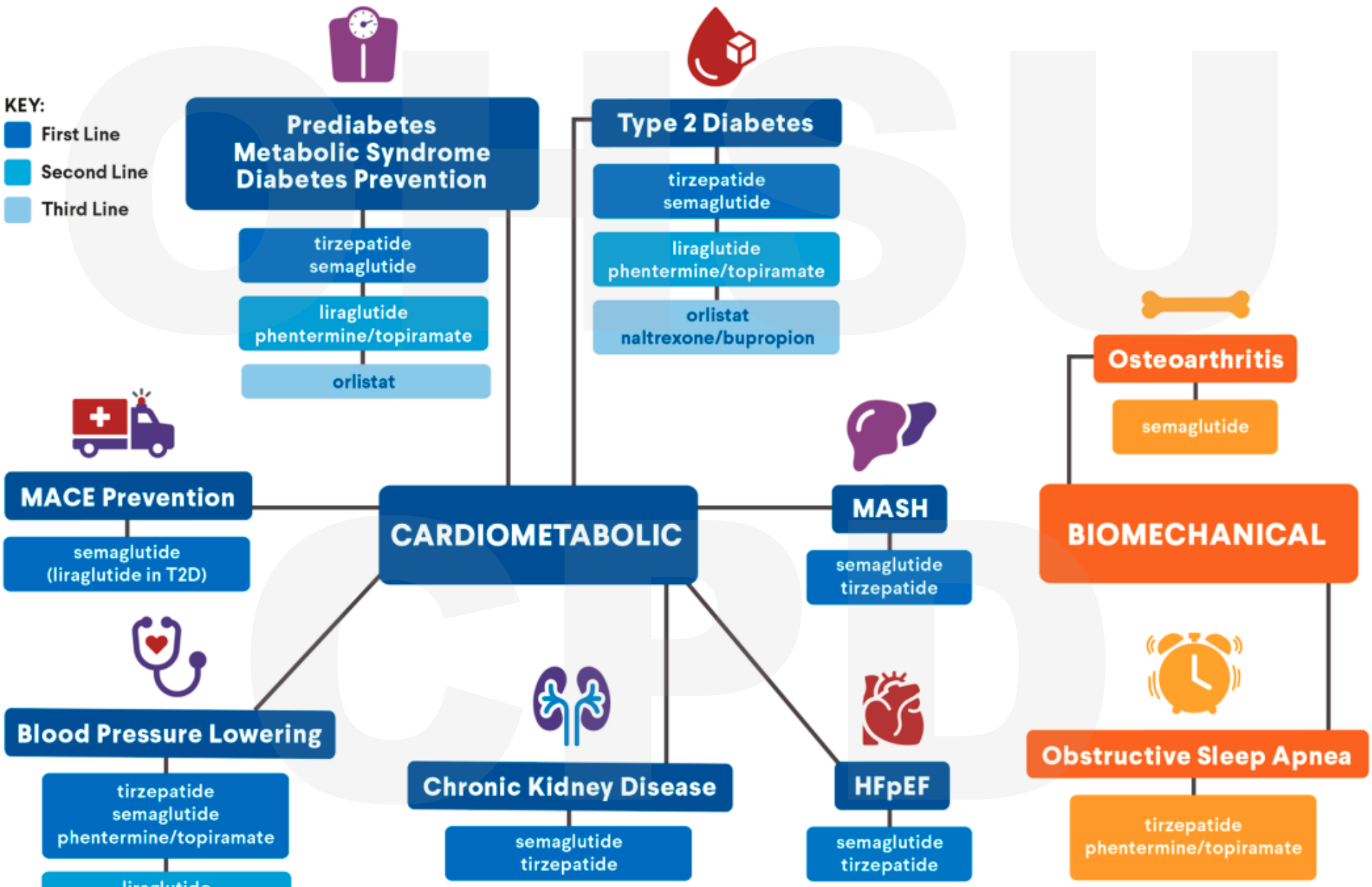


- Based on OASIS 4 trial- mean weight loss of 13.6% at 64 weeks

  N Engl J Med 2025;393:1077-1087

- Eli Lilly submitted its own oral GLP-1, orforglipron, to the FDA for review -based on ATTAIN-MAINTAIN trial (ongoing)

HIERARCHIES OF PREFERRED MEDICATIONS FOR COMPLICATION-CENTRIC CARE OF PEOPLE WITH ABCD



AACE Evaluation and Treatment of Adults with Obesity – 2025 Update: Endocrine Practice 31 (2025) 1351—1394

Indications for Bariatric Surgery

- BMI ≥40 and ≥35 with ORCD *(adjusted for ethnicity)*
- 2019 update: consider in T2D + BMI 30- 34.9 **if** hyperglycemia inadequately controlled despite optimal treatment *(either oral or injectable medications)*
- American Society for Metabolic and Bariatric Surgery and International Federation for the Surgery of Obesity and Metabolic Disorders now recommend option of bariatric surgery for
  - BMI ≥35.0 regardless of ORCD *and*
  - BMI 30.0-34.9 with severe cardiometabolic disease (T2D, CVD)

American Association of Clinical Endocrinologists/American College of Endocrinology, The Obesity Society, American Society for Metabolic and Bariatric Surgery, Obesity Medicine Association, and American Society of Anesthesiologists

Summary- 8 things you should remember tomorrow in clinic

Start the conversation: Patients want help—acknowledge concerns, validate effort. Language matters- use person-first, non-stigmatizing language focusing on health and function—not appearance or numbers

Think beyond BMI: Use athropometric measures and focus on functional outcomes

Frame obesity as a chronic, biologically driven disease: not a failure of willpower. Shift away from "eat less, move more" toward biology, and prevention of ORCDs

Lifestyle interventions remain foundational: but are often insufficient alone due to underlying biology. Nutrition quality, physical activity, and behavior change should be individualized and supported—not moralized

Summary- 8 things you should remember tomorrow in clinic

Medications are appropriate and evidence-based: offer when indicated—do not wait for "failure" or extremes of BMI. Individualize management- consider comorbidities (T2D, OSA, MASLD, ASCVD), preferences, side effects, and access. Offer surgical referral when appropriate

GLP-1 and dual GIP/GLP-1 therapies work: they reduce energy intake. Start low, titrate slow, counsel on protein intake and resistance training

Insurance and access barriers are real: be prepared to counsel patients on coverage limitations, direct-pay options, and compounded medication risks

Set expectations for long-term care: stopping treatment often leads to weight regain—this is biology, not nonadherence.

Case #1

- A 54 y/o F presents for a routine visit and expresses frustration with progressive weight gain since menopause. She reports eating a “healthy diet” and exercising regularly but feels increasingly fatigued and limited in activities she enjoys. Her BMI is 36 kg/m^2, BP is well controlled, and exam shows central adiposity.

What is the most appropriate next step?

A. Provide reassurance and reinforce diet and exercise recommendations
B. Explain that weight gain is expected after menopause
C. Acknowledge her concerns and assess functional limitations and obesity-related complications
D. Defer discussion until she expresses interest in weight loss medications

Case #2

- A 45 y/o M with BMI 32 kg/m² presents for an annual exam. He has HTN and HLD. His waist circumference is 105 cm, and he reports decreased stamina and knee pain limiting physical activity.

Which finding most strongly supports a diagnosis of clinical obesity requiring treatment?

A. BMI above 30 kg/m² alone
B. Elevated waist circumference and obesity-related functional limitations
C. Patient-reported dietary indiscretion
D. Lack of prior attempts at weight loss

Case #3

- 52 y/o F with BMI 33 kg/m², HTN and OSA apnea has participated in lifestyle modification programs with modest, unsustained weight loss. She asks about medication options for obesity.

Which of the following is the best rationale for offering AOM (anti obeity medication?

A. AOMs are the last resort (just before bariatric surgery)
B. AOMs increase energy expenditure and replace lifestyle change
★ Obesity is a chronic disease, and medications are evidence-based tools to reduce energy intake and improve outcomes
D. Medications should be avoided due to long-term safety concerns

Case #4

- A 58 y/o M with BMI 38 kg/m^2, T2D, OSA, and MASLD is interested in injectable therapy for weight loss and cardiometabolic benefit. He is concerned about s/e and long-term outcomes.

Which statement best reflects current evidence regarding GLP-1RA and and dual GIP/GLP-1RA?

A. These medications promote weight loss primarily by increasing energy expenditure

★ Dual GIP/GLP-1 receptor agonists generally produce greater average weight loss than GLP-1 receptor agonists

C. These medications should be avoided in patients with cardiometabolic disease

D. Weight loss with these agents is typically minimal and short-lived

References

- AACE Consensus Statement: Algorithm for Evaluation and Treatment of Adults with Obesity/Adiposity Based Chronic Disease – 2025 update
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- Definition and diagnostic criteria of clinical obesity
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- Managing Obesity
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- Obesity and Weight Management for the Prevention and Treatment of Type 2 Diabetes: Standards of Care in Diabetes–2025
  Diabetes Care 2025;48(Suppl. 1):S167–S180