

Case Study: Use of Anti-Obesity Medication & Lifestyle Intervention for Metabolic Syndrome with Obesity

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Clinical question:



You are treating a 48 yr old woman with prediabetes, dyslipidemia and obesity with semaglutide. She has done well losing approximately 15% of body weight and improvements in cardiometabolic parameters. She is wondering if she can discontinue semaglutide. How do you counsel this patient?

Case



- 48 y/o South-Asian American woman with c/o progressive weight gain

- Seen initially in May 2021

- Weight: 195 lb
- BMI: 31.47
- Body composition analysis: Visceral fat level 18, body fat percentage 43%
- Waist circumference 39 inches
- Blood pressure: 120/80 mmHg, heart rate 78
- Peri-menopausal with irregular periods
- Weight trend:
 - 1 yr ago 186 lb
 - 5 yr ago 160 lb
 - 10 yr ago 154 lb

History



Social: Physician, married, 2 kids

Past medical history: Migraines, depression

Prior weight loss programs tried:

- Weight Watchers
- Weight loss coach
- Dietary: Vegetarian
- Eating behavior challenges: Eating for comfort after long hospital shifts, social events
- Sleep: Erratic due to night shifts, + snoring, denies daytime somnolence, + fatigue
- Exercise: 3-4 times a week tennis, Peloton bike; no weight training

Initial Labs

- Glucose 107
- A1c 5.5%
- TC 273, TG 292, HDL 45, LDL 176
- Vit D 20
- B 12 232
- Normal CBC with Hgb 14
- Normal Cr, AST 17, ALT 36
- Normal TSH



Lifestyle Treatment Plan



Dietary

- Start journaling food
- After long work days, find other ways to "wind down"
- Plant-based South Asian food modifications:
 - Increase plant-based protein: Tofu, edamame, beans, lentils, shakes
 - Increase volume/portions of vegetables in traditional dishes
 - Increase fiber by limiting portions of rice/bread, adding substitutes like: quinoa, wild rice, millets
- Take food options to work
- Increase vegetable portions/frequency in snacks & meals



Lifestyle Treatment Plan



- Sleep:
 - Erratic sleep schedule due to shift work
 - Recommended sleep study to evaluate for sleep apnea
- Physical activity:
 - Add weight training 2 days/week
 - Continue current routine for cardiovascular exercise

Anti-obesity medication Treatment Plan



➤ Clinical considerations:

Options for anti-obesity medication discussed with BMI 31.5 (for Asian ethnicity obesity = BMI > 27) and co-morbidities of pre-diabetes, dyslipidemia, possible fatty liver → metabolic syndrome

- + history of migraines → Considered topiramate plus phentermine but patient concerned about anxiety with phentermine & possible cognitive effects of topiramate while at work
- Considered use of bupropion and naltrexone with underlying history of depression
- With metabolic syndrome, opted for semaglutide once weekly

Lab Results & Progress



- Titrated up to semaglutide 2.4 mg once weekly dosing
- Dec 2022- Weight 167 lb (28 lb or 14.5% loss)
- Labs:
 - Glucose 94 ← 107
 - A1c 5% ← 5.5%
 - TC 238 ← 273
 - TG 123 ← 292
 - HDL 46 ← 45
 - LDL 168 ← 176, recommended statin
 - Normal Cr, LFTs

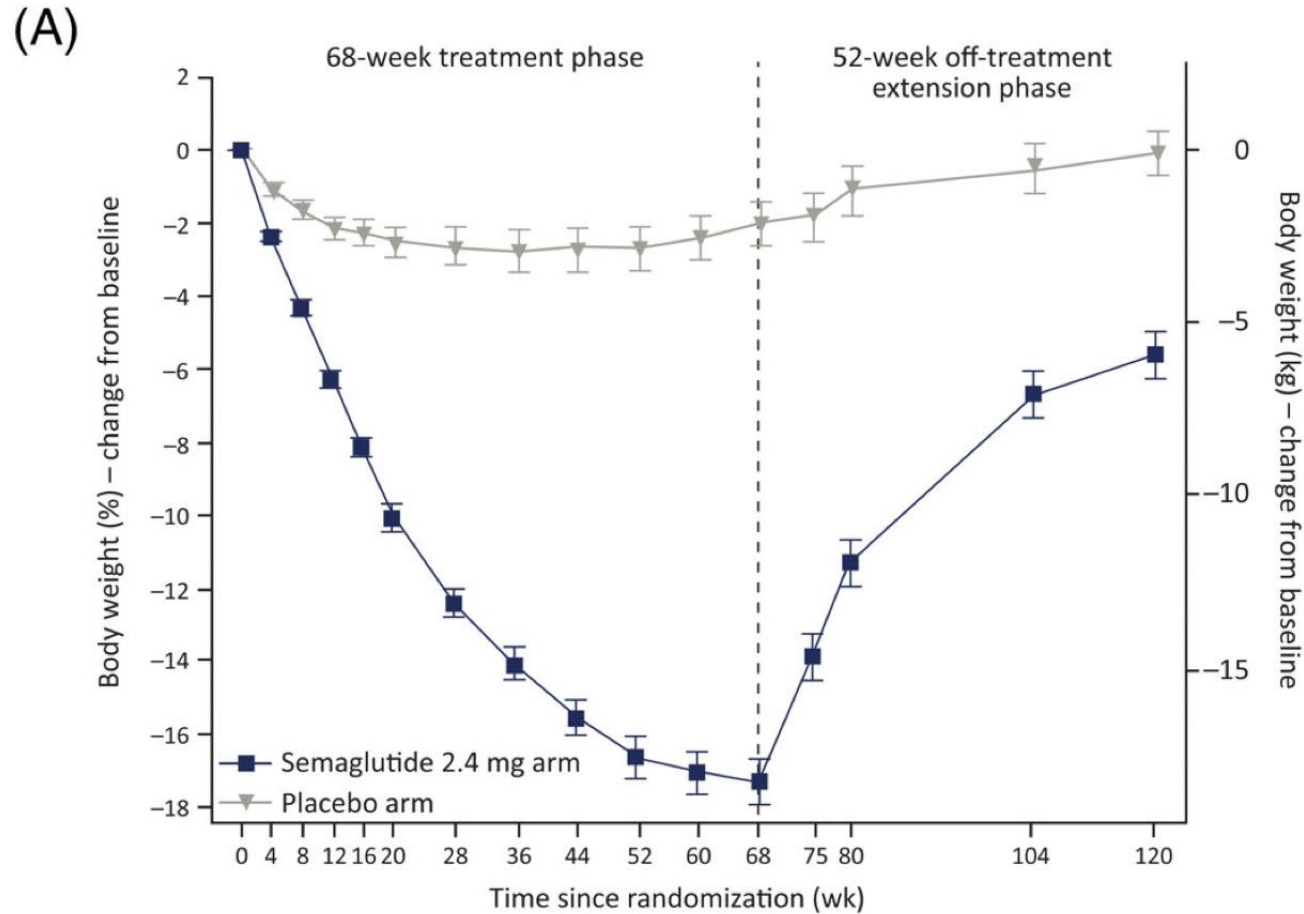
Anti-obesity medication Treatment Plan



Medication Timeline

- May 2021- December 2022: Titrated up to semaglutide 2.4 mg
- January 2022: Lost coverage for semaglutide due to new insurance policy

STEP 1 TRIAL EXTENSION



Semaglutide 2.4 mg arm	228	226	228	228	225	228	228	228	228	228	227	228	209	174	171	197
Placebo arm	99	99	99	98	97	98	99	99	99	99	99	99	93	79	80	93

Reference:
 Weight regain and cardiometabolic effects after withdrawal of semaglutide:
 The STEP 1 trial extension. *Diabetes Obes Metab.*
 2022 Aug;24(8):1553-1564. doi: 10.1111/dom.14725.
 Epub 2022 May 19. PMID: 35441470; PMCID: PMC9542252.

Anti-obesity medication Treatment Plan

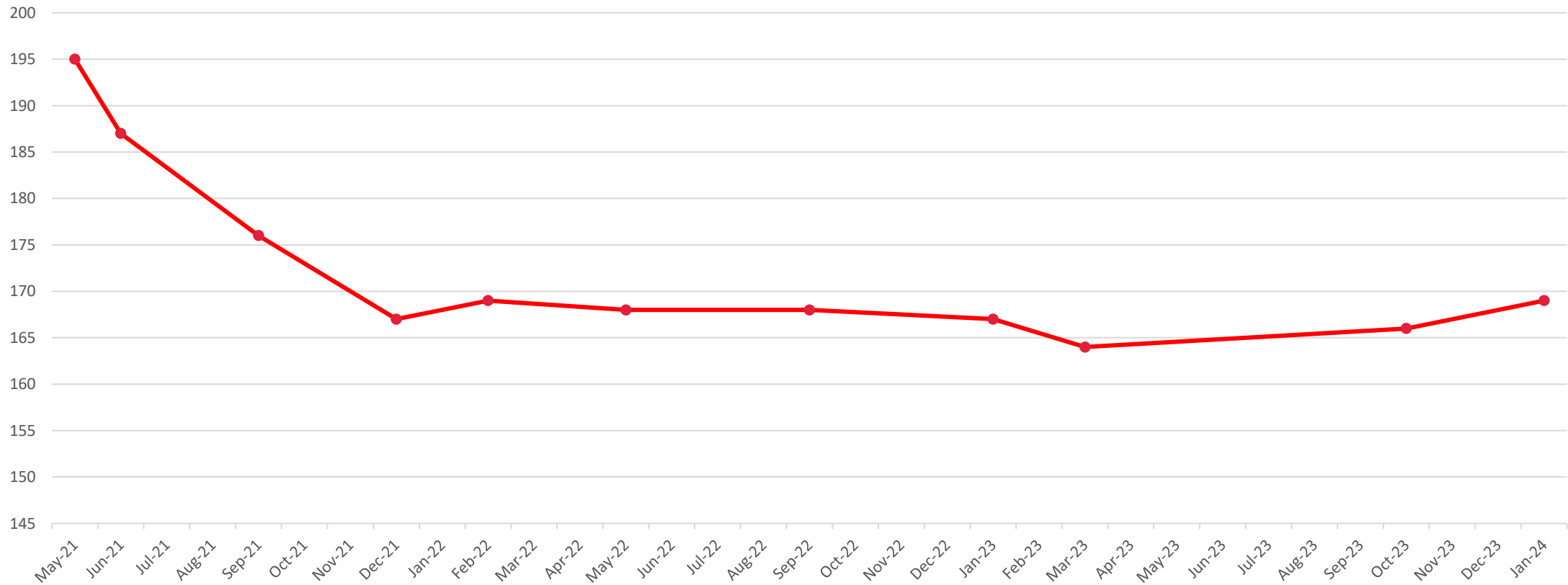


Started on phentermine 8 mg daily + topiramate 50 mg Qday → BID (generic equivalent) + metformin 2000 mg/day

Results



Weight Trend

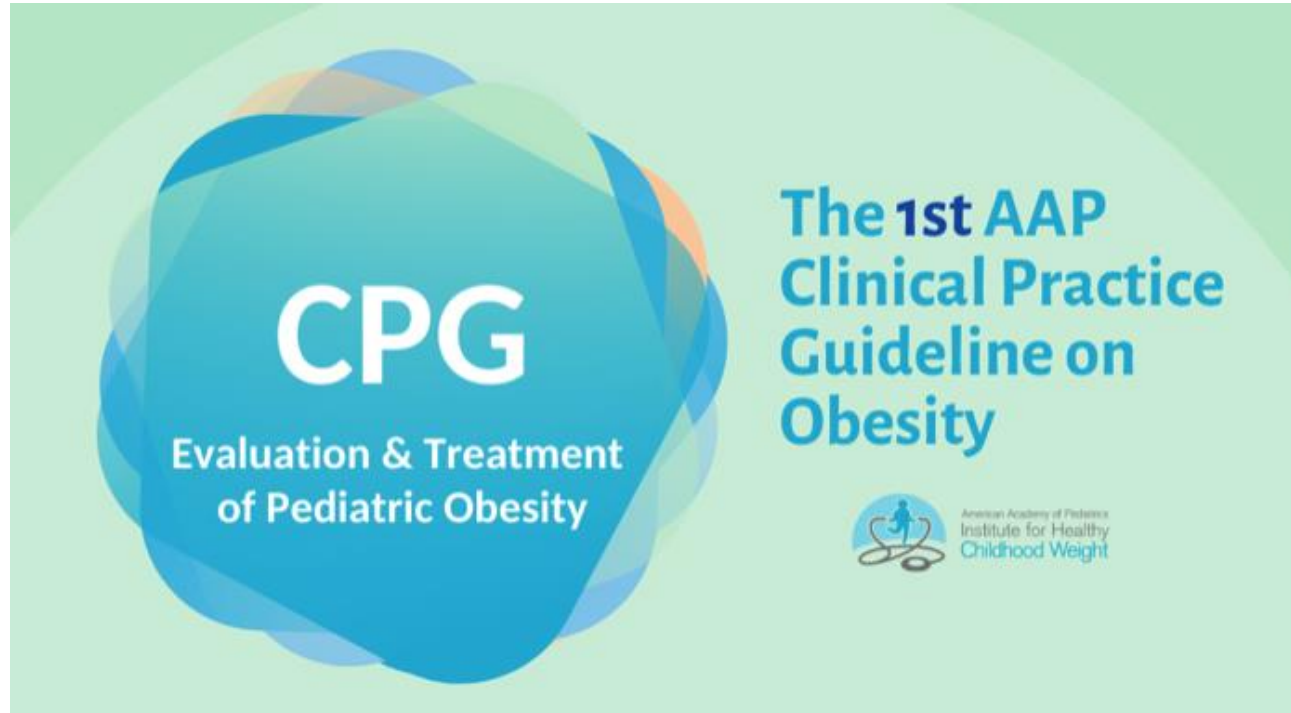


Lab Results & Ongoing Plan



- Continued on anti-obesity medication
- Labs December 2023
 - A1c 5.4%
 - Glu 98
 - Tchol 170
 - TG 126
 - HDL 54
 - LDL 88
- Medication plan: Now considering switching to tirzepatide with recent weight gain (169 lb) and difficulty complying with BID dosing of medication

Pediatric Obesity



Lily Han, M.D., F.A.A.P.

Medical Director Cook Children's Adolescent Bariatric Program



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ate of the American Board of Obesity Medicine

ate of the American Board of Lifestyle Medicine

2023 The AAP FIRST clinical practice guideline published for the evaluation and management of pediatric obesity



- Previously “watchful waiting”
- Guideline takes into account health equity, race, weight bias, stigma, adverse childhood experience
- Redefines obesity as a chronic disease requiring intensive and long term care strategies
- Evidence based comprehensive obesity treatment consisting of motivational interviewing and IHBLT. In addition for ages 12 and up pharmacotherapy and bariatric surgery if indicated
- In the future
 - AAP policy statement addressing the prevention of obesity
 - Evaluation and treatment of <2 years of age

Approved Anti Obesity Medications for Pediatric Obesity



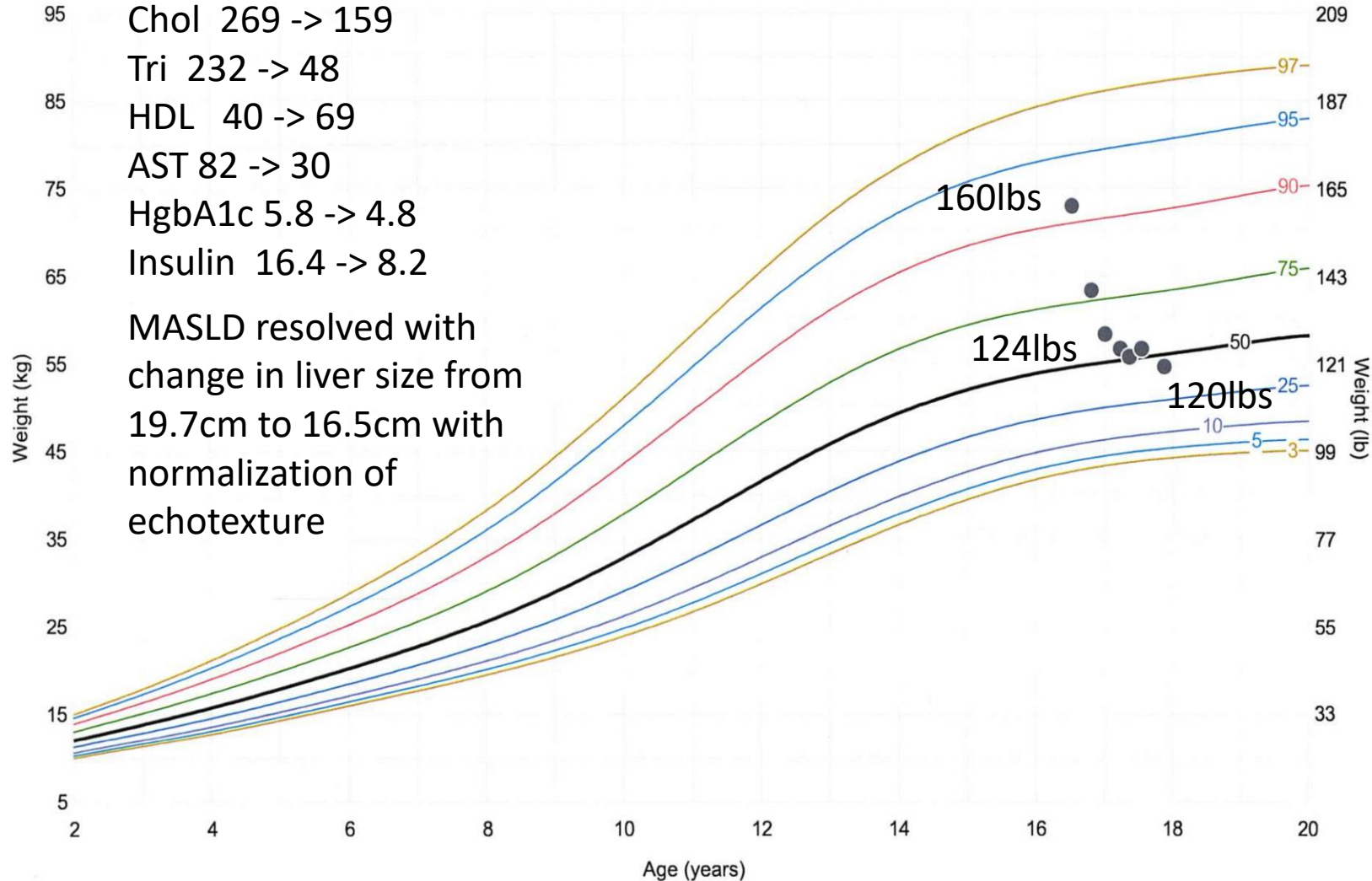
- Semaglutide for 12 and up
- Liraglutide for 12 and up
- Phentermine/topiramate for 12 and up
- Orlistat for 12 and up
- Phentermine for 16 and up

16yo with obesity, MASLD, hyperlipidemia and prediabetes



- IHBLT – MyFitness Pal, referral to registered dietician, 45 min physical activity 5xs a week, increase in home cooked meals, food prep and decrease in dining out
- Pharmacotherapy – semaglutide
- College accommodations - Dining plan exemption, request dorm with kitchen access
- Freshman year weight plateau
- Upon further history BED
- Pharmacotherapy modification - semaglutide and vyvanse

IHLBT, Semaglutide, Semaglutide + Vyvanse

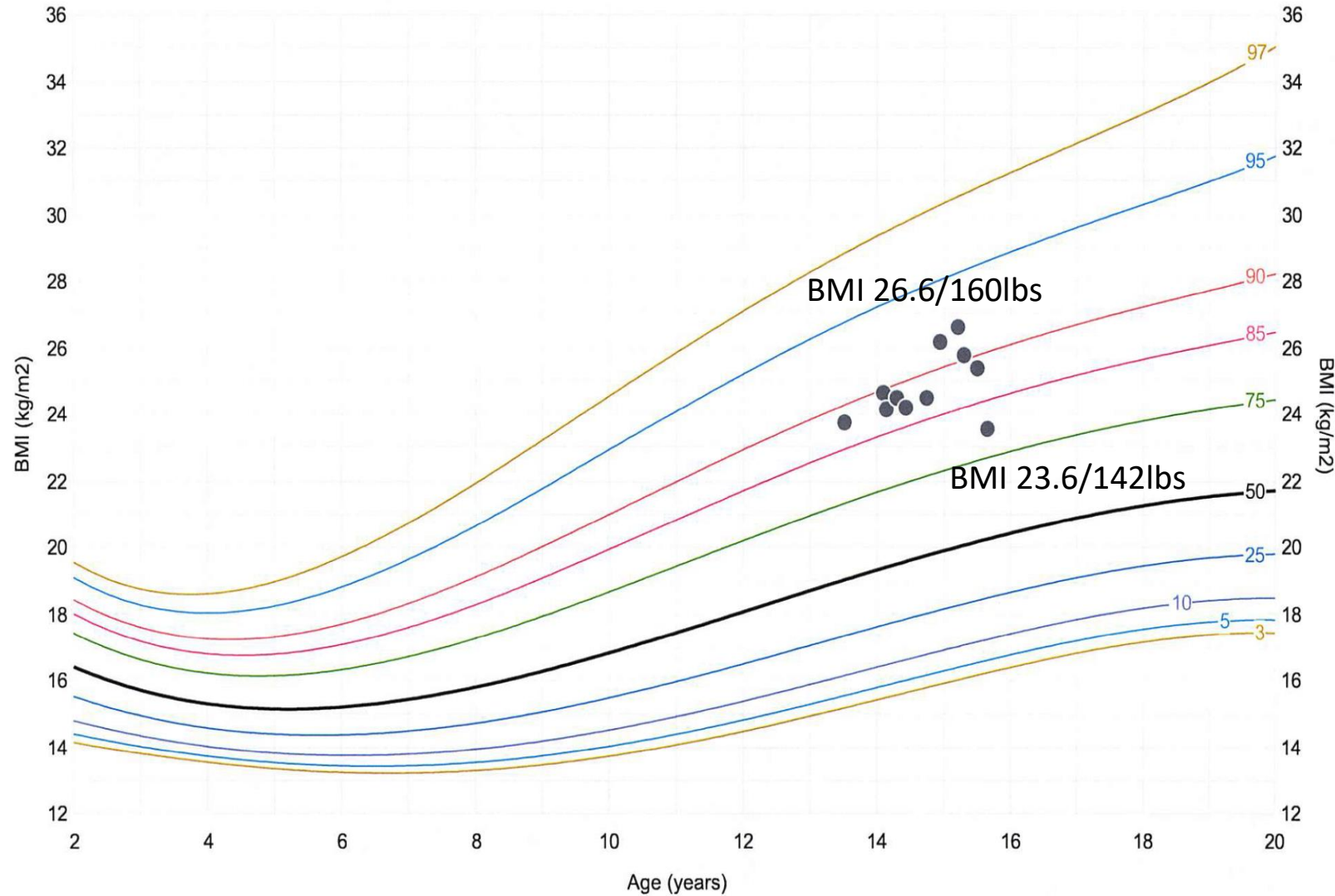




15yo with obesity BMI >95% for age

- PMHx – negative
- IHBLT
 - Nutrition – referred to registered dietician, family meal plan reviewed, bringing lunch instead of school lunch and decreasing fast food
 - Physical activity – school tennis team and theater (dance) Monday-Friday
 - Regular sleep schedule encouraged and stress management techniques reviewed
- Pharmacotherapy
 - Preferred GLP1 agonist - semaglutide and liraglutide both denied by insurance
 - Phenteramine/topirmate (Contrave) covered by insurance

15yo treated with phentermine/topiramate





For the indication of obesity, the FDA has approved the usage of GLP1 agonists liraglutide and semaglutide for the following ages – choose the best answer.

- A. 18yo and up
- B. 16yo and up
- C. 12yo and up
- D. 10yo and up

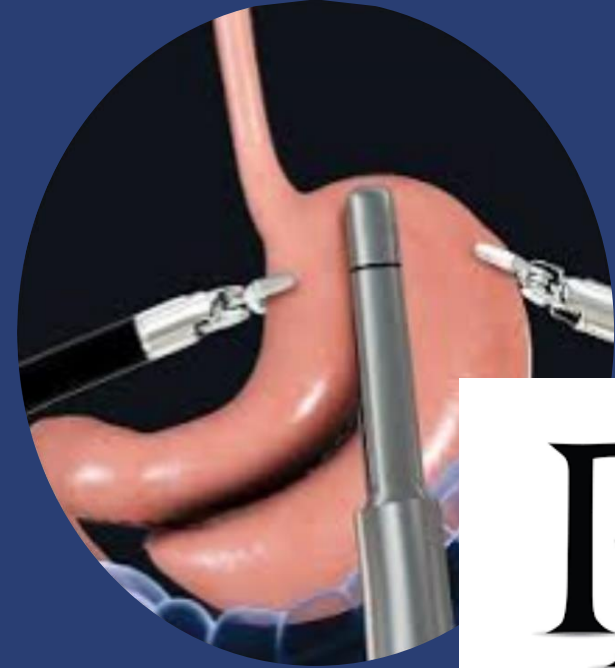
Saxenda http://www.accessdatafda.gov/drugsatfda_dcs/label/2022/022580s021lbl.pdf

Wegovy http://www.accessdatafda.gov/drugsatfda_dcs/label/2021/215256s000lbl.pdf



Case study
Bariatric Surgery &
Antiobesity Medications

Susan Bowlin, DNP, APRN, FNP-BC, ACNP-BC, CBN



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MEET JOHN



MEDICAL HISTORY

- 46-years old
- AICD placed in 2014 for A Fib/V Tach
- Diabetes
- Bipolar depression
- OSA
- Sleeve gastrectomy in 2018
 - Preop weight 420 lbs.
 - Post op nadir 270 lbs.
 - 150 lb. TWL
 - 36% TWL



MEDICATION PROFILE & LABS



- Clonazepam 0.5 mg @ HS
- Desvenlafaxine Succinate 150 mg daily
- Lamotrigline 300 mg daily
- MVI
- Total Chol 199
- HDL 52
- LDL 127
- Trig 100
- A1C 6.2
- CMP WNL
- CBC WNL
- Vitamin levels WNL
 - ***Check full panel of vitamin levels for patient with bariatric surgery before AOM

WEIGHT LOSS EXPECTATIONS



BARIATRIC SURGERY



- 30% TWL
- Weight loss results can be variable
- The durability of weight loss can also be variable
- A combination of AOMs and bariatric surgery may be needed to maximize weight loss outcomes over the course of a lifetime

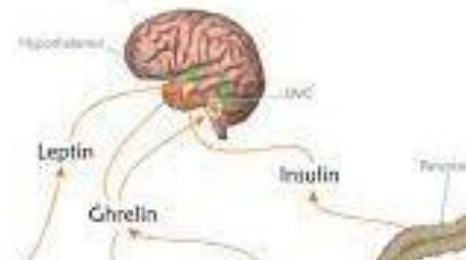


Coronavirus Updates

WEIGHT REGAIN

- June 2022 weight crept up to 385 lbs
- Reduced activity with isolation

Hunger hormones



Metabolic Adaptation

- Hunger hormones may have increased impacting appetite and cravings.
- Setpoint



Treatment Options

Revisit weight loss history and previous treatments
Ensure full bariatric lab panel results are reviewed

Comprehensive Assessment & Plan



- ✔ Start off with a discussion about what is working and what isn't.
- ✔ Does the patient have an idea of what is going on?
- ✔ It may be time to visit with the RD team to discuss postoperative eating mechanics and food choices/habits.



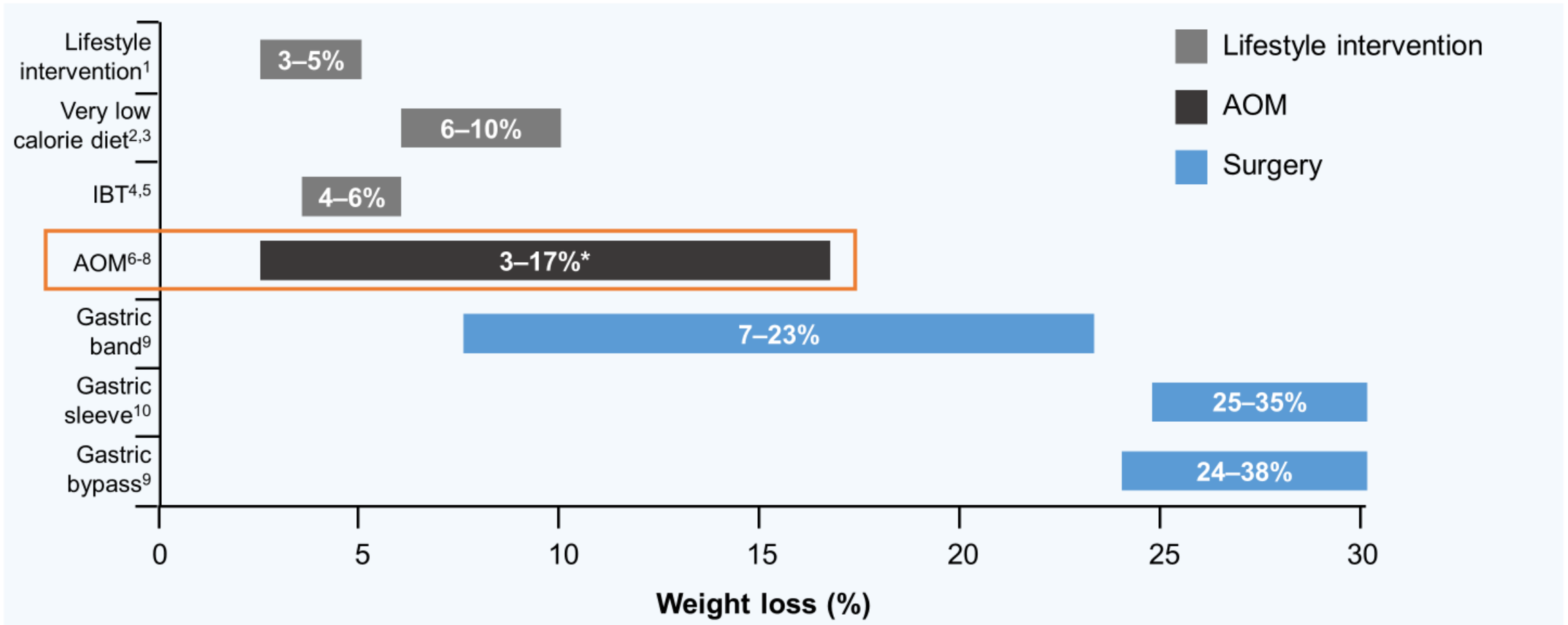
Adding an AOM



- Verify insurance formulary
- Review previous use of AOMs
- PMHx
- Medication regimen

Rx

Efficacy of existing weight loss interventions



*Based on mean weight loss achieved by the completer populations in the largest phase 3 clinical trial of each respective product's clinical development program as reported in the AACE Guidelines (2016).

AACE, American Association of Clinical Endocrinology; AOM, anti-obesity medications; IBT, intensive behavioral therapy.

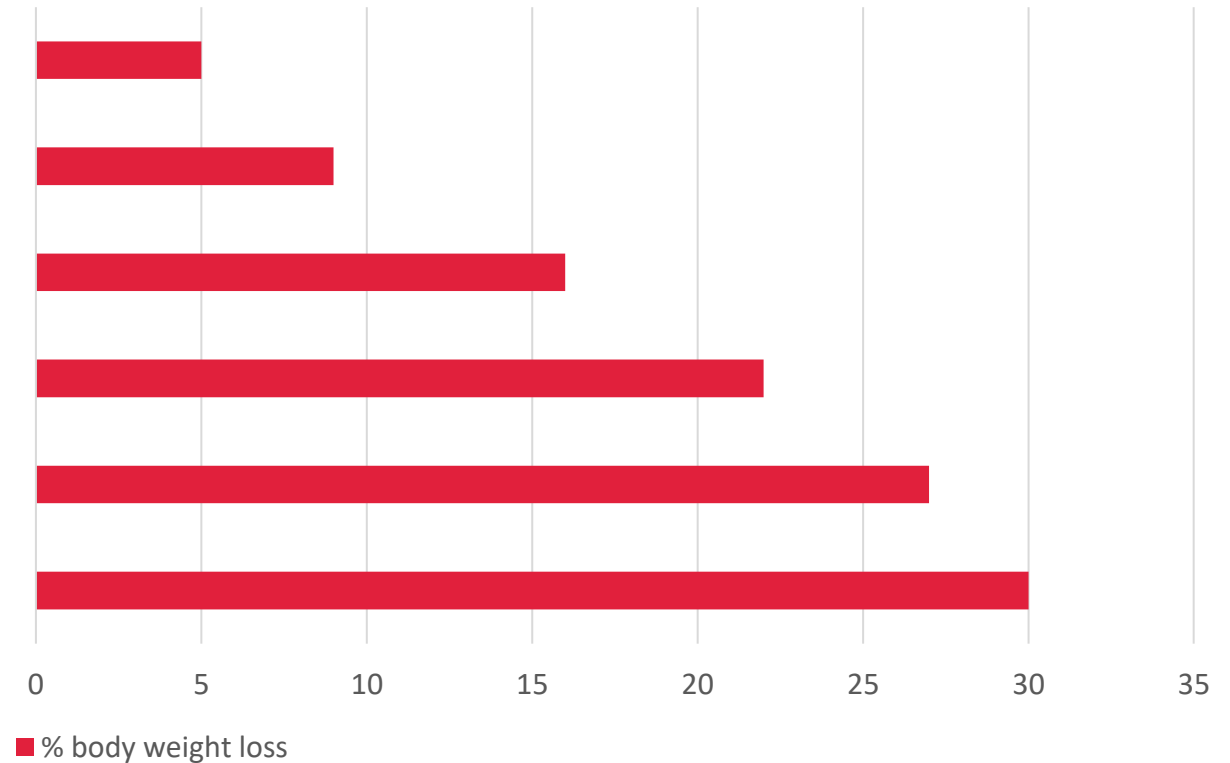
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Body Weight Loss by Modality



% body weight loss

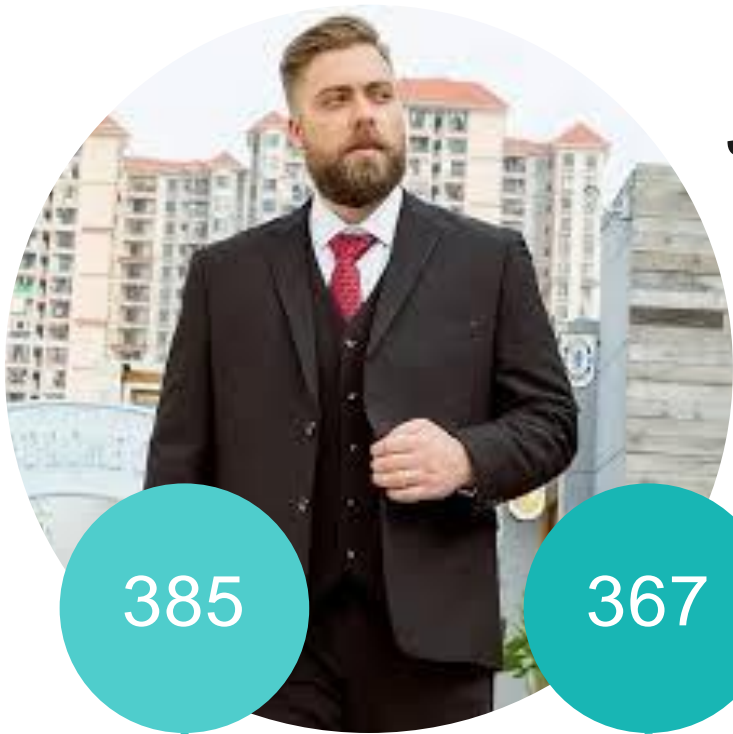
Bupopriion/Naltrexone
Phentermine/Topiramate
Semaglutide
Tirzepatide
Gastric Sleeve
Gastric Bypass



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JOHN'S WEIGHT LOSS PROGRESS



Weight in pounds

385

367

312

274

241

June 2022

Sept 2022

Mar 2023

Oct 2023

Feb 2024

Attempted to start Semaglutide 0.25 mg weekly but not covered on plan

Started Tirzepatide 2.5 mg x 4weeks then increased to 5 mg weekly



Remember Obesity is a Chronic Disease



- Life is constantly evolving and so must our treatment strategies.
- Helping patients to adapt to their own evolving physiology with unbiased support.
- Incorporate evolving treatment modalities as research emerges.

Comprehensive Obesity Care



- Longterm Bariatric Surgery Care
- It is always important to revisit the foundational post-op behaviors
 - Portions
 - Prioritizing protein
 - Dime-sized bites
 - Avoid fluids with meals
 - Regular physical activity
 - Dietary tracking
 - Meal planning



Antiobesity Medications

- AOMs can be utilized both before and after bariatric surgery.
- They are a tool to be layered into a treatment plan just like without surgery.
- Please don't skip over the foundational layers by simply adding the pharmacologic agent.



John's Progress

- He credits dietary tracking to be a gamechanger
- Maintained on 5 mg Tirzepatide weekly
- He has done a lot of counseling
 - Mother passed away which prompted counseling
 - He realized the dynamic of their relationship was hindering engagement in his health.
 - Cognizant of addiction transfer, Working on moderating alcohol intake.





Thank you!

www.dallasobesity.com

Obesity toolkit, handouts and additional resources available at
www.DallasObesity.com