OBESITY MANAGEMENT IN PRIMARY CARE TRAINING AND CERTIFICATE PROGRAM

Applying Foundations of Care When Obesity is the Chief Complaint

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AAPA THE OBESITY SOCIETY NACE

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Commercial Support

This activity was sponsored by an educational grant from Novo Nordisk, Inc.

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Faculty and Disclosure Statement

Karli Burridge is an internationally respected obesity medicine PA. She has received the highest level of training in obesity medicine for PAs, receiving the Certificate of Advanced Education in Obesity Management from the Obesity Medicine Association (OMA), and is a Fellow of OMA. She is the recipient of the 2017 OMA Committee Leadership Award, the 2018 Dr. Vernon B Astler Award, and the 2020 Dr. Raymond E. Dietz Meritorious Service Award for her contributions to the Obesity Medicine Association.

Karli is heavily involved in educating clinicians to expand the understanding of obesity as a complex chronic disease. She is co-founder and President of PAs in Obesity Medicine, as well as a Board member of the Illinois Obesity Society and Chair of the OMA membership committee . She has been a guest lecturer on obesity at several prestigious medical schools, including at Yale School of Medicine Online PA Program and Loma Linda University School of Medicine. She has published multiple papers and Clinical Practice Statements in the *Obesity Pillars* journal and is a co-author of OMA's Obesity Algorithm®.

Karli founded her company, Gaining Health, in 2020 to provide resources and tools for clinicians who want to start or optimize an obesity management program without having to recreate the wheel. More than anything, she appreciates being able to help educate and support other healthcare providers on how to provide optimal evidence-based care for individuals with pre-obesity and obesity.

Disclosures:
- **Consultant:** Novo Nordisk, Bariatric Advantage
- **Advisor:** Gelesis Biotechnology, Currax Pharmaceuticals, Vivus
- **Speaker's Bureau:** Currax Pharmaceuticals, Vivus

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Objectives

Formulate — Formulate an eating and physical activity plan based on individual patient characteristics and preferences.

Develop — Develop a specific follow-up plan for continued nutrition counseling based on individual patient characteristics and needs.

Prescribe — Prescribe an appropriate anti-obesity medication based on individual patient characteristics and needs.

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Case 1: Ms. S

MEDICAL BACKGROUND:
- 34-year-old woman with history of gastroesophageal reflux disease (GERD), depression, anxiety, and obesity who presents for an annual visit and advice regarding weight reduction
- No significant change in health over the past year, although feeling more anxious

PSYCHOSOCIAL BACKGROUND:
- Works full time for an advertising agency
- Married for 2 years and wants to start a family; recently saw gynecologist for abnormal menstrual cycle and was told that pregnancy would be more likely if she lost weight

MEDICATIONS:
- Omeprazole 20 mg QD, paroxetine 40 mg QD, alprazolam 0.25 mg prn, and a multivitamin–mineral supplement

Image: © Obesity Action Coalition

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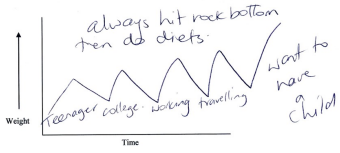
Case 1: Weight History and Past Attempts

Weight history:
- Cyclic and ratcheting weight gain since high school; highest weight is today

Multiple, self-directed weight reduction attempts; mostly temporary crash diets, such as juicing and the hCG diet
- Weight reduction of 10 to 15 pounds each time, followed by weight regain when nutrition changes discontinued
- Viewed the changes as difficult

Not currently following any specific eating or physical activity plan
- States that she tries to make healthy choices



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Case 1: Physical Examination

- Weight: 203 lbs; height: 67”
  - BMI: 32 kg/m^2
- Waist circumference: 96 cm
- BP: 126/88 mm Hg; HR: 92 bpm
- Remainder of physical exam unremarkable
- Labs: CBC normal

Chem Profile	Value
Glucose	102 mg/dL
HbA1c	5.8%
TC	210 mg/dL
LDL-C	130 mg/dL
TG	150 mg/dL
HDL-C	40 mg/dL
TSH	2.2 mIU/L

Behavioral Screeners	
PHQ-9	10/27
Binge Eating Scale	19
Self-reported stress	7/10
Hours per night of sleep	7-8

BMI, body mass index; BP, blood pressure; CBC, complete blood count; HbA1C, hemoglobin A1C; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; PHQ, patient health questionnaire; TC, total cholesterol; TG, triglycerides; TSH, thyroid stimulating hormone.

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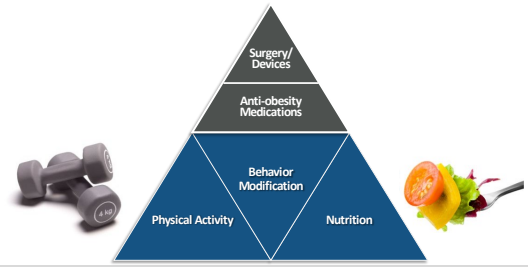
Components of an Effective Obesity Management Program



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Obesity Assessment

Weight History and Therapeutic Decision-making

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Determinants of Weight Gain

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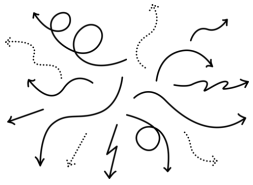
Life Course Perspective

- The life course perspective suggests that all of the mental, physical, and social factors that individuals experience through life influence health and disease risk and determine health trajectory



Kuh D, et al. *J Epidemiol Community Health*. 2003;57(10):778-783.

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Obesity Assessment

Obesity and Co-occurring/Comorbid Diseases

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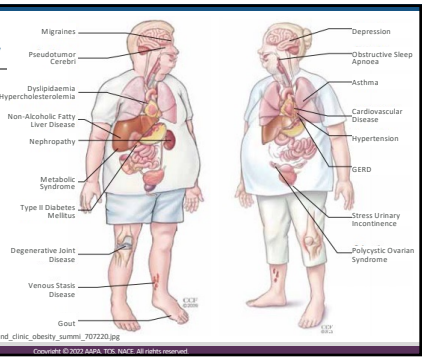
Burden of Obesity



https://media.mycme.com/images/2015/01/05/cleveland_clinic_obesity_summi_707220.jpg

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Obesity Assessment

Medication History

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Question

Which of the following is an obesogenic medication/class?

A. ACE inhibitors
B. Fluoxetine
C. Propranolol
D. Ziprasidone

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Obesogenic Medications

Category	Drugs That May Cause Weight Gain	Possible Alternatives
Neuroleptics	Thioridazine, haloperidol, olanzapine, quetiapine, risperidone, clozapine	Ziprasidone, aripiprazole
Antidiabetic agents	Insulin, sulfonylureas, thiazolidinediones	AGIs, DPP-4i, SGLT2i, GLP-1 RAs, metformin
Steroid hormones	Glucocorticoids, progestational steroids	Barrier methods, NSAIDs
Tricyclics (ADs)	Amitriptyline, nortriptyline, imipramine, doxepin	Protriptyline, bupropion, nefazodone
MAOIs (ADs)	Phenelzine	
SSRIs (ADs)	Paroxetine	Fluoxetine, sertraline
Other (ADs)	Mirtazapine, duloxetine	Bupropion
Anticonvulsants	Valproate, carbamazepine, gabapentin, pregabalin, vigabatrin	Topiramate, lamotrigine, zonisamide, felbamate
Antihistamines	Cyproheptadine	Inhalers, decongestants
β- and α-adrenergic blockers	Propranolol, doxazosin, metoprolol	ACEIs, CCBs

ACEIs, angiotensin-converting enzyme inhibitors; ADs, antidepressants; AGIs, Alpha-glucosidase inhibitors; CCBs, calcium channel blockers; DPP-4, Dipeptidyl peptidase-4; GLP-1 RAs, Glucagon-like peptide-1 receptor agonists; MAOIs; monoamine oxidase inhibitors; SGLT2i, Sodium/glucose cotransporter-2 inhibitor; SSRIs, selective serotonin reuptake inhibitors.

Kushner RF, et al. *JAMA*. 2014;312(9):943-952. Apovian CM, et al. *J Clin Endocrinol Metab*. 2015;100(2):342-362.

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Obesity Assessment

Assessment for Eating Disorders

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Binge Eating Disorder Screener-7 (BEDS-7)

- During the last 3 months, did you have any episodes of excessive overeating (ie, eating significantly more than what most people would eat in a similar period of time)?
- Do you feel distressed about your episodes of excessive overeating?
- During your episodes of excessive overeating, how often did you feel like you had no control over your eating (eg, not being able to stop eating, feeling compelled to eat, or going back and forth for more food)?

Herman BK, et al. *Prim Care Companion CNS Disord*. 2016;18(2):10.4088/PCC.15m01896.

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Binge Eating Disorder Screener-7 (BEDS-7) (cont'd)

- During your episodes of excessive overeating, how often did you continue eating even though you were not hungry?
- During your episodes of excessive overeating, how often were you embarrassed by how much you ate?
- During your episodes of excessive overeating, how often did you feel disgusted with yourself or guilty afterward?
- During the last 3 months, how often did you make yourself vomit as a means to control your weight or shape?

Herman BK, et al. *Prim Care Companion CNS Disord.* 2016;18(2):10.4088/PCC.15m01896.

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Binge Eating Disorder (DSM-5)

Criterion 1:	Recurrent episodes of binge eating; an episode of binge eating is characterized by both of the following: • Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat in a similar period of time under similar circumstances • The sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating)
Criterion 2:	Binge-eating episodes are associated with three (or more) of the following: • Eating much more rapidly than normal • Eating until feeling uncomfortably full • Eating large amounts of food when not feeling physically hungry • Eating alone because of being embarrassed by how much one is eating • Feeling disgusted with oneself, depressed, or very guilty after overeating
Criterion 3:	Marked distress regarding binge eating is present
Criterion 4:	The binge eating occurs, on average at least 1 day a week for 3 months (DSM-5 frequency and duration criteria)
Criterion 5:	The binge eating is not associated with the regular use of inappropriate compensatory behavior (e.g., purging, fasting, excessive exercise) and does not occur exclusively during the course of anorexia nervosa or bulimia nervosa
Severity Grading:	Mild: 1 to 3 episodes per week Moderate: 4 to 7 episodes per week Severe: 8 to 13 episodes per week Extreme: 14 or more episodes per week

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Nutrition Counseling

Nutrition History and Counseling

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Nutrition History

Nutrition Recall

- Short term or long term
- 24-hour nutrition recall
  - Quick method to determine patterns, habits, choices
- Info: family, social/work environment, socio-economic factors, nutrition understanding
- **Helps to formulate your shared plan based on your patient's preferences and current nutrition and your nutritional guidance**

Shared Decision-making

- Improved quality of decision-making process
- Establishes context
  - Value and preferences of the patient
- Identifies areas of patient uncertainty
- Risks and benefits of treatment plans or course of action
- Team approach: cohesive therapy approaches

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Assessing Knowledge: ASK

- "I'd like to learn more about you so that we can formulate a plan that works for YOU, if that's okay."
- "Let's go through your typical day. What are some examples of what you would eat for breakfast, lunch, dinner, snacks, etc.? Let's start with the first thing you eat or drink and go from there."
- "Tell me about the weekends—do you find yourself eating differently?"
- "What do you like to drink with your meals throughout the day?"
- "Who grocery shops/prepares meals in your house?"
- "What does healthy eating mean to you?"
- "What types of nutrition plans have you tried in the past? What worked well or didn't work well for you?"
- "Do you (or have you ever) read nutrition labels?"

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Determining Lifestyle Diet Treatment: ASK

Your plan

1. Meet the patient where he or she is
2. Set realistic expectations with the patient
3. Negative perceptions may lead to clinical inertia

Ask about past nutritional changes:

- "What did you like vs what didn't you like?"
- "Why do you think this worked (or didn't)?"
- "What do YOU think your biggest food struggles are?"
- "What is your biggest challenge with changing your nutrition?"
- "How does your family feel about changing the food at home?"

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Set Realistic Expectations

Realistic Weight Reduction Goals	Realistic Nutrition Changes	Realistic Outcomes
1-2 pounds per week	Be wary of restriction/ binge pattern	Find the MIDDLE GROUND (no "all or nothing") Weight reduction may be slower—but less restrictive and more sustainable
10% reduction in 6 months	Limit ultra-processed foods and Promote whole-foods	Focusing on "health behavior goals" as opposed to "scale goals"
"Goal weight" or "ideal weight" may not be achievable and may feel overwhelming	Focus on smaller, attainable goals, focus on "Big Why" and quality of life over # on scale	1) Is it working? 2) Is it sustainable?

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Provide Resources

- Provide ideas that are easy to implement—small changes add up over time
- Meal and/or snack options
- Grocery lists
- Healthier options when eating out
- Online tools (websites, apps, support, accountability)
- Find and celebrate small successes (*"I only ate one slice of pizza vs the whole pizza"*)
- Turn the negative into a positive learning experience: *"You learned something about yourself. You need to have some healthful snacks on hand when you fly so you don't eat airport junk food."*
- Use other successful patients' eating plans as an example

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Keep it Simple

Nutrition tracking: awareness and choice

Better not best

Progress over perfection

"Low-hanging fruit"

Finding the minimum

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Physical Activity

Physical Activity History and Counseling

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Question

Which of the following is the current recommendation for physical activity?

A. 120 min low intensity aerobic activity

B. 150 min moderate intensity aerobic/2 days strength activity

C. 90 min high intensity aerobic activity

D. 90 min high intensity aerobic/2 days muscle-strength activity

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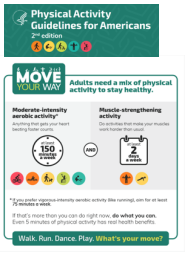
Physical Activity



https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf.

FITTE

Frequency *Intensity* *Time* *Type* *Enjoyment*

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Case 1: Follow-up at 6 Months

- You treat the patient in the office. She chooses to follow a structured lifestyle program and incorporate self-monitoring of her weight, nutrition, and physical activity. She sets a nutrition goal and spends more time planning and preparing her own meals and snacks. You schedule follow-up office visits for monitoring, reinforcement, and counseling.
- Over the next 4 months she successfully loses 6% (12 lbs) of her body weight, but similar to her past history, she experiences weight regain over months 5 and 6. She returns to your office having regained 5 lbs. She is frustrated and more depressed about her weight. She wants to know what else she can do.
- She is monitoring her steps but has not found a consistent way to increase her physical activity.

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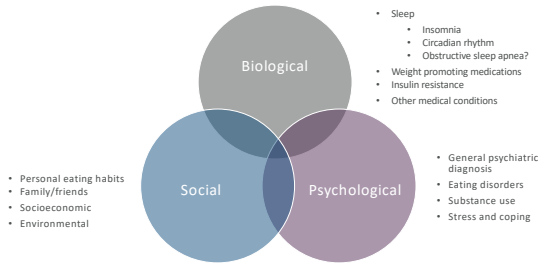
Re-Assess



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Behavioral Counseling

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Contextual Logging

Food	Time	Emotion	Hunger (1-10)	Activity
¾ c. Greek yogurt with 5 strawberries and ¼ c granola	7:35am	Content, happy	7	Sitting at the kitchen table, thinking about my meeting at 8am.
Coffee with dream and ½ chocolate donut	9:15am	Anxious, frustrated	3	Breakroom at work, meeting didn't go great. Was only planning to have the coffee, but Kim brought donuts and I couldn't resist.
Cobb salad with dressing and piece of bread	12:30pm	More calm	6	Grabbed lunch from the shop downstairs and ate while working at my desk.

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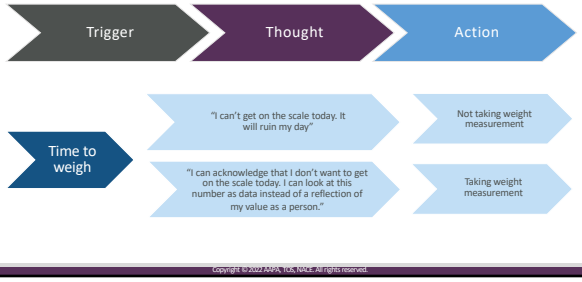
Cognitive Behavioral Therapy (CBT)



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Perfectionism/Emotional Eating Cycle

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Anti-obesity Medications

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What is the Primary Purpose of Anti-obesity Medications Used in Obesity Treatment?

"The rationale for use of medications is to help patients adhere to a lower calorie diet more consistently in order to achieve more sufficient weight loss and health improvements when combined with increased physical activity."

Indicated for patients with a BMI ≥30 kg/m^2 or a BMI ≥27 kg/m^2 associated with a comorbidity

Jensen MD, et al. *Circulation*. 2014;129(25 Suppl 2):S102-S138.

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Current Anti-obesity Medications (AOM)

Agents	Mechanism of Action	Effect
Phentermine	• Sympathomimetic	Appetite regulation
Phentermine/ topiramate ER (Qsymia®)	• Sympathomimetic • Anticonvulsant (GABA receptor modulation, carbonic anhydrase inhibition, glutamate antagonism)	Appetite regulation
Naltrexone/bupropion SR (Contrave®)	• Opioid receptor antagonist • Dopamine/noradrenaline reuptake inhibitor	Appetite regulation
Liraglutide (Saxenda®)	• GLP-1 receptor agonist	Appetite regulation
Orlistat (Xenical® or Alli®)	• Pancreatic lipase inhibition	Reduces fat absorption
Semaglutide (Wegovy®)	• GLP-1 receptor agonist	Appetite regulation

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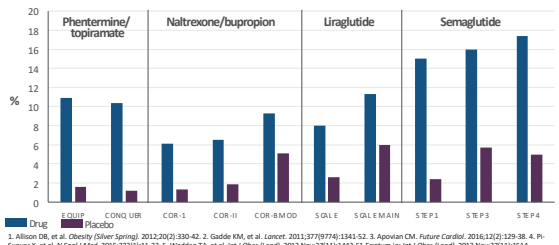
Percent Weight Reduction (Drug versus Placebo)



1. Allison DB, et al. *Obesity (Silver Spring).* 2012;20(2):330-42. 2. Gadde KM, et al. *Lancet.* 2011;377(9774):1341-52. 3. Apovian CM. *Future Cardiol.* 2016;12(2):129-38. 4. Pi-Sunyer X, et al. *N Engl J Med.* 2015;373(1):11-22. 5. Wadden TA, et al. *Int J Obes (Lond).* 2013 Nov;37(11):1443-51.Erratum in: *Int J Obes (Lond).* 2013 Nov;37(11):1514. Erratum in: *Int J Obes (Lond).* 2015 Jan;39(1):187. 6. Wilding JPH, et al. *N Engl J Med.* 2021;384(11):989. 7. Wadden TA, et al. *JAMA.* 2021;325(14):1403-1413.. 8. Rubino D, et al. *JAMA.* 2021;325(14):1414-1425.

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Long-term Management

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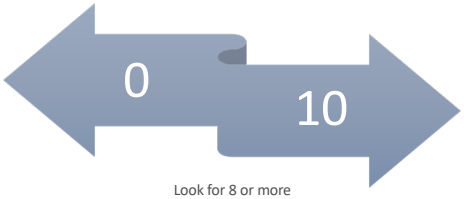
Goal Setting

How likely are you to achieve this goal?



Look for 8 or more

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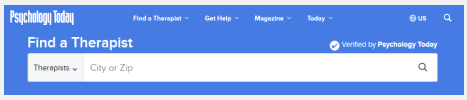
Finding a Health Psychologist

Behavioral medicine providers (LCSW/PsyD/PhD) within your institution or other medical or clinical settings

- Look for experience with obesity management or eating disorders
- Interventions used: motivational interviewing (MI), cognitive behavioral therapy (CBT), acceptance and commitment therapy (ACT)

www.psychologytoday.com



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Follow Up (Month 5 and 6)

Diet Fatigue:

- Motivation is not linear
- Praise success, non-scale victories
- Discuss challenges; "troubleshoot"
- Reconnect with goals
- Revisit eating plan
- Try something new

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Case 2: Mr. T

MEDICAL BACKGROUND:

- 55-year-old man with history of hypertension, type 2 diabetes mellitus, obstructive sleep apnea (OSA), osteoarthritis of the knees, and obesity
- Had a sleeve gastrectomy 10 years ago, initially lost 100 lbs, has regained 50 lbs over the past 5 years, with diabetes and OSA returning with the weight gain

PSYCHOSOCIAL BACKGROUND:

- Married for 20 years, 2 children (ages 13 and 15)
- Working full-time as an insurance salesman
- His wife is also affected by overweight

MEDICATIONS:

- Metformin 500 mg BID, glyburide 10 mg BID, losartan 100 mg QD, diltiazem 240 mg QD, atorvastatin 10 mg QD , aspirin 81 mg QD, chlorthalidone 25 mg QD
- Prescribed CPAP

CPAP, continuous positive airway pressure.

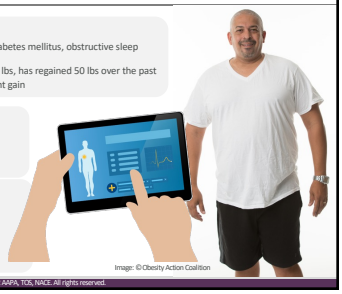

Image: © Obesity Action Coalition

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Obesity Assessment

History and Physical Exam

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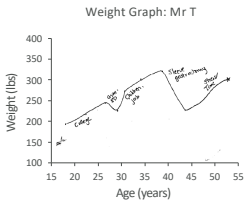
Case 2: Weight History and Past Attempts

- He has been battling his weight for many decades. He previously lost weight on his own through nutrition changes and exercise, as well as a 100lb weight loss with a sleeve gastrectomy. He has regained 50 lbs from his weight nadir. His diabetes and OSA have returned with the weight gain.
- He attributes his weight gain to pressures at work and at home and having less time to take care of himself. He stopped going to bariatric clinic after his first year after surgery.



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Case 2: Current Health Habits

Nutrition history:

Breakfast	Skipped
Lunch (11:30am)	Restaurant meal with clients
Dinner (7pm)	At home, with family, large portion sizes
Snacks	Up late, watching TV and snacking after family goes to bed

- Physical activity is limited to activities of daily living
- Currently very few hobbies; spends most of his off-time watching TV, reading magazines, or talking with family
- Previously active in photography and volunteering

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Case 2: Physical Examination

- Weight: 278 lbs; height: 70”; BMI: 40 kg/m^2
- BP: 128/62 mm Hg
- HR: 92 bpm
- Heart: Grade 2/6 SEM at apex
- Extremities: dystrophic skin changes, 1+ edema

Labs	
FBS	95 mg/dL
HbA1c	6.9%
BUN	19 mg/dL
TC	152 mg/dL
LDL-C	80 mg/dL
TG	181 mg/dL
HDL-C	38 mg/dL

Behavioral Screeners	
PHQ-9	2/27
Binge Eating Scale	13
Self-reported stress	4/10
Hours per night of sleep	5-7 hours - feels unrefreshed / not using CPAP

BUN, blood urea nitrogen; eGFR, estimated glomerular filtration rate; FBS, fasting blood sugar; SEM, systolic ejection murmur.

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Improvements in Risk Factors and Comorbidities

	Orlistat[1]	Phentermine/ topiramate ER[2]	Naltrexone/ bupropion SR[3]	Liraglutide 3.0 mg[4]	Semaglutide 2.4 mg[5]
WC	↓	↓	↓	↓	↓
BP	↓	↓	↑	↓	↓
LDL	↓↓	↓	↓	↓	↓
HDL	↑	↑	↑	↑	↑
TG	↓↓	↓↓	↓↓	↓↓	↓↓
A1C	↓	↓	↓	↓↓↓	↓↓↓
HR	↓	-	↑	↑	↑
Diabetes	↓↓	↓↓	↓	↓↓↓	↓↓↓

WC, waist circumference.
1. Orlistat prescribing information. http://www.gene.com/download/pdf/xenical_prescribing.pdf. 2. Phentermine/topiramate ER prescribing information. https://qsymia.com/pdf/prescribing-information.pdf. 3. Naltrexone SR/bupropion SR prescribing information. http://www.accessdata.fda.gov/drugsatfda_docs/label/2014/200063s000lbl.pdf. 4. Liraglutide 3.0 mg prescribing information. http://novo-pi.nnittest.com/saxenda.pdf. 5. Semaglutide prescribing information. https://www.novo-pi.com/wegovy.pdf.

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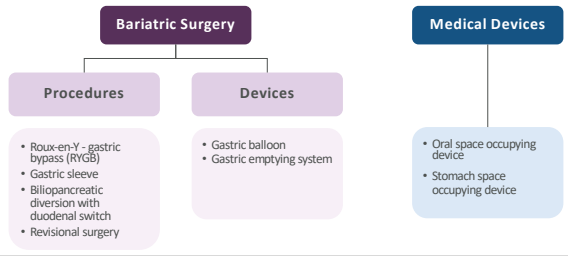
Surgery and Devices for Weight Reduction and Management



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Bariatric/Metabolic Surgery

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Considerations for Surgical Treatment

May be an option for patients with:

- BMI 35-39.9 kg/m^2 and ≥1 obesity-related comorbidity
- BMI ≥40 kg/m^2

Long-term reduction in:

- Body weight
- Cardiovascular biomarkers, events
- Other weight-related complications

Need for ongoing support and intervention

Jensen MD, et al. *Circulation*. 2014;129(25 Suppl 2):S102-S138. Arterburn DE, et al. *Br Med J*. 2014;349:g3961. Toh SY, et al. *Nutrition*. 2009;25(11-12):1150-1156.

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A Follow-up on Mechanisms of Weight Reduction and Remission of T2DM Following RYGB

Mechanism	Metabolic effect
Food intake	↓
Energy expenditure	↓
Leptin	↓
Insulin secretion	↑
Hepatic insulin sensitivity	↑
Muscle insulin sensitivity	↑
Gastric emptying	↑
GLP-1	↑
Peptide YY	↑
Ghrelin	↓ →
Cholecystokinin	↑
Bile acids	↑
Gut microbiota	Altered

Madsbad S, et al. *Lancet Diabetes Endocrinol*. 2014;2:152-164.

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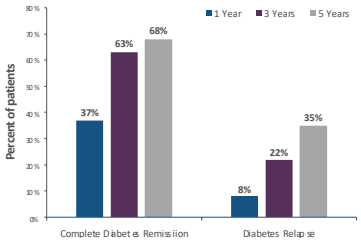
RYGB Results in Durable Remission of T2DM in Most (but not all) Patients

- Retrospective cohort study of 4434 adults with T2DM who underwent RYGB
- Lower remission rates predicted by poor preoperative glycemic control (A1c ≥6.5%), longer duration of diabetes, and receiving insulin
- Median time to relapse was 8.3 y



Arterburn DE, et al. *Obes Surg*. 2013;23(1):93-102

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Case 2: Follow Up

- You discuss all options with the patient.
- He attends a group discussion of revisional bariatric surgery but says, "*I want to try something less aggressive*."
- He is not taking a bariatric multivitamin—agrees to have labs checked and re-start a bariatric-specific multivitamin.
- He agrees to work on his nutrition and agrees to the use of meal replacement products for greater calorie and portion control. He is started on a 1500-calorie diet.
- He is not interested in increasing physical activity.
- He also agrees to discuss possible medications to aid in his nutrition efforts.
- You tell him that his diabetes medications may need monitoring during weight reduction.

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Obesity and Sleep

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Night Eating Syndrome—DSM-5

Technically: Other Specified Feeding or Eating Disorder (OSFED)

Criterion 1:	The daily pattern of eating demonstrates a significantly increased intake in the evening and/or nighttime, as manifested by one or both of the following: • At least 25% of food intake is consumed after the evening meal • At least two episodes of nocturnal eating per week
Criterion 2:	Awareness and recall of evening and nocturnal eating episodes are present.
Criterion 3:	The clinical picture is characterized by at least three of the following features: • Lack of desire to eat in the morning and/or breakfast is omitted on four or more mornings per week • Presence of a strong urge to eat between dinner and sleep onset and/or during the night • Sleep onset and/or sleep maintenance insomnia are present four or more nights per week • Presence of a belief that one must eat in order to initiate or return to sleep • Mood is frequently depressed and/or worsens in the evening
Criterion 4:	The disorder is associated with significant distress and/or impairment in functioning.
Criterion 5:	The disordered pattern of eating has been maintained for at least 3 months.
Criterion 6:	The disorder is not secondary to substance abuse or dependence, medical disorder, medication, or another psychiatric disorder.

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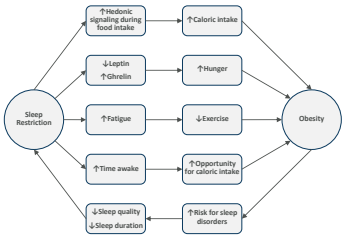
Sleep and Obesity



- Short sleep duration (<5 or 6 hours) is significantly associated with future obesity
- Other notable factors:
  - Sleep variability
  - Sleep timing
  - Daytime napping
  - Sleep efficiency / quality
- Untreated obstructive sleep apnea (OSA)

Cooper CB, et al. *BMJ Open Sport & Exercise Medicine*. 2018;4:e000392. Wu Y, et al. *Sleep Medicine*. 2014;15(12):1456-1462.

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Nutrition Counseling

Meal Replacement

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Meal Replacements

- **Meal Replacements:** liquid meals, meal bars, calorie-controlled packaged meals
- **Supporting Evidence:** *Substituting one or two daily meals or snacks with meal replacements is a successful weight reduction and weight maintenance strategy.*
- **Most Overheard Concerns: Processed foods… consider the alternative**


Look for Foods with:
- Kcal: 150-400
- Fiber: Min 3-5 g
- Sugar: <5 g
- Protein: At least 15 g
- Trans Fat: 0g


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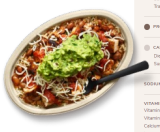
ADW: Meal Replacements



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Barriers to Implementation

- Eating out with clients
  - How likely is this to change?
- Large portions at dinner
  - Level of Hunger
- **Timing Rule of Thumb:**
  - Try to avoid long periods of time with no eating occasions
  - 4-5 hours
  - Overly hungry, hard to control portions, less energy, vulnerable to unhealthy choices
- **Other suggestions for better choices?**

Patient's Nutrition Recall

Breakfast	Skipped
Lunch (11:30am)	Restaurant meal with clients
Dinner (7pm)	At home, with family, large portion sizes
Snacks	Up late, watching TV and snacking after family goes to bed

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Case 2

- Through shared decision-making, the patient chooses to try liraglutide 3.0 mg and you provide a prescription. He is instructed on pen use and drug administration, including titration over the first month.
- Over the next 6 months, he loses 22 lbs (8% of initial body weight). Weight is now 256 lbs. New BMI = 36.8 kg/m^2 (Class II obesity)
- Labs:
  - Glucose: 102 mg/dL
  - A1C: 6.2%
  - TC: 174 mg/dL
  - LDL-C: 104 mg/dL
  - HDL-C: 51 mg/dL
  - TG: 95 mg/dL
- Weight and labs remain stable over an additional 6 months

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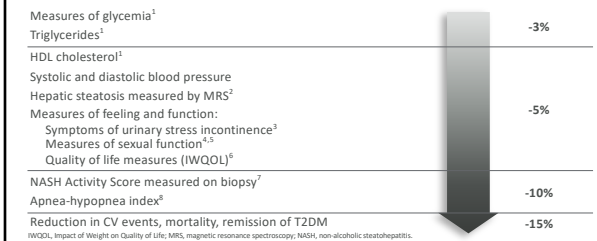
Benefits of Modest Weight Reduction

Greater Benefits with Greater Weight Reduction



IWQOL, Impact of Weight on Quality of Life; MRS, magnetic resonance spectroscopy; NASH, non-alcoholic steatohepatitis.

1. Wing et al. *Diabetes Care*. 2011;34:1481-1486. 2. Lazo et al. *Diabetes Care*. 2010;33:2156–2163.3. Phelan et al. *Urol*. 2012;187:939-944. 4. Wing et al. *Diab Care*. 2013;36:2937-2944. 5. Wing et al. *Journal of Sexual Medicine*. 2010; 7:156-165. 6. Crosby, Manual for the IWQOL-LITE Measure. 7. Promrat et al. *Hepatology*. 2010;51:121-129. 8. Foster et al. *Arch Intern Med*. 2009;169:1619–1626.

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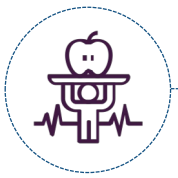
Key Take-aways



01 Obesity is a multifaceted disease, which often requires multiple providers participating in care

02 Patients need a comprehensive assessment prior to initiating care

03 Obesity management is a dynamic process and requires ongoing assessment

04 Treatment includes a continuum of care, including lifestyle management, pharmacotherapy, and surgery

05 Be aware of the role of mental health, both in how symptoms impact health habits and how medications may be playing a role in maintaining obesity

06 Consider referring to a specialized obesity treatment program for challenging cases

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