

Module 7: Applying Foundations of Care When Obesity is the Chief Complaint

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OBESITY MANAGEMENT IN PRIMARY CARE CERTIFICATE PROGRAM:

A Practice Management & Leadership Training Program for PAs and NPs



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 from you regarding weight loss.
- No significant change in health over the past year, although feeling more anxious.

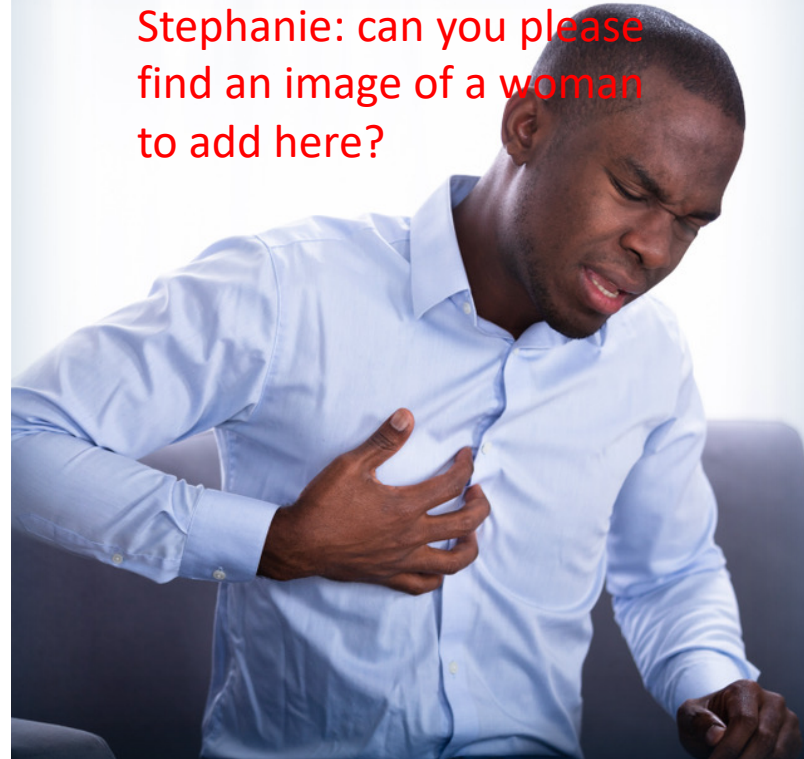
Psychosocial Background:

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

Medications:

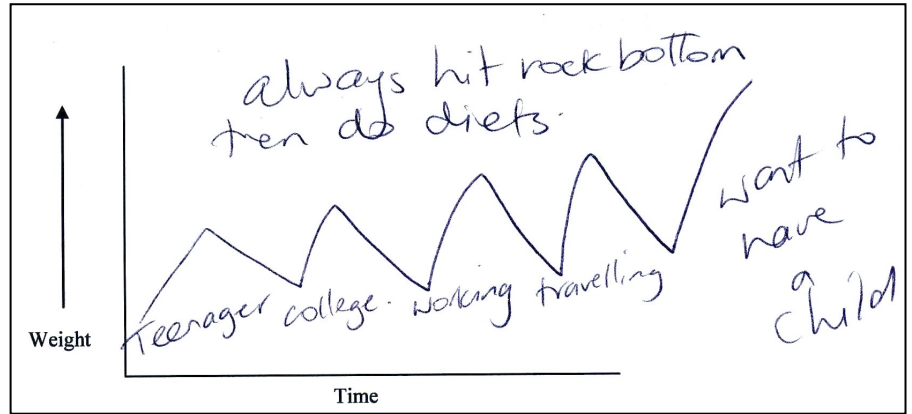
- omeprazole 20 mg QD, paroxetine 40 mg QD, alprazolam 0.25 mg prn, and a multiple vitamin–mineral supplement

Stephanie: can you please find an image of a woman to add here?



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 loss attempts, mostly fad diets such as keto and juicing. Weight loss of 10 to 15 pounds each time, followed by weight regain when she discontinued the diets. She viewed the changes as difficult.
- She is currently not following any specific diet or exercise plan. Though does state that she tries to make healthy choices.



Case 1: Physical Examination

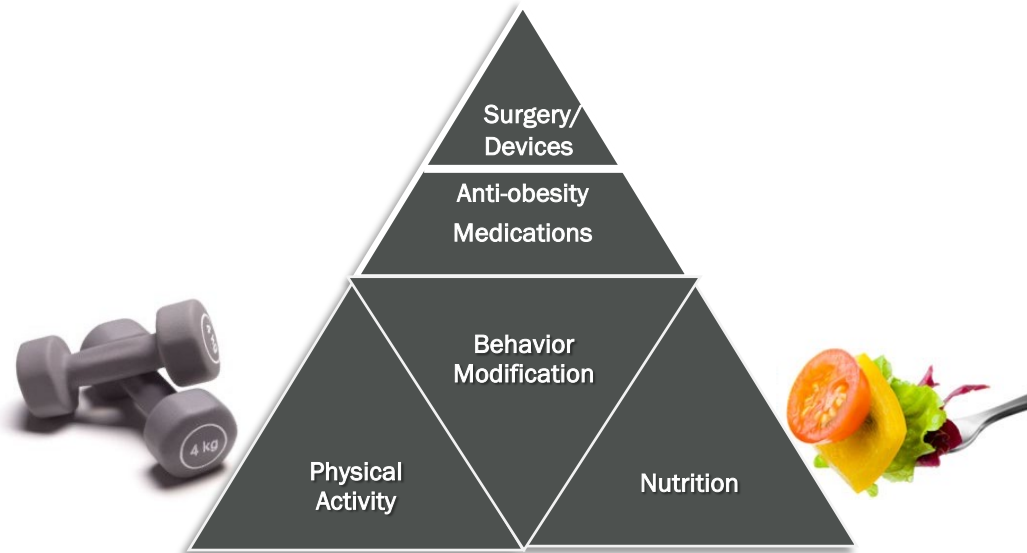
- Weight: 203 lbs, height: 67”
 - BMI is 32 kg/m², waist circumference is 96 cm
- BP: 126/88 mm Hg, HR: 92 bpm.
- The remainder of the physical exam is unremarkable.
- Labs: CBC normal

Chem Profile	
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

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

BMI = Body Mass Index; BP = blood pressure; CBC = complete blood count; HDL-C = high-density lipoprotein cholesterol; LDL-C = low-density lipoprotein cholesterol; TC = total cholesterol; TG = triglycerides; TSH = thyroid stimulating hormone.

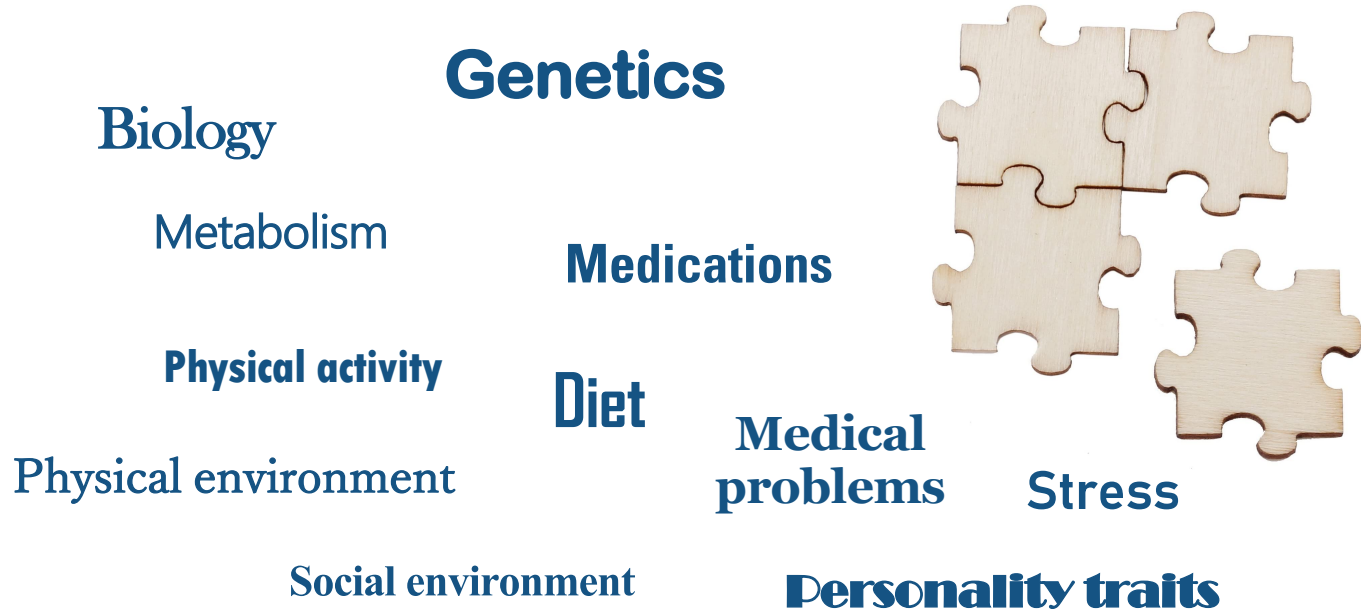
Components of an Effective Obesity Management Program



Case 1: Discussion Questions (1)

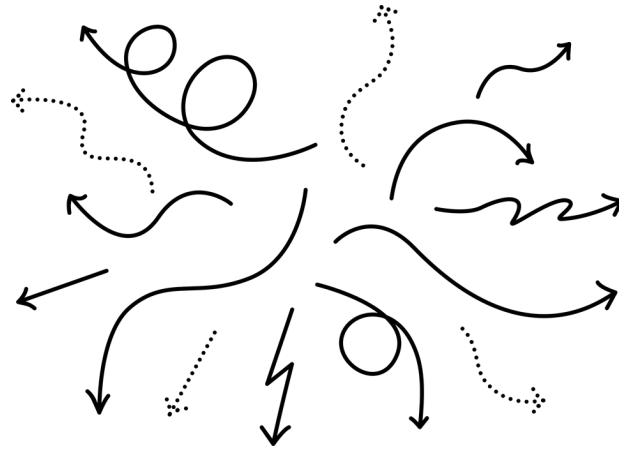
1. What is the importance of taking a weight history? Does the pattern and/or duration of weight gain/obesity impact therapeutic decision making?
2. What is the relationship between the patient's GERD, depression and abnormal menstrual cycle with obesity?
3. What is the importance of reviewing the patient's medications regarding weight gain?
4. Are there any other questions or tests that you would like to ask for/order?
5. What is the role of "shared decision making" and how do you conduct it in practice?
6. What questions do you ask to better understand potential for eating disorders?
7. How can you assess the difference between overeating and binge eating?

Determinants of Weight Gain



Life course perspective

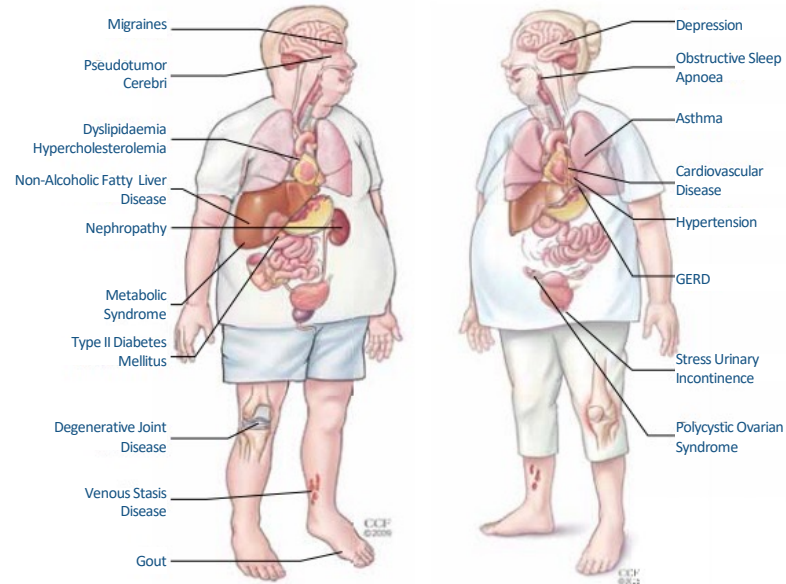
- The *life course perspective* suggests that all of the mental, physical and social factors that individuals experience through life influence health and disease risk and determine health trajectory



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Burden of Obesity



Case 1: Discussion Questions (1)

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Weight Gaining Side Effects of 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	ACEIs, CCBs

ADs = antidepressants

Kushner RF, et al. *JAMA*. 2014;312(9):943-52; Apovian CM, et al. *J Clin Endocrinol Metab*. 2015;100(2):342-62.

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SCOFF Questions

- Do you make yourself **Sick** (induce vomiting) because you feel uncomfortably full?
- Do you worry that you have lost **Control** over how much you eat?
- Have you recently lost more than **One** stone (14 lb [6.4 kg]) in a three-month period?
- Do you think you are too **Fat**, even though others say you are too thin?
- Would you say that **Food** dominates your life?

Morgan JF, Reid F, Lacey JH. The SCOFF questionnaire: assessment of a new screening tool for eating disorders. *BMJ* 1999; 319:1467.

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Binge Eating Disorder (DSM-5)

Criterion 1:	<p>Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:</p> <ul style="list-style-type: none">• 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:	<p>Binge-eating episodes are associated with three (or more) of the following:</p> <ul style="list-style-type: none">(a) Eating much more rapidly than normal(b) Eating until feeling uncomfortably full(c) Eating large amounts of food when not feeling physically hungry(d) Eating alone because of being embarrassed by how much one is eating(e) Feeling disgusted with oneself, depressed, or very guilty after overeating
Criterion 3:	<p>Marked distress regarding binge eating is present.</p>
Criterion 4:	<p>The binge eating occurs, on average at least 1 day a week for 3 months (DSM-5 frequency and duration criteria)</p>
Criterion 5:	<p>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</p>
Severity Grading	<p>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</p>

Case 1: Discussion Questions (2)

8. What is the importance of taking a nutrition recall? How does this benefit shared decision making?

9. What questions would you ask to assess her current nutrition or food knowledge?

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 plan**
- Can also be perceived as judgmental
 - Patients may tell you what they think you want to hear
 - OR want to avoid confrontation

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

Case 1: Discussion Questions (2)

8. What is the importance of taking a diet recall? How does this benefit shared decision making?

9. What questions would you ask to assess her current nutrition or food knowledge?

Assessing Knowledge: ASK

- “I’d like to learn more about you - What are some examples of what you would eat for breakfast, lunch, etc. ?”
- “You seem like a busy person! Are you eating regularly or do you find yourself skipping meals or going long periods of time without eating?”
- “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?”
- “Do you (or have you ever) looked at nutrition labels?”

Case 1: Discussion Questions (2)

10. Regarding her past diet attempts, why does she perceive the diets to have been difficult? Would you consider this a reason she may struggle with any diet advice you provide?

11. How do you decide which lifestyle treatment program to recommend?

Determining Lifestyle Diet Treatment: ASK

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

- YOUR PLAN:
- Meet the patient where he or she is
- Set realistic Expectations with the patient
- *Negative perceptions may lead to clinical inertia*

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 loss may be slower- but less restrictive and more sustainable
10% current weight in 6 months	Avoid elimination of specific foods (unless a trigger food)	Focusing on “health goals” as opposed to “scale goals”
“Goal Weight” or “ideal weight” may not be achievable May feel overwhelming	Reduce Calories Go for EASY strategies	1) Is it working 2) Can I do this the rest of my life?

PROVIDE RESOURCES

- Disconnect between **WHY** and **HOW**
- Provide ideas that are easy to implement
- Meal and / or snack options
- Grocery lists
- Healthier options when eating out
- Online tools (websites, apps, support, accountability)
- *Don't be afraid to use your OWN eating plan as an example*
- (Stephanie – will we be able to provide some electronic handouts for the participants to reference here?)

Keep it Simple

Nutrition tracking:
awareness and
choice

Better
not
best

Progress
over
perfection

“Low-hanging
fruit”

Finding the
minimum

Case 1: Discussion Questions (3)

11. How do you decide which lifestyle treatment program to recommend?
12. If you decide to recommend physical activity, how would you start?
13. Is this a patient that should be referred to a specialized obesity treatment program?
14. If you decide to guide treatment yourself, how do you bill for that service? What resources do you need to effectively treat obesity in the office?
15. How would you monitor any dietary questions or struggles she may experience?

Case 1: Discussion Questions (3)

11. How do you decide which lifestyle treatment program to recommend?

12. If you decide to recommend physical activity, how would you start?

13. Is this a patient that should be referred to a specialized obesity treatment program?

14. If you decide to guide treatment yourself, how do you bill for that service? What resources do you need to effectively treat obesity in the office?

15. How would you monitor any dietary questions or struggles she may experience?

Physical Activity



MOVE YOUR WAY Adults need a mix of physical activity to stay healthy.

Moderate-intensity aerobic activity*
Anything that gets your heart beating faster counts.

at least **150 minutes a week**

Muscle-strengthening activity
Do activities that make your muscles work harder than usual.

at least **2 days a week**

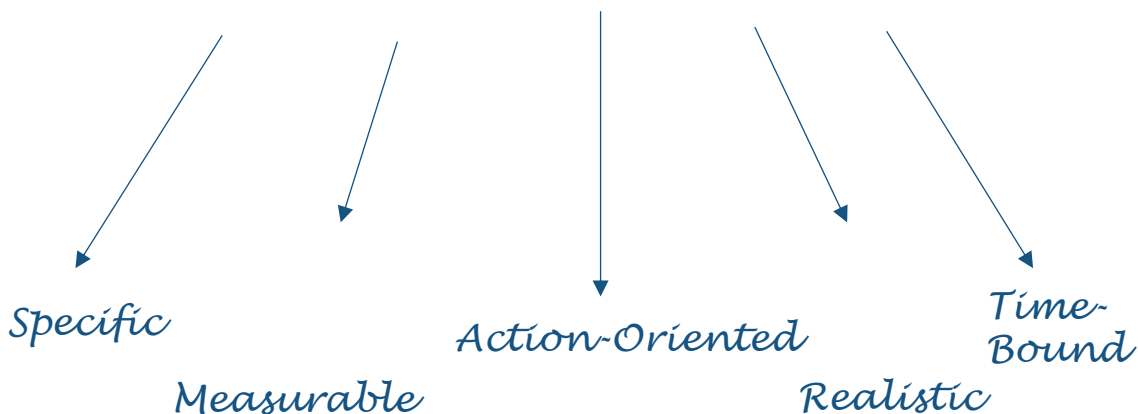
AND

* If you prefer vigorous-intensity aerobic activity (like running), aim for at least 75 minutes a week.

If that's more than you can do right now, **do what you can.** Even 5 minutes of physical activity has real health benefits.

Walk. Run. Dance. Play. **What's your move?**

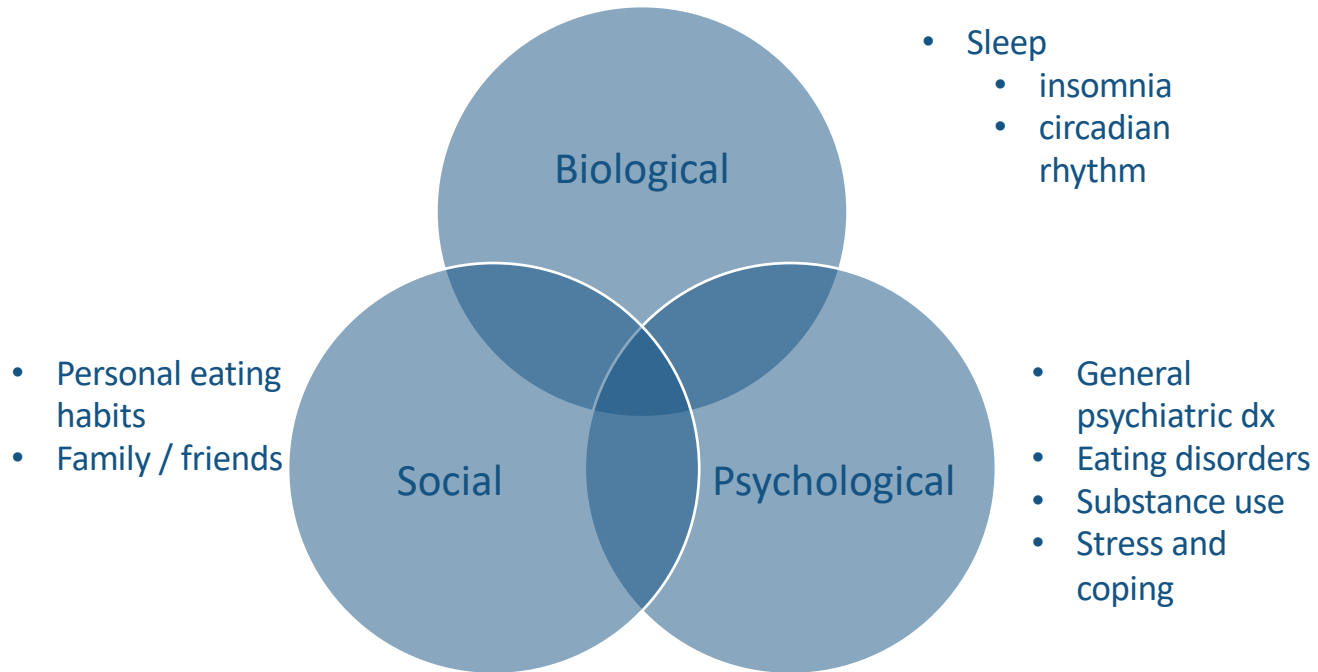
SMART



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, diet, and activity. She sets a calorie 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 activity

Health Psychology Referral: Assessment



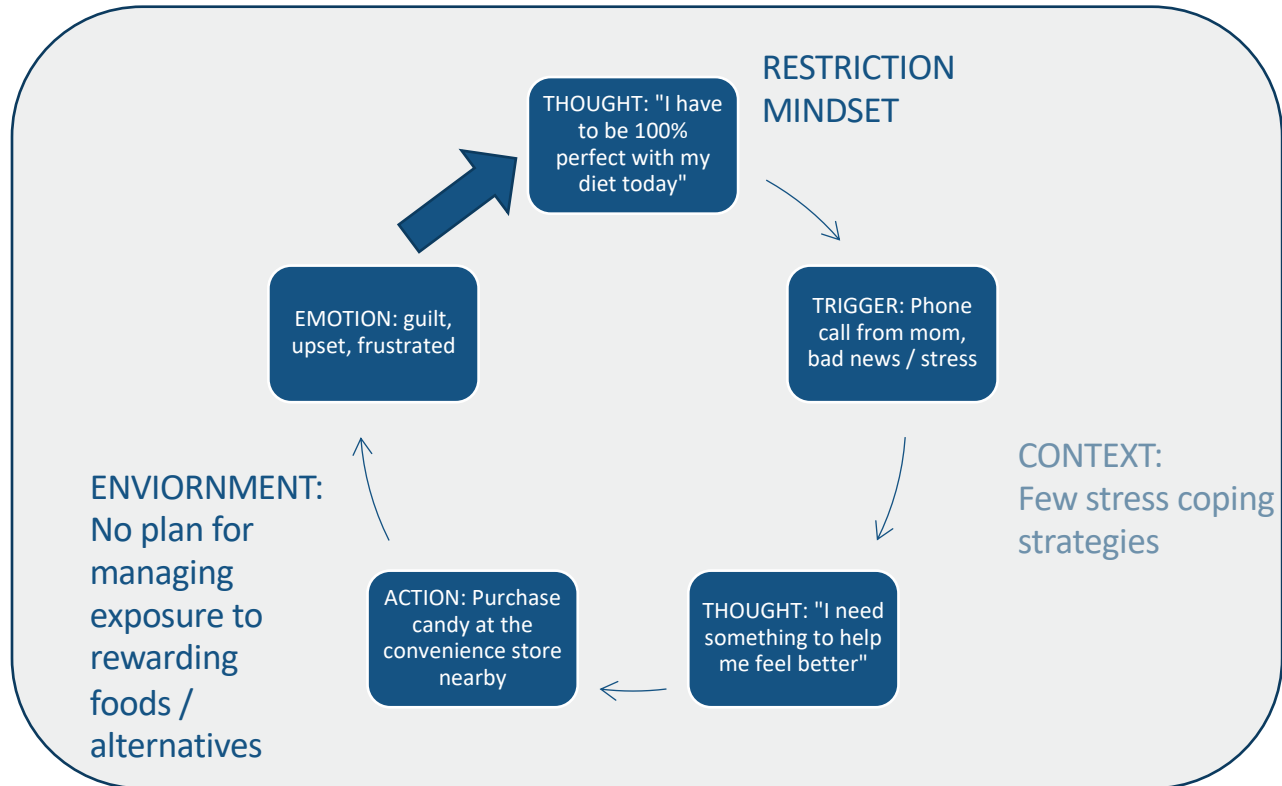
Health Psychology Treatment: Contextual logging

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

Health Psychology Treatment: Cognitive Behavioral Therapy (CBT)



Health Psychology Treatment: Perfectionism / Emotional Eating Cycle



Case 1 – Discussion Points (4)

1. When a patient regains weight after initial success, what is your thought process? What questions are you asking?
2. What role does depression have in weight management? What are the treatment options? How do you decide for or against a weight promoting anti-depressant?
3. How do you decide when to initiate weight loss medication?
4. What is your approach when a patient has not achieved their physical activity goals?
5. What are the factors you need to consider when deciding which medication to prescribe?
6. How do you help a patient find a health psychologist / behavioral medicine provider if you do not have someone in your institution or practice?
7. What is your approach to “diet fatigue”?
8. How would you help a patient find a Registered Dietitian or weight loss program with increased accountability?

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What is the Primary Purpose of Adjunctive 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.”

Jensen MD, et al. *Circulation*. 2014;129(25 Suppl 2):S102-38.

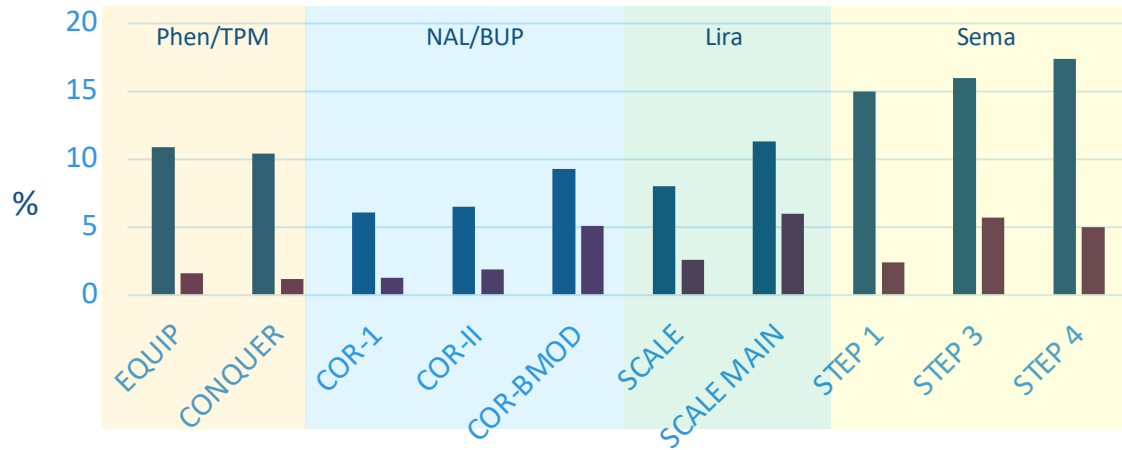
Indicated for patients with a BMI ≥ 30 kg/m² or a BMI ≥ 27 kg/m² associated with a co-morbidity



Current Anti-Obesity Medications (AOM)

Agents	Mechanism of Action	Effect
Phentermine	<ul style="list-style-type: none">Sympathomimetic	<ul style="list-style-type: none">Appetite regulation
Phentermine/ topiramate ER (Qsymia®)	<ul style="list-style-type: none">SympathomimeticAnticonvulsant (GABA receptor modulation, carbonic anhydrase inhibition, glutamate antagonism)	<ul style="list-style-type: none">Appetite regulation
Naltrexone/ bupropion SR (Contrave®)	<ul style="list-style-type: none">Opioid receptor antagonistDopamine/noradrenaline reuptake inhibitor	<ul style="list-style-type: none">Appetite regulation
Liraglutide (Saxenda®)	<ul style="list-style-type: none">GLP-1 receptor agonist	<ul style="list-style-type: none">Appetite regulation
Orlistat (Xenical® or Alli®)	<ul style="list-style-type: none">Pancreatic lipase inhibition	<ul style="list-style-type: none">Reduces fat absorption

Percent Weight Loss (Drug versus Placebo)



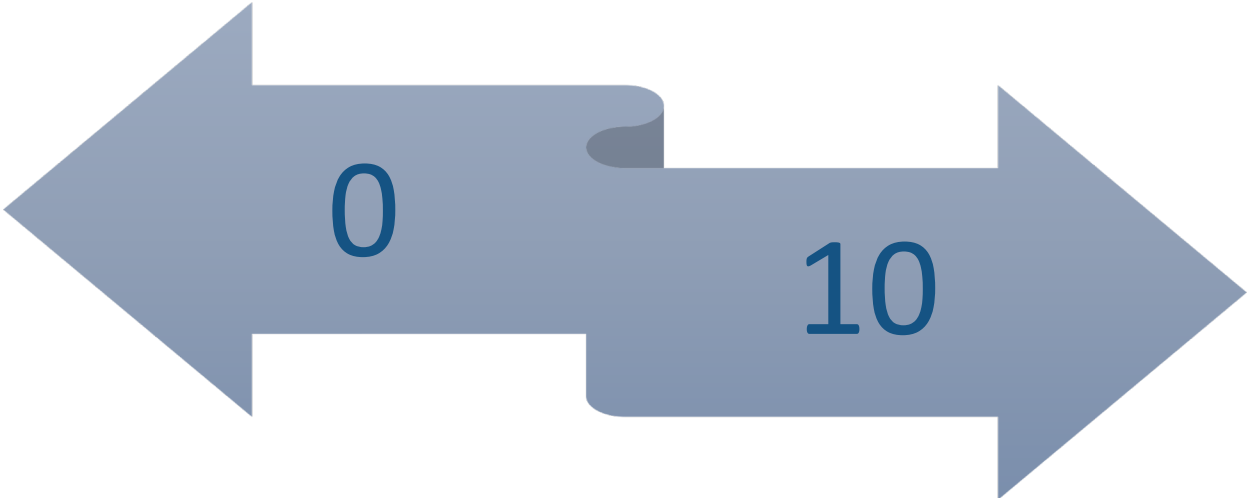
■ Drug
■ Placebo

Sema 2.4 mg is under FDA approval

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Goal Setting



How likely are you to achieve this Goal?

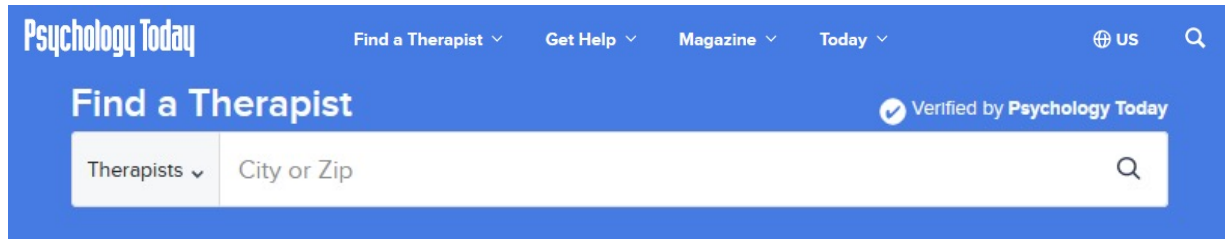
Look for 8 or more

Case 1 – Discussion Points (4)

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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 weight management or eating disorders
 - Interventions used: motivational interviewing (MI), cognitive behavioral therapy (CBT), acceptance and commitment therapy (ACT)
- www.psychologytoday.com



The screenshot shows the Psychology Today website's search interface. At the top, the logo 'Psychology Today' is on the left, and navigation links 'Find a Therapist', 'Get Help', 'Magazine', and 'Today' are in the center. On the right, there are links for 'US' and a search icon. Below the navigation is a large blue header with the text 'Find a Therapist' and a checkmark icon followed by 'Verified by Psychology Today'. Underneath this is a white search bar with a dropdown menu labeled 'Therapists' and a text input field containing 'City or Zip'. A search icon is located at the end of the search bar.

Case 1 – Discussion Points (5)

Discuss the medication options and expectations

Case 1 – Discussion Points (4)

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Follow up (mo. 5 and 6)

- **Diet Fatigue:**
- Motivation is not linear
- Praise success, non-scale victories
- Discuss challenges “troubleshoot”
- Reconnect with goals
- Revisit diet
- Try something new

Case 2: Mr. T

Medical Background:

- 55 year old man with history of: hypertension, type 2 diabetes mellitus, obstructive sleep apnea (OSA), osteoarthritis of his knees, and obesity. He makes an appointment today to ask your opinion regarding what he can do for his obesity, as he knows that most of his other health problems are due to his body weight.

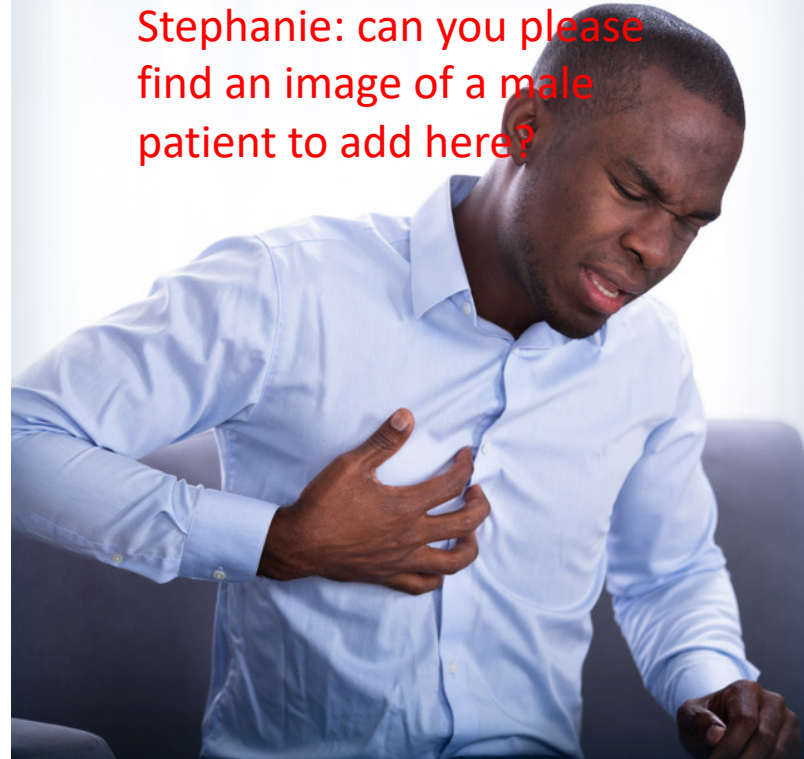
Psychosocial Background:

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

Medications:

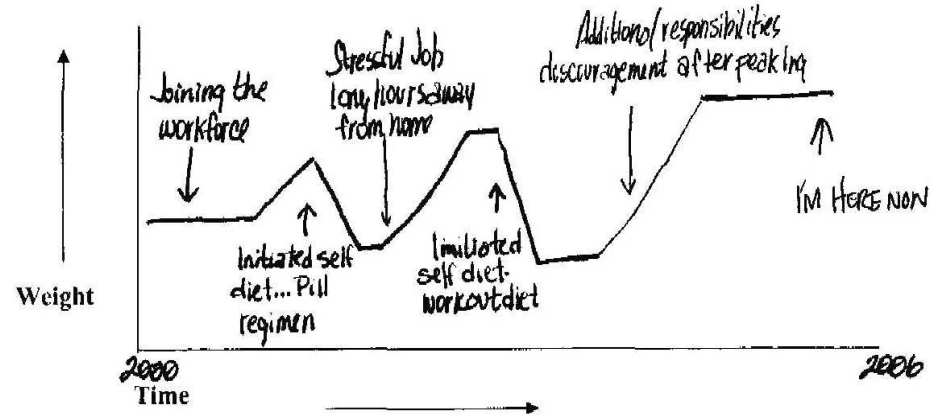
- Metformin 500 mg BID, Glyburide 10 mg BID, Losartan 100 mg QD, Diltiazem 240 mg QD , Atorvastatin 10 mg QD , Aspirin 81 mg QD, Chlorthalidone 25 mg QD
- Prescribed CPAP

Stephanie: can you please find an image of a male patient to add here?



Case 1: Weight History and Past Attempts

- He has been battling his weight for many decades. He previously lost weight on his own through diet and exercise, as well as one time while taking an appetite suppressant medication. He previously saw a registered dietitian when he was diagnosed with diabetes.
- He attributes his weight gain to pressures at work and at home and having less time to take care of himself.



Case 2: Current Health Habits

- Diet 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 was active in photography and volunteering.

Case 2: Physical Examination

- Weight: 278 lbs; height: 70"; BMI: 40 kg/m²
- 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.

Case 2 –Discussion Points (1)

1. What are the contributors to his weight and what would you expect to improve with weight loss?
2. What are the best treatment options for this patient?
3. Is this a patient who should be referred to a specialized obesity treatment program?
4. Regarding T2DM: is there a medication that may benefit this patient with weight loss and reducing HbA1c%?

Improvements in Risk Factors and Comorbidities

	Orlistat	Phentermine/ topiramate ER	Naltrexone/ bupropion SR	Liraglutide 3.0 mg
WC	↓	↓	↓	↓
BP	↓	↓	↑	↓
LDL	↓↓	↓	↓	↓
HDL	↑	↑	↑	↑
TG	↓↓	↓↓	↓↓	↓↓
A1C	↓	↓	↓	↓↓↓
HR	↓	-	↑	↑
Diabetes	↓↓	↓↓	↓	↓↓↓

BP = blood pressure; HDL = high-density lipoprotein; HR = heart rate; LDL = low-density lipoprotein; TG = triglycerides; WC = waist circumference.

phentermine prescribing information. http://www.accessdata.fda.gov/drugsatfda_docs/label/2012/088023s037lbl.pdf; orlistat prescribing information.

http://www.gene.com/download/pdf/xenical_prescribing.pdf; phentermine/topiramate ER prescribing information.

<https://qsymia.com/pdf/prescribing-information.pdf>; lorcaserin prescribing information.

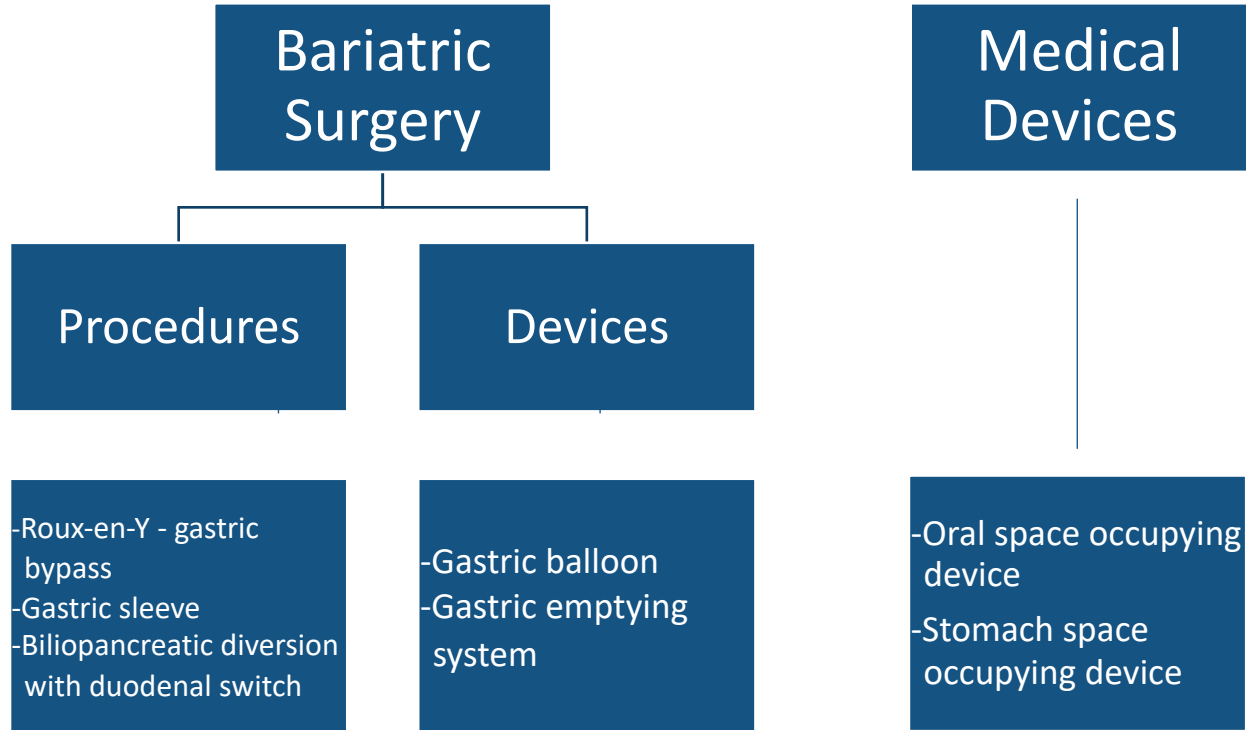
http://www.belviq.com/documents/Belviq_Prescribing-Information.pdf; naltrexone SR/bupropion SR prescribing information.

http://www.accessdata.fda.gov/drugsatfda_docs/label/2014/20142014.pdf; liraglutide 3.0 mg prescribing information. <http://www.liraglutide.com>

Emerging Anti-Obesity Pharmacological Therapies

Category	Mechanism	Drug	Stage of Development
Hormonal	GLP-1 receptor agonist	Semaglutide Tirzepatide	Phase 3 – submitted to FDA
	GLP-1/GIP receptor agonist		
	GLP-1/glucagon receptor agonist		Phase 3
	Amylin analogue		Phase 3
	GLP-1/amylin		Phase 2
	GLP-1/GIP/glucagon		Phase 2
	Ghrelin antagonist		Phase 2
	PYY analogue		Phase 1 Phase 1
Neuropeptide	Melanocortin-4 receptor agonist	Setmelanotide	IMCIVREE (Nov, 2020)
Enzyme inhibition	Sodium-glucose transporter-1 and 2 (SGLT1, SGLT2 inhibitor)	Licoglifloxin	Phase 2
Monoamine receptor uptake inhibition	Noradrenaline, dopamine, serotonin uptake inhibitor	Tesofensine	Phase 3
Monoclonal antibody	Activin type II receptor antagonist	Bimagrumab	Phase 2

Surgery and Devices for Weight Loss & Management



US Food and Drug Administration. [Medical Devices for Weight Loss and Weight Management: What to Know | FDA](#). Accessed January 26, 2021.

Considerations for Surgical Treatment

- May be an option for patients with¹:
 - BMI 35-39.9 kg/m² and ≥1 obesity-related comorbidity
 - BMI ≥40 kg/m²
- Long-term reduction in:
 - Body weight
 - Cardiovascular biomarkers, events
 - Other weight-related complications
- Need for ongoing support and intervention

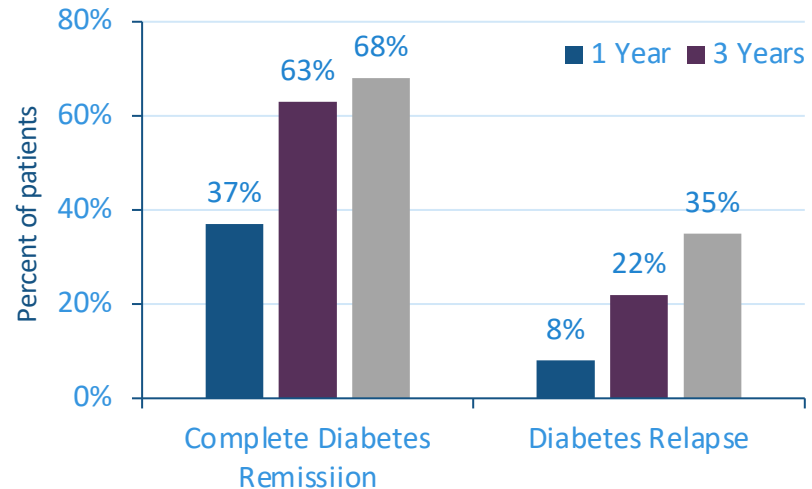
1. Jensen MD, et al. *Circulation*. 2014;129(25 Suppl 2):S102-S138. 2. Arterburn DE, et al. *Br Med J*. 2014;349:g3961. 3. Toh SY, et al. *Nutrition*. 2009;25(11-12):1150-1156.

A Follow-up on Mechanisms of Weight loss 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

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

- Retrospective cohort study of 4,434 adults with T2DM who underwent RYGB
- Lower remission rates predicted by poor preoperative glycemic control (A1c $\geq 6.5\%$), longer duration of diabetes, and receiving insulin
- Median time to relapse was 8.3 y



Case 2: Follow Up

- You discuss all options with the patient.
- He attends a group discussion of bariatric surgery but says, *“I want to try something less aggressive.”*
- He agrees to work with a registered dietitian who recommends 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 dieting efforts.
- You tell him that his diabetes medications may need monitoring during weight loss.

Case 2 –Discussion Points (2)

1. Do you need to reduce any of his medications when you start a low calorie diet?
2. How important is encouraging a patient to increase activity if they have expressed disinterest? How would you approach this conversation, if you decided to?
3. What role does sleep play in the patient's health behaviors and subsequently, weight?
4. What do you make of his adherence to CPAP? Are there other questions you have based on his inconsistent use?
5. How do the habits of his family influence his own? How do you think about individual habits vs. habits of the social environment?
6. What do you think about the Dietitian's meal replacement plan? Would you have developed a different nutrition therapy program for him?
7. What do you anticipate may be barriers to his success on this meal replacement plan?

Case 2 –Discussion Points (2)

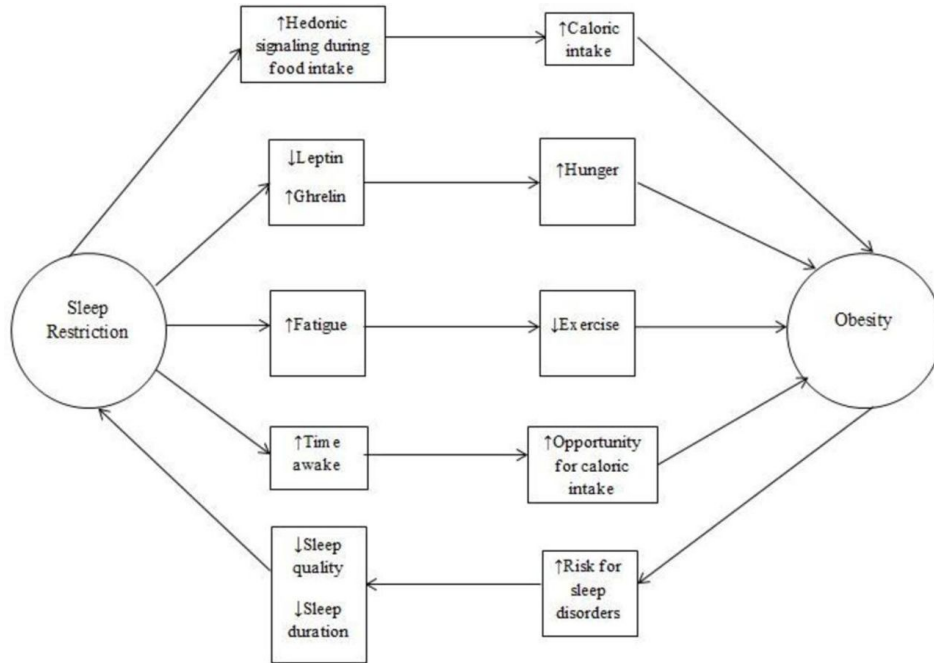
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Night Eating Syndrome – DSM-5

- 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: <ul style="list-style-type: none">• 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: <ul style="list-style-type: none">• 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 mood 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.

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)

Case 2 –Discussion Points (2)

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Values-Based Perspective



Case 2 –Discussion Points (2)

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ADW: 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 loss and weight maintenance strategy.*
- Most Overheard Concerns?



Look for meals with:

- Calories:** 250-400
- Saturated Fat:** 4 grams or less
- Trans Fat:** 0 grams
- Sodium:** Less than 600mg
(Daily rec. <2000mg)
- Fiber:** at least 3-5 grams
- Protein:** at least 10 grams



ADW: Meal Replacements



Nutrition Facts	
Serving size 1 bowl (320g)	
Amount per serving	
Calories	260
	% Daily Value*
Total Fat 2.5g	3%
Saturated Fat 0.5g	3%
Trans Fat 0g	
Cholesterol 40mg	13%
Sodium 700mg	30%
Total Carbohydrate 36g	13%
Dietary Fiber 8g	29%
Total Sugars 8g	
Includes 5g Added Sugars	10%
Protein 22g	
Vitamin D 0mcg	0%
Calcium 40mg	4%
Iron 1.9mg	10%
Potassium 650mg	15%

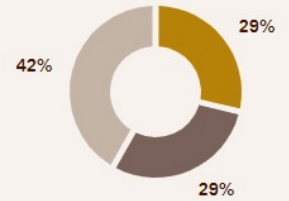
INGREDIENTS SEASONED GRILLED CHICKEN BREAST (CHICKEN BREAST, WATER, CONTAINS LESS THAN 2% OF: SUGAR, OLIVE OIL, SALT, DRIED ORANGE PULP, GARLIC POWDER, ONION POWDER, POTATO STARCH, BLACK PEPPER); COOKED GRAIN BLEND (WATER, BROWN RICE, WHITE RICE, RED RICE, AMARANTH); CHIPOTLE FAJITA SAUCE (WATER, SOY SAUCE (WATER, SOYBEANS, SALT, SUGAR, CORN STARCH), BALSAMIC VINEGAR (WINE VINEGAR, CONCENTRATED GRAPE MUST), APPLE JUICE CONCENTRATE, CORN STARCH, CANE SUGAR, SALT, ONIONS, GARLIC, EXPPELLER PRESSED CANOLA OIL, CHICKEN BROTH, TOMATO PASTE, APPLE CIDER VINEGAR, CHIPOTLE CHILE, MOLASSES, CUMIN, BLACK PEPPER, CHICKEN FAT, THYME); TOMATOES; COOKED BLACK BEANS (WATER, BLACK BEANS); FIRE-ROASTED POBLANO PEPPERS, RED ONIONS, FIRE-ROASTED RED BELL PEPPERS, YELLOW BELL PEPPERS, CILANTRO.

CONTAINS: SOY.

Frontier's
FAJITA BOWL
THIS MEXICAN
SOUTH
FAVORITE
OVER
OUR FAJITA
MEXICAN
POBLANO
GOURMET



YOUR BURRITO BOWL



CALORIES 1020
Calories from Fat 480

TOTAL FAT 53.5g
Saturated Fat 19.5g
Trans Fat 0g

PROTEIN 55g

CARBOHYDRATES 78g
Dietary Fiber 17g
Sugar 7g

SODIUM 1950mg

VITAMINS & MINERALS
Vitamin A 50%
Vitamin C 73%
Calcium 38%
Iron 34%

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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?

Pt's diet 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

Case 2

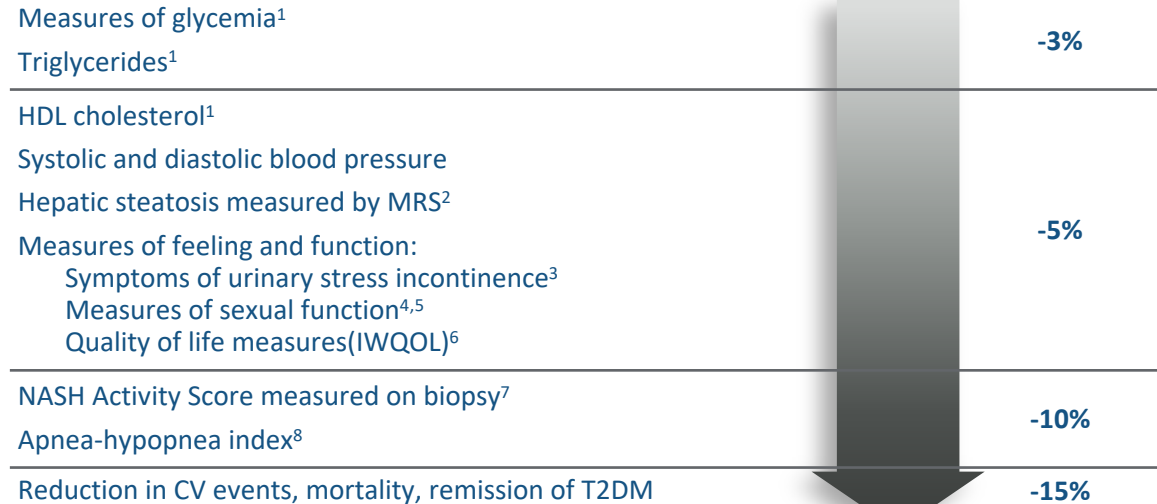
- Through shared decision making, the patient chooses to try liraglutide 3.0 mg and you provide a prescription. He is instructed on pen use and drug administration, including titration over the first month.
- Over the next 6 months, he loses 22 lbs (8% of initial body weight). Weight is now 256 lbs. 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.

Case 2 –Discussion Points (4)

1. How do you manage the patient during the weight plateau?
2. Are there other changes to make to his medication regimen?
3. This patient had a number of comorbidities (diabetes, OSA, osteoarthritis, hyperlipidemia). How much weight loss is needed to improve those? How likely are you to get the patient off medications for these comorbidities? Would you recommend specific diet changes or therapies to target each individual comorbidity?
4. When would you consider recommending bariatric surgery? How do you balance providing information and patient's stated preference against surgery at this time? Do you feel prepared to answer the patient's questions about bariatric surgery (diet changes, myths, risks, etc)? Where would you find this information?

Benefits of Modest Weight Loss

Greater Benefits with Greater Weight Loss

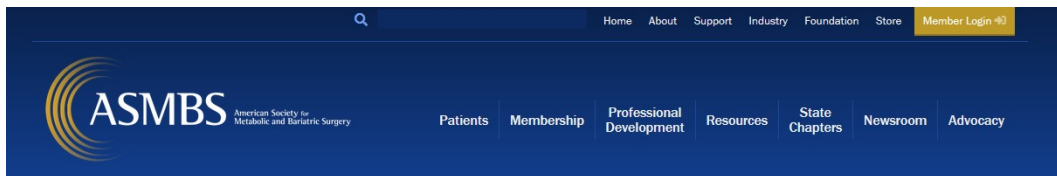


1. Wing et al. Diabetes Care 2011;34:81-1486. 2. Lazo et al. Diabetes Care 2010;33:2156-63. 3. Phelan et al. Urol. 2012;187:939-44. 4. Wing et al. Diab Care 2013;36:2937-44. 5. Wing et al. Journal of Sexual Medicine 2010 ; 7:156-65. 6. Crosby, Manual for the IWQOL-LITE Measure. 7. Promrat et al. Hepatology 2010;51:121-29. 8. Foster et al. Arch Intern Med 2009;169:1619-26.

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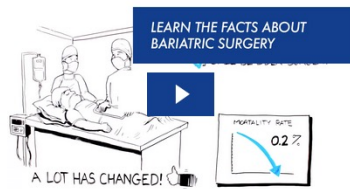
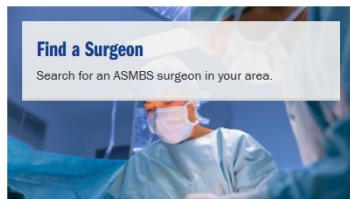
American Society for Metabolic and Bariatric Surgery (ASMBS)



www.asmb.org/patients

Treat Your Obesity ▶ Patient Learning Center

Learn how obesity surgery can help reclaim your life

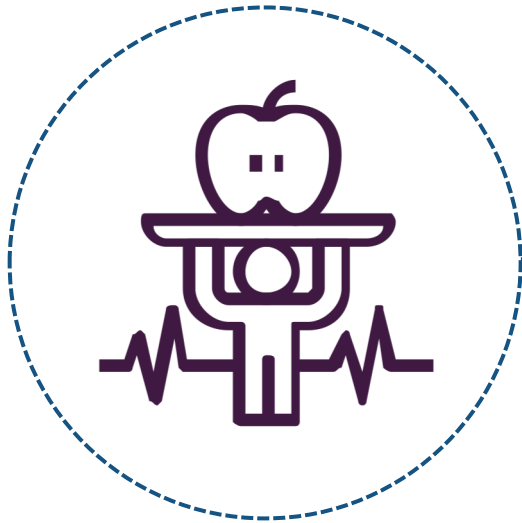


Explore the Learning Center

Treat your Obesity | Patient Learning Center

- FAQs of Bariatric Surgery
- Disease of Obesity
- BMI Calculator
- The Impact of Obesity on Your Body and Health
- Making Choices About Surgery
- Medical Tourism
- Surgery for Diabetes
- Bariatric Surgery Procedures
- Who is a Candidate for Bariatric Surgery?
- Childhood and Adolescent Obesity
- Find a Provider
- Benefits of Weight Loss Surgery
- Life After Bariatric Surgery
- Patient Video Testimonials

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 Weight 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