GHAPP
Gastroenterology & Hepatology
Advanced Practice Providers

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Jointly provided by the Annenberg Center for Health Sciences at Eisenhower and Gastroenterology and Hepatology Advanced Practice Providers.
Managing Obesity

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Disclosures

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Disclosures

Megan Morsi, MS, PA-C

No financial relationships to disclose
Objectives

• Think differently about our approach to obesity
• Review medical options for weight loss
• Review endoscopic options for weight loss and their data
• Review surgical options used for weight loss and GI complications that can result
Why address obesity in the GI clinic?

1. Obesity contributes so many of our GI diagnoses
2. Obesity is multifactorial and deserves a multidisciplinary approach
3. We’re APPs… we can do that
## Quantified Risk Ratios of GI disorders in Obesity

<table>
<thead>
<tr>
<th><strong>Esophagus</strong></th>
<th><strong>Risk (95% CI)</strong></th>
<th><strong>Risk (95% CI)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>GERD</td>
<td>OR = 1.94 (1.46-2.57)</td>
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<tr>
<td>Erosive esophagitis</td>
<td>OR = 1.87 (1.51-2.31)</td>
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<tr>
<td>Barrett Esophagus</td>
<td>OR = 4.0 (1.4-11.1)</td>
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<tr>
<td>Esophageal adenocarcinoma</td>
<td>Men: OR = 2.4 (1.9–3.2)</td>
<td>Women: OR = 2.1 (1.4–3.2)</td>
</tr>
<tr>
<td><strong>Stomach</strong></td>
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<tr>
<td>Erosive gastritis</td>
<td>OR = 2.23 (1.59-3.11)</td>
<td></td>
</tr>
<tr>
<td>Gastric cancer</td>
<td>OR = 1.55 (1.31-1.84)</td>
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<tr>
<td><strong>Small intestine</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diarrhea</td>
<td>OR = 2.7 (1.10-6.8)</td>
<td></td>
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<tr>
<td><strong>Colon and rectum</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diverticular disease</td>
<td>RR = 1.78 (1.08-2.94)</td>
<td></td>
</tr>
<tr>
<td>Polyps</td>
<td>OR = 1.44 (1.23-1.70)</td>
<td></td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>Men: RR = 1.95 (1.59-2.39)</td>
<td>Women: RR=1.15 (1.06-1.24)</td>
</tr>
<tr>
<td><strong>Liver</strong></td>
<td></td>
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<tr>
<td>NAFLD</td>
<td>RR = 4.6 (2.5-11)</td>
<td></td>
</tr>
<tr>
<td>Cirrhosis</td>
<td>RR = 4.1 (1.4–11.4)</td>
<td></td>
</tr>
<tr>
<td>Hepatocellular carcinoma</td>
<td>RR = 1.89 (1.51-2.36)</td>
<td></td>
</tr>
<tr>
<td><strong>Gallbladder</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallstones disease</td>
<td>Men: RR = 2.51 (2.16–2.91)</td>
<td>Women: RR=2.32 (1.17–4.57)</td>
</tr>
<tr>
<td><strong>Pancreas</strong></td>
<td></td>
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<tr>
<td>Acute pancreatitis</td>
<td>RR = 2.20 (1.82–2.66)</td>
<td></td>
</tr>
<tr>
<td>Pancreatic cancer</td>
<td>Men: RR = 1.10 (1.04–1.22)</td>
<td>Women: RR=1.13 (1.05–1.18)</td>
</tr>
</tbody>
</table>

Acosta A, Camilleri M. *Ann NY Acad Sci.* 2014;1311:42-56.
What Is Obesity?

“Obesity is defined as a chronic, progressive, relapsing, multifactorial, neurobehavioral disease, wherein an increase in body fat promotes adipose tissue dysfunction and abnormal fat mass physical forces, resulting in adverse metabolic, biomechanical, and psychosocial health consequences.”

- BMI >30
- % Body Fat
  Women: > 32%
  Men: > 25%
- Abdominal obesity
  Women > 35 in waist
  Men > 40 in waist
What is Obesity?

**Deranged endocrine and immune responses**¹

Sick Fat Disease (SFD) (Adiposopathy)
- Elevated blood glucose
- Elevated blood pressure
- Dyslipidemia
- Other metabolic disorders

**Abnormal and pathologic physical forces**¹

Fat Mass Disease (FMD)
- Stress on weight-bearing joints
- Immobility
- Tissue compression (ie: sleep apnea, hiatal hernia)
- Tissue friction
Case Study #1

• A 44-year-old woman with a 50-lb weight gain over the past 10 years presents to the clinic request a prescription for weight-loss medication.

• What are key treatment options and considerations? How do you counsel this patient?
Approach to the patient with overweight or obesity

- Broaching the subject of weight loss
- Medical Evaluation
  - Annual and symptom based screening for chronic conditions associated with obesity and important comorbidities of obesity and metabolic syndrome (T2DM, dyslipidemia, HTN, NAFLD)
  - Timely adherence to national cancer screening guidelines
  - ID contributing factors including genetics disordered eating, sleep disorders, family history and environmental/socioeconomic causes
  - Screen for secondary causes of obesity based on physical exam (see next slide)
  - ID medications that contribute to weight gain
Selected Causes of Obesity

**PRIMARY**
- Monogenic disorders
  - Leptin deficiency
  - Melanocortin-4 receptor mutation
  - POMC deficiency
- Genetic Syndromes
  - Alstrom
  - Bardet-Biedl
  - Cohen
  - Froehlich
  - Prader-Willi

**SECONDARY**
- Drug induced (see next slide)
- Psychological
  - Depression
  - Eating disorders
- Neurologic
  - Brain injury
  - Brain tumor
  - Cranial irradiation
  - Hypothalamic obesity
- Endocrine
  - Cushing syndrome
  - Growth hormone deficiency
  - Hypothyroidism
  - Pseudohypoparathyroidism
# Medications That Contribute to Weight Gain

<table>
<thead>
<tr>
<th>Psychiatric medications</th>
<th>Amitriptyline, imipramine, nortriptyline, citalopram, doxepin, fluoxetine, mirtazapine, paroxetine, phenelzine, sertraline, Clozapine, olanzapine, quetiapine, lithium, Perphenazine, Risperidone,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antidiabetics</td>
<td>Insulin, Sulfonylureas, Thiazolidinediones,</td>
</tr>
<tr>
<td>Anticonvulsants</td>
<td>Carbamazepine, gabapentin, pregabalin, Valproic acid, Vigabatrin</td>
</tr>
<tr>
<td>Antihypertensives</td>
<td>Doxazosin, prazosin, terazosin, metoprolol, propranolol</td>
</tr>
<tr>
<td>Horomones and steroids</td>
<td>Depo-medroxyprogesterone acetate, Megestrol acetate, Corticosteroids, Glucocorticoids, Progestins</td>
</tr>
</tbody>
</table>
Approach to the patient with overweight or obesity

• Nutritional Evaluation
  – Screen for nutrient deficiencies as appropriate

• Psychosocial evaluation
  – Screen for disordered eating, depression

• Physical activity/Exercise evaluation
  – Tracking, goals, past activities, physical limitations
## Treatment

<table>
<thead>
<tr>
<th>BMI category (kg/m²)</th>
<th>25 – 26.9</th>
<th>27 – 29.9</th>
<th>30 – 34.9</th>
<th>35 - 39.9</th>
<th>&gt;40</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatments</strong></td>
<td></td>
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<tr>
<td>Lifestyle modifications</td>
<td>With comorbidities</td>
<td>With comorbidities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacotherapy</td>
<td></td>
<td></td>
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<tr>
<td>Endoscopy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>As bridge therapy</td>
</tr>
<tr>
<td>Surgery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>With comorbidities</td>
</tr>
<tr>
<td>Drug</td>
<td>Phentermine</td>
<td>Orlistat (Xenical)</td>
<td>Phentermine/Topirimate ER (Qsymia)</td>
<td>NaltrexoneSR/bupropion SR (Contrave)</td>
<td>Liraglutide (Saxenda)</td>
</tr>
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<tr>
<td>MOA</td>
<td>Adrenergic agonist</td>
<td>Lipase inhibitor</td>
<td>5-HT2c receptor agonist</td>
<td>Opioid receptor antagonist/dopamine and NE reuptake inhibitor</td>
<td>GLP-1 analog</td>
</tr>
<tr>
<td>Mean % TBWL</td>
<td>5.1%</td>
<td>3.1%</td>
<td>3.5%</td>
<td>4.8%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Long term?</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Controlled?</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Side effects?</td>
<td>Dizziness, dry mouth, difficulty sleeping, irritability, N/V, D, C</td>
<td>Steatorrhea, flatus, urgency, incontinence</td>
<td>Paresthesia, dizziness, dysguesia, insomnia, dry mouth, C</td>
<td>N/V, C, D, headache, dizziness, insomnia, dry mouth</td>
<td>N/V, D, C, hypoglycemia, HA, dyspepsia, fatigue, dizziness, abdominal pain, lipase elevations</td>
</tr>
<tr>
<td>Contraindications</td>
<td>Nursing, CVD, MAOI use within 14 d, hyperthyroidism, glaucoma, history of addiction, alcohol use</td>
<td>Chronic malabsorption, cholestasis, shouldn’t be taken with cyclosporine, thyroid, warfarin or anti-epileptics</td>
<td>Glaucoma, hyperparathyroidism, MAOI use within 14 d</td>
<td>Uncontrolled HTN, h/o seizures, bulimia, anorexia, use of opioid agonists or partial agonists, MAOI use w/I 14 days</td>
<td>Personal or family history of medullary thyroid carcinoma or MEN-2</td>
</tr>
</tbody>
</table>
Case Study #2

• 52-year-old obese woman with a 9-year history of type 2 diabetes complains of fatigue and difficulty losing weight
  – She attributes a large weight gain since being placed on insulin 6 years ago

• **What is your approach in managing this patient?**
Endoscopic options

- **Orbera intragastric balloon**
  - Space occupying. Delays stomach emptying
  - High rate of Nausea/vomiting, fullness, 1% risk of migration
  - Removed at 6 months. Can be re-placed

- **Aspire Assist aspiration therapy**
  - Facilitates partial removal of gastric contents
  - Less than 1% risk of peritonitis, ulceration, pain

- **Endoscopic sleeve gastroplasty (ESG)**
  - Restrictive procedure, permanent
  - Delays gastric emptying
Orbera

- Inserted via EGD
- Temporary. Removed after 6 months. Weight loss continues past this time
- N/V common for a few days after procedure
- Not covered by insurance
AspireAssist

- Placed via EGD
- Can be used longer than a year
- Requires close clinic follow-up
- FDA approved for BMI > 30
Endoscopic sleeve gastroplasty (ESG)

- Permanent
- Endoscopic, few risks
- Less GERD than with surgical sleeves
- 16% TBWL at 5 years
- Not covered by insurance
Surgery

Sleeve Gastroplasty

Roux en Y Gastric Bypass

Factors to consider in treatment decisions

• Comorbidities
  – DM
  – Osteoarthritis
• Patient adherence
• Patient lifestyle
• CO$T
Factors for success

- Use motivational interviewing techniques
- Create a positive office space, MPU and exam space
- Use “people-first” language
  - eg, Instead of the obese patient, try the patient who is overweight or had obesity
  - Stop labeling the individual by the disease