Managing Overweight and Obese Patients: Are We Taking the Right Approach?

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Faculty Disclosure

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Learning Objectives

• List the benefits of proper assessment and diagnosis of obesity

• Apply strategies to initiate weight loss counseling in patients who are overweight or obese

• Review the efficacy, safety, tolerability, and long-term clinical outcomes of current drug therapies for obesity treatment
Case: Grace, a 40-Year-Old Woman With HTN

- Grace is a relatively new patient. She is in the office today for a follow-up visit after an adjustment was made to her antihypertensive medications.
- Medical history: HTN × 10 years; depression × 5 years
- Family history: coronary artery disease (father), T2DM (mother)
- Social history: nonsmoker, (+) caffeine, alcohol 2 days/week
- Occupation: bus driver
- Medications
  - Hydrochlorothiazide 25 mg once daily, valsartan 320 mg once daily, amlodipine 5 mg once daily
  - Paroxetine 20 mg once daily
  - Acetaminophen or ibuprofen as needed for pain

HTN = hypertension; T2DM = type 2 diabetes mellitus.
How important is it to screen for obesity in this patient?

1. Not at all important
2. Somewhat important
3. Important
4. Very important

Use your keypad to vote now!
How important is it to screen for obesity in this patient?

1. Not at all important
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3. Important
4. Very important

Use your keypad to vote now!
Am I identifying and screening for patients who need to lose weight?
Adverse Health and Social Consequences Associated With Obesity

<table>
<thead>
<tr>
<th>Physical</th>
<th>Psychosocial</th>
<th>Functional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>Depression</td>
<td>Absenteeism from school or work</td>
</tr>
<tr>
<td>CVD</td>
<td>Discrimination</td>
<td>Disability</td>
</tr>
<tr>
<td>Cholestasis</td>
<td>Low self-esteem</td>
<td>Disqualification from active military/fire/police services</td>
</tr>
<tr>
<td>Dyslipidemia</td>
<td>Negative body image</td>
<td>Low physical fitness level</td>
</tr>
<tr>
<td>Gallbladder disease</td>
<td>Negative stereotyping</td>
<td>Mobility limitations</td>
</tr>
<tr>
<td>Glucose intolerance and insulin resistance</td>
<td>Social marginalization</td>
<td>Reduced academic performance</td>
</tr>
<tr>
<td>Hepatic steatosis</td>
<td>Teasing and bullying</td>
<td>Reduced productivity</td>
</tr>
<tr>
<td>Hypertension</td>
<td></td>
<td>Unemployment</td>
</tr>
<tr>
<td>Hyperuricemia and gout</td>
<td></td>
<td></td>
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<tr>
<td>Menstrual abnormalities</td>
<td></td>
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<tr>
<td>Orthopedic problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduction of cerebral blood flow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleep apnea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T2DM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CVD = cardiovascular disease.

Relationship Between BMI and Risk of T2DM

BMI = body mass index.

Relationship Between BMI and Risk of T2DM

BMI = body mass index.

Identification and Screening: BMI Is the Starting Point

- 2013 AHA/ACC/TOS Obesity Guidelines: identify patients who need to lose weight
  - Measure height and weight and calculate BMI at annual visits or more frequently for all patients
  - Use BMI cut points to classify patients with overweight or obesity
- BMI is used as an estimate of increased adverse health consequences

ACC = American College of Cardiology; AHA = American Heart Association; TOS = The Obesity Society.
Obesity Classification: BMI

Patients with overweight/obesity = increased body fat (adiposity)

Overweight and obesity classification: BMI in kg/m²

- Normal weight (18.5-24.9)
- Overweight (25.0-29.9)
- Class I obesity (30.0-34.9)
- Class II obesity (35.0-39.9)
- Class III obesity (≥40.0)

Obesity Classification: BMI

Patients with overweight/obesity = increased body fat (adiposity)

Overweight and obesity classification: BMI in kg/m²

ACTION ITEM:
For all patients, calculate BMI at annual visits or more frequently and identify body weight classification.

Identify and Screen for Waist Circumference

- 2013 AHA/ACC/TOS Obesity Guidelines: identify patients who need to lose weight
  - Measure WC at annual visits or more frequently in patients who are overweight or obese
- Advise patients that the greater the WC, the greater the risk of CVD, T2DM, and all-cause mortality

NHLBI = National Heart, Lung, and Blood Institute; WC = waist circumference.

Patients with overweight/obesity = increased body fat (adiposity)

Overweight and obesity classification: WC

Men: abdominal obesity ≥40 in (≥102 cm)a

Women: abdominal obesity ≥35 in (≥88 cm)a

aDifferent WC abdominal obesity cutoff points may be appropriate for different races, such as ≥90 cm for Asian men and ≥80 cm for Asian women.

Obesity Classification: Waist Circumference

Patients with overweight/obesity = increased body fat (adiposity)

Overweight and obesity classification: WC

ACTION ITEM: Measure WC at annual visits or more frequently in patients who are overweight or obese.

Different WC abdominal obesity cutoff points may be appropriate for different races, such as $\geq 90$ cm for Asian men and $\geq 80$ cm for Asian women.

Treatment: Modest Weight Loss = Major Health Benefits

≥5% Weight Loss
- T2DM prevention
- With T2DM: better glycemic control/medication reduction
- Improvement in urinary stress incontinence, mobility, joint pain, weight-related quality of life
- Improvements in CVD risk factors (HDL-C, triglycerides, BP)

≥10% Weight Loss
- Previous improvements
- Sleep apnea
- Diabetes remission?

≥15% Weight Loss
- Previous improvements
- CVD mortality
- All-cause mortality and reduction in cancer risk (with surgical weight loss)

BP = blood pressure; HDL-C = high-density lipoprotein cholesterol.

Treatment: Modest Weight Loss = Major Health Benefits

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- T2DM prevention
- With T2DM: better glycemic control/medication reduction
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≥15% Weight Loss
- Previous improvements
- CVD mortality
- All-cause mortality and reduction in cancer risk (with surgical weight loss)

ACTION ITEM:
Consider the benefits that a 5%-10% weight loss will have on patients who are overweight or obese.

Grace’s BMI is 34.3 kg/m². She is a candidate for which of the following obesity treatment options?

1. Lifestyle management only
2. Lifestyle management and pharmacotherapy
3. Lifestyle management, and/or pharmacotherapy, and bariatric surgery

Use your keypad to vote now!
Grace’s BMI is 34.3 kg/m². She is a candidate for which of the following obesity treatment options?

1. Lifestyle management only
2. **Lifestyle management and pharmacotherapy**
3. Lifestyle management, and/or pharmacotherapy, and bariatric surgery

Use your keypad to vote now!
## NHLBI Obesity Treatment Guidelines

### Guide to Selecting Treatment

<table>
<thead>
<tr>
<th>BMI Category (kg/m²)</th>
<th>25.0-26.9</th>
<th>27.0-29.9</th>
<th>30.0-34.9</th>
<th>35.0-39.9</th>
<th>≥40</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diet, physical activity, and behavior</strong></td>
<td>With comorbidities</td>
<td>With comorbidities</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td><strong>Pharmacotherapy</strong></td>
<td>No</td>
<td>With comorbidities</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td><strong>Surgery</strong>&lt;sup&gt;a,b&lt;/sup&gt;</td>
<td>No</td>
<td>No</td>
<td>Laparoscopic adjustable gastric banding only</td>
<td>With comorbidities</td>
<td>+</td>
</tr>
</tbody>
</table>

<sup>a</sup>Bariatric surgeries require lifestyle medical follow-up; <sup>b</sup>FDA-approved gastric band surgery for patients with BMI ≥30 kg/m² and 1 weight-related medical condition (February 2011). FDA = Food and Drug Administration.

Matching Treatment Strategies With Patients

**Lifestyle Management**
- All patients for whom weight loss is recommended

**Pharmacotherapy**
- Unable to lose or sustain sufficient weight loss with lifestyle management alone
- Motivated to lose weight
- Obesity-related complications with adverse health consequences

**Surgery**
- Severe complications that can be treated with weight loss
- Not responding sufficiently to behavioral treatment with or without pharmacotherapy
- Highly motivated to lose weight
- History of adherence to lifestyle and medical therapies
- Low risk for surgical complications

How should I initiate obesity counseling and weight loss discussions?
Lifestyle Management: Treatment Base for Obesity

Surgery

Pharmacotherapy

Lifestyle management

Nutritional intervention

Behavior change and psychological care

Physical activity

Recommendations must be practical, achievable, and realistic for the patient’s lifestyle

Grace (cont’d)

- **Vital signs**
  - Height = 65 in; weight = 206 lb
  - BMI = 34.3 kg/m²; WC = 38 in
  - BP = 146/90 mm Hg
  - HR = 80 beats/min

- **Laboratory findings**
  - A1C = 6.4%
  - Fasting plasma glucose = 168 mg/dL
  - LDL-C = 125 mg/dL
  - HDL-C = 41 mg/dL
  - Triglycerides = 220 mg/dL
  - Estimated glomerular filtration rate = 87 mL/min/1.73 m²

- **Risk factors for obesity-related complications**
  - HTN and pre-diabetes
  - Sleep apnea? (Sleeps ~5 hours/night for last 10 years + snores)

- **Weight history**
  - Parents were overweight/obese; 1 sister is overweight
  - Has 3 children; gained 15-20 lb following pregnancy with each child
  - Possible paroxetine-associated weight gain
  - Has tried a variety of diets in the past, but has been unsuccessful with self-initiated diets

A1C = glycated hemoglobin; HR = heart rate; LDL-C = low-density lipoprotein cholesterol.
Video

Interaction Between Grace and Her Provider
Demonstrating Some Common Challenges to Having
Weight-loss Discussions in Clinical Practice
What was the most important barrier to having an effective weight loss discussion that you observed in the video?

1. Asking closed-ended questions
2. Rushing the discussion
3. Setting unrealistic expectations
4. Telling patient what to do
5. Interrupting patient/ignoring needs

Use your keypad to vote now!
What was the most important barrier to having an effective weight loss discussion that you observed in the video?

1. Asking closed-ended questions
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3. Setting unrealistic expectations
4. Telling patient what to do
5. Interrupting patient/ignoring needs

Use your keypad to vote now!
Discussing Weight With Patients: Patients’ Preferred Terms

<table>
<thead>
<tr>
<th>Best</th>
<th>Weight, weight affecting health</th>
</tr>
</thead>
<tbody>
<tr>
<td>OK</td>
<td>Weight problem, BMI, excess weight</td>
</tr>
<tr>
<td>Not so good</td>
<td>Fat, excess fat, large size, obesity, heaviness</td>
</tr>
<tr>
<td>Bad</td>
<td>Fatness</td>
</tr>
</tbody>
</table>

Modified 5 A’s: An Approach to Obesity Counseling in Primary Care

5 A’s of obesity management

1. **ASK** for permission to discuss body weight
   - “May I talk to you about your weight?”
   - “Are you concerned about the effects of your weight on your health or quality of life?”
   - “Would it be alright if we discussed your weight?”

2. **ASSESS** health status, obesity indicators, root causes of weight gain

3. **ADVISE** patient of weight loss benefits, obesity risks, and long-term strategy

4. **AGREE** on goals and treatment expectations

5. **ARRANGE/ASSIST (or REFER)** to identify barriers, resources, and providers: identify, educate, recommend, support

The clinician and patient should **agree** whether weight loss is appropriate in the context of competing priorities.

Motivational Interviewing Strategies and Techniques

• Collaborative, goal-oriented style of communication, with attention to the language of change
• Designed to strengthen personal motivation for, and commitment to, attaining specific goal(s) by eliciting and exploring the patient’s reasons for change in an atmosphere of acceptance and compassion

4 Principles of MI

1. Express empathy
   • Develop an understanding of the patient’s feelings at a deeper level without judging
     - Critical to MI
   • Reflective listening: discuss with patient what you think he/she is feeling (“It sounds to me like you’re…”)

2. Develop discrepancy
   • Create a difference between current behavior (where one is) and change behavior (where he/she wants to be)

MI = motivational interviewing.

3. Roll with resistance (avoid argumentation)
   • Acknowledge patient’s point of view and respond without a challenge
   • Direct confrontation may elicit an argument and/or defensiveness
   • Do not fight resistance; instead, “roll with it”

4. Support self-efficacy
   • Encourage patient’s perception of his/her own capabilities
   • Give hope, be optimistic about patient’s desire to change

MI Skills to Elicit Change: OARS

Open questions
Affirming
Reflecting
Summarizing

Ask open-ended questions

• Gives the patient opportunity to elaborate and focus on what he/she feels is important
• Allows the patient to give his or her own perspective
• Encourages discussion vs lecture
• Examples
  – “You mentioned that you have not been able to exercise regularly. Tell me about that.”
  – “What types of meals are you making at home?”

MI Skills to Elicit Change (cont’d)

Affirm

• Increase collaboration between patient and clinician and facilitate patient exploration
• Give direct compliments or appreciative statements; can also affirm patient through reflective listening and statements that convey understanding of the patient
• Examples
  - “That’s a great idea.”
  - “This situation seems to be very difficult, but you are handling it well.”

Listen reflectively

- Occurs when a clinician makes a statement that is a guess as to what the patient has said
- Ideally, reflections will move the session forward and shape the patient’s speech in the direction of change
- Example
  - Patient: “I want to lose weight; I just hate eating healthy. Why can’t nutritious food taste good!”
  - Clinician: “It’s frustrating to you how healthy food tastes, yet losing weight is really important to you.”

MI Skills to Elicit Change (cont’d)

**Summarize**

- Tie patient’s statements together and communicate that the clinician has been listening to the patient and understands his or her perspective
- Reinforce important material that has been discussed in consultation

Starting the Conversation About Overweight and Obesity

- MI can allow clinicians to help patients identify specific, measurable, and realistic goals to decrease calorie intake and increase physical activity.
Starting the Conversation About Overweight and Obesity

• MI can allow clinicians to help patients identify specific, measurable, and realistic goals to decrease calorie intake and increase physical activity

ACTION ITEM: Initiate discussions regarding lifestyle modifications and weight loss in patients who are overweight or obese.
How difficult do you think it will be to adopt these MI techniques (ie, OARS) into your practice setting?

1. Not at all difficult
2. Somewhat difficult
3. Difficult
4. Very difficult

Use your keypad to vote now!
How difficult do you think it will be to adopt these MI techniques (ie, OARS) into your practice setting?

1. Not at all difficult
2. Somewhat difficult
3. Difficult
4. Very difficult

Use your keypad to vote now!
Grace: 2 Months Later

• Grace is in her clinician’s office today for a follow-up visit on her lifestyle interventions

• She has tried to follow her clinician’s advice
  – Obtained gym membership; walks on treadmill and does water aerobics 2-3 times/week
  – Eats home-cooked meals with husband and children “most” of the time; goes out to eat 1-2 times/week due to scheduling/lack of time to cook

• Vital signs
  – Height = 65 in; weight = 201 lb (5-lb weight loss [2.4%])
  – BMI = 33.4 kg/m²; WC = 37.5 in
  – BP = 140/88 mm Hg; HR = 78 beats/min

• Grace feels frustrated by the lack of weight loss; she states that she feels hungry all of the time
When lifestyle interventions are not working, what is the next step?
Principles of Pharmacotherapy for the Treatment of Obesity

• Medications are adjuncts to lifestyle management
• Medications for overweight/obesity work via hunger and satiety control (except orlistat), and in this way enhance adherence with a reduced-calorie diet
• Patients who have a history of struggling to lose weight are candidates for pharmacotherapy
• There is no ideal medication that is right for every patient
• If patients do not lose weight (usually 5% at 12 weeks), medications should be stopped, titrated, or changed
• Overweight/obesity is a chronic disease; evidence supports the use of long-term therapies

Do You Know the New Principles for Prescribing the New Weight Loss Drugs?

<table>
<thead>
<tr>
<th>Old Way</th>
<th>New Way</th>
</tr>
</thead>
</table>
| Cosmetically driven  
Prescribe drugs when patients request them  
Prescribe them only for the severely obese patient as a last-resort effort | Health improvement-driven;  
identify patients who need to lose weight and recommend drugs as an aid to a weight loss program |
| BMI-centric criteria for use:  
≥27 kg/m² plus comorbidities or ≥30 kg/m² | Health improvement-centric;  
prescribe for improvement in risk factors or symptoms, better chronic disease control |
## Do You Know the New Principles for Prescribing the New Weight Loss Drugs? (cont’d)

<table>
<thead>
<tr>
<th>Old Way</th>
<th>New Way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispense medications from storefront office for patient seeking weight loss</td>
<td>Prescribe from primary care clinician who has long-term relationship with patient</td>
</tr>
<tr>
<td>Use for short term; ~3 months on average</td>
<td>Use for long term, as with antihypertensive agents</td>
</tr>
<tr>
<td>Write prescription; see patient in 3-6 months</td>
<td>Write prescription; see patient in 2-4 weeks</td>
</tr>
<tr>
<td></td>
<td>Monitor patient at least monthly</td>
</tr>
<tr>
<td></td>
<td>Stop medication if ineffective</td>
</tr>
</tbody>
</table>
Mechanisms of Action of Antiobesity Drugs

<table>
<thead>
<tr>
<th>Drug</th>
<th>Mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orlistat</td>
<td>• Reversible inhibitor of intestinal lipases</td>
</tr>
<tr>
<td>Lorcanerin</td>
<td>• 5-HT2C serotonin agonist</td>
</tr>
<tr>
<td>Phentermine/Topiramate ER</td>
<td>• Sympathomimetic</td>
</tr>
<tr>
<td></td>
<td>• Anticonvulsant (gamma aminobutyric acid receptor modulation,</td>
</tr>
<tr>
<td></td>
<td>carbonic anhydrase inhibition, glutamate antagonism)</td>
</tr>
<tr>
<td>Naltrexone SR/Bupropion SR</td>
<td>• Opioid receptor antagonist</td>
</tr>
<tr>
<td></td>
<td>• Dopamine, norepinephrine, and serotonin reuptake inhibitor</td>
</tr>
<tr>
<td>Liraglutide</td>
<td>• GLP-1 receptor agonist</td>
</tr>
</tbody>
</table>

5-HT = 5-hydroxytryptamine; GLP-1 = glucagon-like peptide 1.

Antiobesity Medications: Typical Weight Loss Profile

Rapid Weight Loss With Stabilization Out to 1 Year

Comparative Efficacy of Weight Loss Medications: Percent Weight Loss$^a$

$^a$All data are placebo-subtracted, maximal dose, ITT-LOCF, 1 year, unless otherwise indicated.

Comparative Efficacy of Weight Loss Medications: Percent Weight Loss<sup>a</sup>

**ACTION ITEM:**
Consider weight loss medication as an effective option for the treatment of adults with obesity.

All data are placebo-subtracted, maximal dose, ITT-LOCF, 1 year, unless otherwise indicated.

Weight Loss Medications: Safety, Tolerability & Dosing

<table>
<thead>
<tr>
<th>Agent</th>
<th>Safety and Tolerability</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phentermine (37.5 mg)</td>
<td>• Sympathomimetic effects; ↑ BP and HR</td>
<td>Advanced CVD; moderate to severe HTN; hyperthyroidism; glaucoma; history of drug abuse; MAOI use; pregnancy</td>
</tr>
<tr>
<td></td>
<td>• Most states enforce 3-month prescribing limit</td>
<td></td>
</tr>
<tr>
<td>Orlistat (120 mg/TID)</td>
<td>• GI side effects with high fat intake; steatorrhea</td>
<td>Chronic malabsorption syndrome; cholestasis; pregnancy</td>
</tr>
<tr>
<td></td>
<td>• Prescribe with multivitamin</td>
<td></td>
</tr>
<tr>
<td>Lorcaserin (10 mg/BID)</td>
<td>• Generally well-tolerated</td>
<td>Pregnancy; MAOI use</td>
</tr>
<tr>
<td></td>
<td>• Use “extreme caution” in patients on selective serotonin reuptake inhibitors, serotonin norepinephrine reuptake inhibitors</td>
<td></td>
</tr>
<tr>
<td>Phentermine/topiramate ER (3.75/23 mg QD)</td>
<td>• Carbonic anhydrase inhibitor effects; cognitive effects</td>
<td>Glaucoma; hyperthyroidism; MAOI use; pregnancy</td>
</tr>
<tr>
<td></td>
<td>• Topiramate can produce oral clefts; pregnancy tests required</td>
<td></td>
</tr>
<tr>
<td>Naltrexone SR/bupropion SR (8/90 mg QD)</td>
<td>• Nausea and vomiting</td>
<td>Uncontrolled HTN; seizure disorders, anorexia nervosa or bulimia, or undergoing abrupt discontinuation of alcohol, benzodiazepines, barbiturates, and antiepileptic drugs; use of other bupropion products; chronic opioid use; MAOI use; pregnancy</td>
</tr>
<tr>
<td></td>
<td>• Carries suicidality caution because of bupropion</td>
<td></td>
</tr>
<tr>
<td>Liraglutide (3.0 mg QD)</td>
<td>• Nausea and vomiting</td>
<td>Personal or family history of medullary thyroid carcinoma or multiple endocrine neoplasia syndrome type 2; pregnancy</td>
</tr>
</tbody>
</table>

GI = gastrointestinal; MAOI = monoamine oxidase inhibitor.
Weight Loss Medications That Require Dosing Titrations

**Phentermine/Topiramate ER**
- Requires titration over 4 weeks because of paresthesias
- Must titrate: 3.75/23 mg → 7.5/46 mg daily
- Option to escalate to 15/92 mg with low weight loss response

**Naltrexone SR/Bupropion SR**
- Requires titration over 4 weeks because of nausea
  - (8/90 mg → 32/360 mg)
- Bupropion associated with dose-related seizure risk

**Liraglutide (3.0 mg)**
- Requires titration because of nausea
- Initiate at 0.6 mg/day for 1 week
- In weekly intervals, increase the dose until a dose of 3 mg is reached

How Do You Decide What Antiobesity Medication Is Right for Your Patient?

- Effectiveness
  - Mean weight loss
  - Categorical weight loss: odds of losing a prespecified amount of weight
- Safety/tolerability profile
  - Adverse events
  - Drug-drug interactions
- Cost
How Do You Decide What Antiobesity Medication Is Right for Your Patient?

- Effectiveness
  - Mean weight loss
  - Categorical weight loss: odds of losing a prespecified amount of weight
- Safety/tolerability profile
  - Adverse events

ACTION ITEM:
Select pharmacotherapy for the treatment of patients with obesity based on individual patient- and disease-related factors.
## Antiobesity Medications Under Development

<table>
<thead>
<tr>
<th>Target</th>
<th>Drug</th>
<th>Mechanism of Action</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Central neuropeptide signaling</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>MC receptor</td>
<td>MK-0493</td>
<td>Selective MC4R agonist, increasing MC3/4R signaling</td>
<td>Phase 2 completed</td>
</tr>
<tr>
<td></td>
<td>RM-493</td>
<td>Selective MC4R agonist, increasing MC3/4R signaling</td>
<td>Phase 2</td>
</tr>
<tr>
<td>NPY</td>
<td>MK-0557</td>
<td>Y5 receptor antagonist, NPY blocker</td>
<td>Phase 2 completed</td>
</tr>
<tr>
<td></td>
<td>Velneperit (S-2367)</td>
<td>Y5 receptor antagonist, NPY blocker</td>
<td>Phase 3</td>
</tr>
<tr>
<td><strong>Intestinal peptide hormone signaling</strong></td>
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<tr>
<td>GLP-1</td>
<td>Exenatide</td>
<td>GLP-1 receptor agonist, GLP-1 mimicking</td>
<td>Phase 3</td>
</tr>
<tr>
<td>OXM</td>
<td>OXY-RPEG</td>
<td>GLP-1 receptor agonist, OXM mimicking</td>
<td>Phase 1 recruiting</td>
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<tr>
<td></td>
<td>TKS1225</td>
<td>GLP-1 receptor agonist, OXM mimicking</td>
<td>Phase 1</td>
</tr>
<tr>
<td><strong>Pancreatic hormone signaling</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PP</td>
<td>PP1420</td>
<td>PP analog</td>
<td>Phase 1 completed</td>
</tr>
<tr>
<td>Amylin</td>
<td>Davalintide (AC2307)</td>
<td>Amylin mimicking</td>
<td>Phase 2</td>
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<tr>
<td><strong>Metabolism modulator</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MetAP2</td>
<td>Beloranib</td>
<td>Inhibitor of MetAP2</td>
<td>Phase 2</td>
</tr>
<tr>
<td><strong>Inhibition of lipase</strong></td>
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</tr>
<tr>
<td>Pancreatic lipase</td>
<td>Cetilistat (ATL-962)</td>
<td>Pancreatic lipase inhibitor, inhibiting intestinal lipid absorption</td>
<td>Phase 3 completed</td>
</tr>
</tbody>
</table>

MC = melanocortin; MetAP2 = methionine aminopeptidase 2; NPY = neuropeptide Y; OXM = oxyntomodulin; PP = pancreatic polypeptide.
Multidisciplinary Approach to Management of Overweight and Obesity

- Obesity specialist
- Nurse
- Behavioral therapist
- Exercise specialist
- Primary care provider
- Dietitian

Summary

• Obesity is a chronic disease that contributes to T2DM, high BP, dyslipidemia, CVD, some cancers, poor quality of life, and greater overall mortality

• It is important to obtain objective measures of body weight, including BMI and WC, to identify patients who would benefit from weight loss
  – Use objective measures to begin to formulate a management plan
  – Consider obesity-related complications to assess risk and determine intensity of the treatment plan
  – As with any chronic health condition, consider prevention and maintenance strategies
Summary (cont’d)

• Be proactive in initiating obesity counseling
  – Employ evidence-based strategies to enhance patient encounters: 5 A’s, MI
• Pharmacotherapy provides significantly greater weight loss over that achieved by lifestyle intervention alone
  – Will help to sustain weight loss and prevent weight regain over time
  – Patients who will benefit most are those with obesity-related complications
• Several antiobesity medications exist; individualize treatment for patients
PCE Action Plan

- For all patients, calculate BMI at annual visits or more frequently and identify body weight classification
- Measure WC at annual visits or more frequently in patients who are overweight or obese
- Consider the benefits that a 5%-10% weight loss will have on patients who are overweight or obese
- Initiate discussions regarding lifestyle modifications and weight loss in patients who are overweight or obese
- Consider weight loss medication as an effective option for the treatment of adults with obesity
- Select pharmacotherapy for the treatment of patients with obesity based on individual patient- and disease-related factors

PCE Promotes Practice Change
What is the best way to measure waist circumference?
Is there an “ideal patient” for each of the antiobesity drugs?
What is the role of metformin in weight loss?
Q & A

Is one society’s guideline recommendations better than another?
How valid is the recent study that said it is actually better to be heavier as you age?
What are the roles of ghrelin and leptin in weight loss?