

A pair of brass scales of justice is shown against a blue background. The scales are slightly tilted, with the right pan hanging lower than the left. The background features abstract geometric shapes in various shades of blue. The text is overlaid on the left side of the image.

# Balancing the Scale: A Modern approach to Obesity and Weight Management

Annie Gonzalez, APRN-CNP, CDCES



## Relevant Financial Disclosure(s)

- I have nothing to disclose

# Objectives

- Describe the identifying factors in eligibility for weight management
- Identify available FDA-approved anti-obesity medications
- Describe the plan of care for pharmacological interventions in weight management.



# Obesity

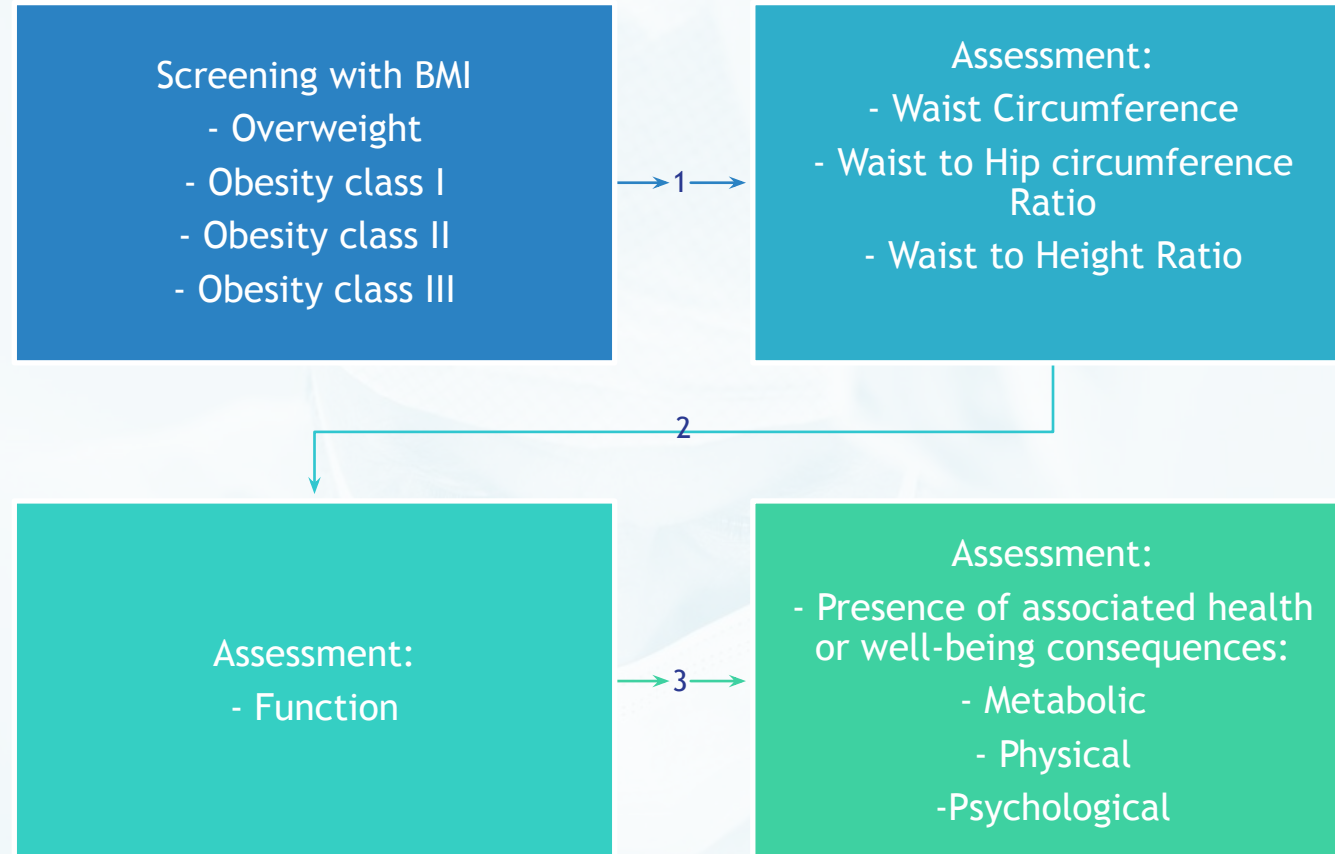
Defined by The Obesity Medicine Association  
as a

“chronic, relapsing, multi-factorial,  
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.”

Defined by The World Health Organization as  
“an abnormal or excessive fat accumulation  
that presents a risk to health”



# Assessment and Screening



# Treatment Strategies and Goals

Reduce Adiposity

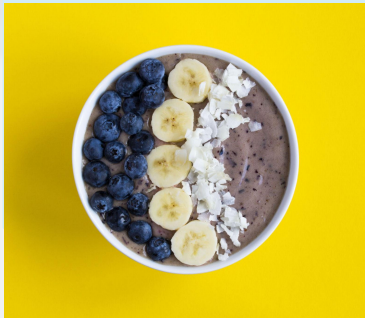
Reduce/Prevent Obesity-Related Complications

Preserve Muscle Mass and Function

Improve Quality of Life

# The Four Pillars of Obesity Treatment

Nutrition



Physical Activity



Behavioral Counseling



Medical Management



# Nutrition

- No one-size-fits-all eating pattern
- Baseline Caloric Intake
  - 500-750 kcal/day energy deficit
  - Women: 1200-1500 kcal/day
  - Men: 1500-1800 kcal/day
- ADD ON:
  - Carbohydrates (50-150g/day)
  - Water (64-120oz)
  - Protein (0.8-1.5 g/kg/day)
  - Fiber (14 grams/2000kcal/day)



# Physical Exercise

- Evaluate baseline physical activity and time spent in sedentary behavior
- 150 min/week
- Stepping
  - 10k/day
  - 500+ step increase
- Strengthening
  - Resistance Exercise
  - Tai-Chi, Yoga



# Behavioral Counseling

- ▶ Share decision making should be used when counseling
- ▶ Frequent assessment is recommended
- ▶ The value of monitoring should be explained as part of the medical evaluation process that helps to inform treatment decisions
- ▶ Initial Monitoring: every 4 weeks
- ▶ Re-assessment: every 3 months



Medication	Mean Weight Reduction	Minimum Age (Years)	Approved for Chronic Use
Tirzepatide	15-20.9%	18	X
Semaglutide	15-20.7%	12	X
Semaglutide-Oral	16.6%	18	X
Orforglipron	12.4%	18	X
Liraglutide	8%	12	X
Naltrexone/Bupropion	7%	18	X
Phentermine/Topiramate	9%	12	X
Orlistat	9%	12	X
Phentermine	5%	>16	x

# Phentermine/Topiramate

**Mechanism of Action:** works in the hypothalamus to suppress cravings and hunger and promotes satiety

**Main Side Effects:** Dry mouth, constipation, insomnia, dizziness, lightheadedness, difficulty concentrating, paresthesias

**Interactions:** MAO inhibitors (within 14 days), avoid ETOH

**Contraindications:** hyperthyroidism, glaucoma, MAO inhibitor in the past 14 days, pregnancy/nursing

# Phentermine/Topiramate RX

## Combination: (Daily)

- ▶ 3.75mg/23 mg,
- ▶ 7.5mg/46mgm
- ▶ 11.25 mg/69mg
- ▶ 15 mg/92 mg
- ▶ FDA approved (BMI >30, BMI >27 with CM)
- ▶ Short Term Use: 12 weeks
- ▶ Obesity Medicine Association (2022): “The use of phentermine for longer than 12 weeks is supported by data and opinion leaders”
- ▶ Package insert states potential for addiction
- ▶ Prescribing Laws: Oklahoma
  - ▶ Schedule IV Controlled Substance



# Naltrexone/Bupropion

**Mechanism of Action:** targets appetite regulation and reward system in the brain to decrease hunger and food cravings

**Main Side Effects:** nausea, vomiting, dizziness, insomnia, constipation or diarrhea, headache, dry mouth, dysgeusia

**Interactions:** Opioid analgesics, interaction with CYP2D6 metabolized medications, beware of lower seizure threshold

**Contraindications:** MOA within 14 days, HTN, seizure disorders, eating disorders, opioid use, pregnancy/nursing, excess ETOH use

# Naltrexone/Bupropion RX

- ▶ Dosage: 8 mg/90 mg
  - ▶ 1 tab PO qAM x1wk
  - ▶ 1 tab PO BID x1wk
  - ▶ 2 tabs PO qAM and 1 tab PO qPM x1wk
  - ▶ 2 tabs PO BID
- ▶ FDA approved
  - ▶ Adults: (BMI >30, BMI >27 with CM)
- ▶ DC if weight loss <5% after 12 wks
- ▶ Prescribing Laws: Oklahoma



# Liraglutide

Mechanism of Action: targets GLP-1 receptors in the brain to decrease hunger and increase satiety

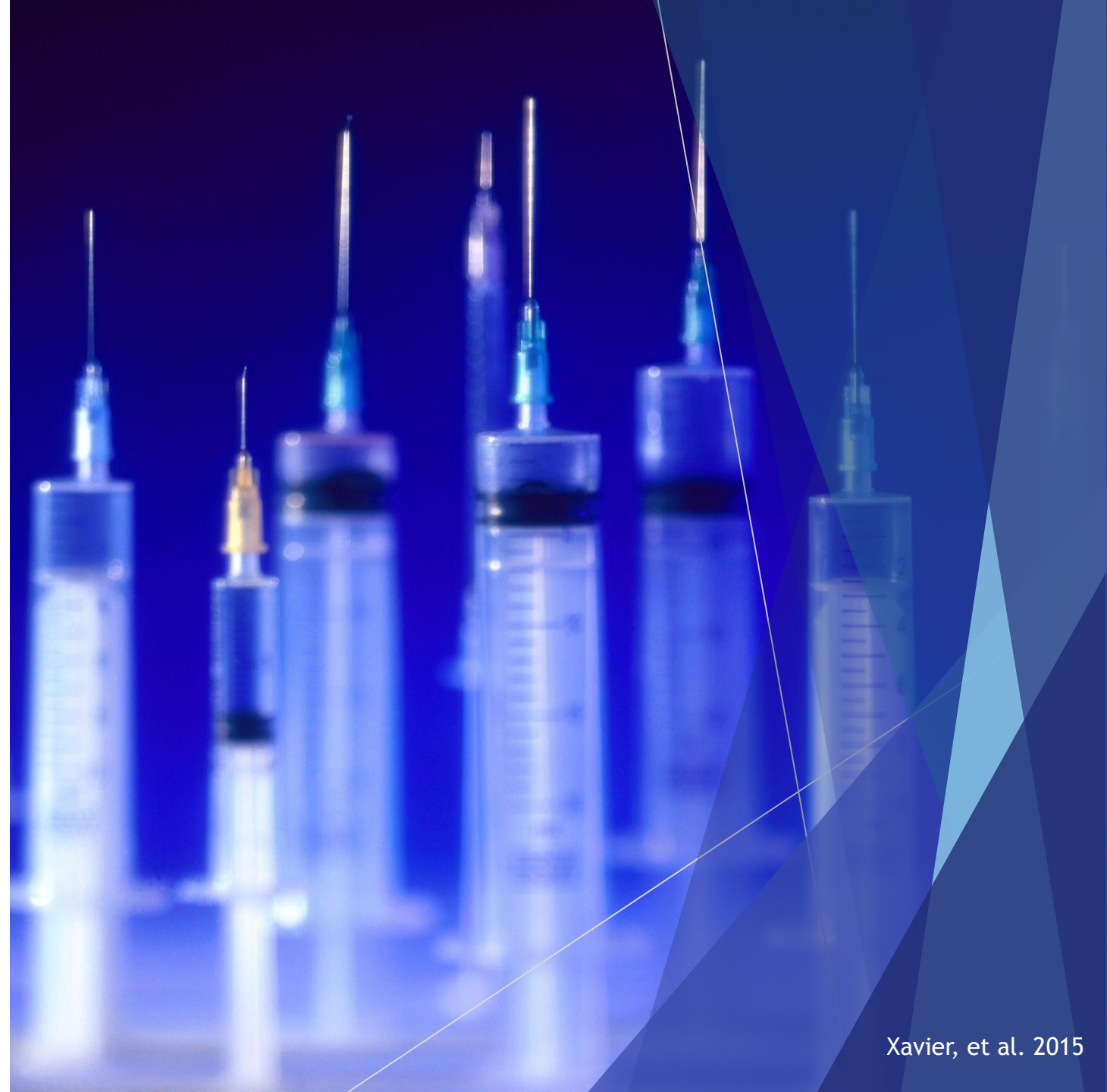
Main Side Effects: Nausea, vomiting, constipation, diarrhea, headache

Interactions: delays gastric emptying-will impact oral medications taken at the same time

Contraindications: personal/family HX of medullary thyroid carcinoma or multiple endocrine neoplasia syndrome 2, pregnancy/nursing

# Liraglutide RX

- ▶ Dosage: 0.6 mg, 1.2 mg, 1.8 mg, 2.4 mg, 3 mg
  - ▶ 0.6 mg SC qd x 1 wk
  - ▶ Increase 0.6 mg every week to target
  - ▶ May delay dose titration x1wk if intolerance
  - ▶ Re-titrate from 0.6 mg SC qd if TX is interrupted for >3 days
- ▶ FDA approved
  - ▶ Adults (BMI >30, BMI >27 with CM)
  - ▶ Pediatrics (12 yo)
- ▶ DC if weight loss <4% after 16 wks
- ▶ Prescribing Laws: Oklahoma



# Orforglipron

Mechanism of Action: targets GLP-1 receptors in the brain to decrease hunger and increase satiety

Main Side Effects: Nausea, vomiting, constipation, diarrhea, dyspepsia, abdominal pain, headache, abdominal distention, fatigue, eructation, GERD, flatulence, and hair loss.

Contraindications: personal/family HX of medullary thyroid carcinoma or multiple endocrine neoplasia syndrome 2, pregnancy/nursing, HX pancreatitis

# Orforglipron

- ▶ Dosage: 0.8 mg, 2.5 mg, 5.5 mg, 9 mg, 14.5 mg, 17.2 mg
  - ▶ Titration: every 30 days
  - ▶ EDU: 6 month titration
  - ▶ May take at anytime of day (with food/without)
  - ▶ Restart TX at lower dose if >7 consecutive doses missed
  - ▶ Do not cut, crush, chew
- ▶ FDA approved
  - ▶ Adults: (BMI >30, BMI >27 with CM)



# Semaglutide-Oral

Mechanism of Action: targets GLP-1 receptors in the brain to decrease hunger and increase satiety

Main Side Effects: Nausea, vomiting, constipation, diarrhea, headache

Interactions: delays gastric emptying-will impact oral medications taken at the same time

Contraindications: persona/family HX of medullary thyroid carcinoma or multiple endocrine neoplasia syndrome 2, pregnancy/nursing

# Semaglutide-Oral

- ▶ Dosage: 1.5mg, 4 mg, 9 mg, 25 mg
  - ▶ Titration: every 30 days
  - ▶ 6 month titration
  - ▶ Administer on an empty stomach
  - ▶ Drink with 4 oz water 30 minutes before food/drink/med
  - ▶ Restart TX at lower dose if >7 consecutive doses missed
  - ▶ Do not cut, crush, chew
  - ▶ May switch to SC if not tolerating high dose (1.7 mg vs. 2.4 mg, SC, Weekly)
- ▶ FDA approved
  - ▶ Adults: (BMI >30, BMI >27 with CM)



# Semaglutide

**Mechanism of Action:** targets GLP-1 receptors in the brain to decrease hunger and increase satiety, increasing insulin secretion, decreasing glucagon secretion, and delaying gastric emptying (incretin mimetic)

**Main Side Effects:** Nausea, vomiting, constipation, diarrhea, headache

**Interactions:** delays gastric emptying-will impact oral medications taken at the same time

**Contraindications:** persona/family HX of medullary thyroid carcinoma or multiple endocrine neoplasia syndrome 2, pregnancy/nursing

# Semaglutide

- ▶ Dosage: 0.25 mg, 0.5 mg, 1mg, 1.7 mg, 2.4 mg, 7.4 mg
  - ▶ Titration: Every 4 weeks
  - ▶ May delay titration x4wks
- ▶ FDA approved
  - ▶ Adults (BMI >30, BMI >27 with CVD)
  - ▶ Pediatrics: 12 yo
- ▶ SELECT Trial
- ▶ STEP-HFpEF and STEP-HFpEF with DM



# Tirzepatide

Mechanism of Action: targets GLP-1 and GIP receptors in the brain to decrease hunger and increase satiety

Main Side Effects: Nausea, vomiting, constipation, diarrhea, headache

Interactions: delays gastric emptying-will impact oral medications taken at the same time

Contraindications: persona/family HX of medullary thyroid carcinoma or multiple endocrine neoplasia syndrome 2, pregnancy/nursing

# Tirzepatide RX

- ▶ Dosage: 2.5mg, 5 gm, 7.5 mg, 10 mg, 12.5 mg, 15 mg
  - ▶ 2.5 mg, SC, Weekly x4wks
  - ▶ 5 mg, SC, Weekly x4wks
  - ▶ 7.5 mg, SC, Weekly x4wks
  - ▶ 10 mg, SC, Weekly x4wks
  - ▶ 12.5 mg, SC, Weekly x4wks
  - ▶ 15 mg, SC, Weekly
  - ▶ May delay titration x4wks
- ▶ FDA approved
  - ▶ Adults (BMI >30, BMI >27 with CM)
  - ▶ Adults with OSA (moderate-severe)
- ▶ Maintenance Dose (Adults with CM): 5 mg, 10 mg, 15 mg
- ▶ Maintenance Dose (Adults with OSA): 10 mg, 15 mg
- ▶ SURMOUNT-1, SURMOUNT-2, SURMOUNT-3, SURMOUNT-4
- ▶ SURMOUNT-OSA
- ▶ SURMOUNT-5





# Evaluation

- ▶ Evaluation: 3 month intervals
- ▶ Continue vs. Discontinue
  - Goal Weight
- ▶ Cost and Insurance Coverage
  - Medicare/Medicaid
  - Compounded Medications

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# Image References

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