

# Understanding Weight & Metabolism:

## Taking Control of Your Body

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I have no disclosures



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Throughout this presentation, we will be using the term "women." We acknowledge that not all individuals with ovaries identify as women, and that some women do not have ovaries. We use this term for simplicity in the context of this specific topic, but recognize and respect the diversity of all gender identities.



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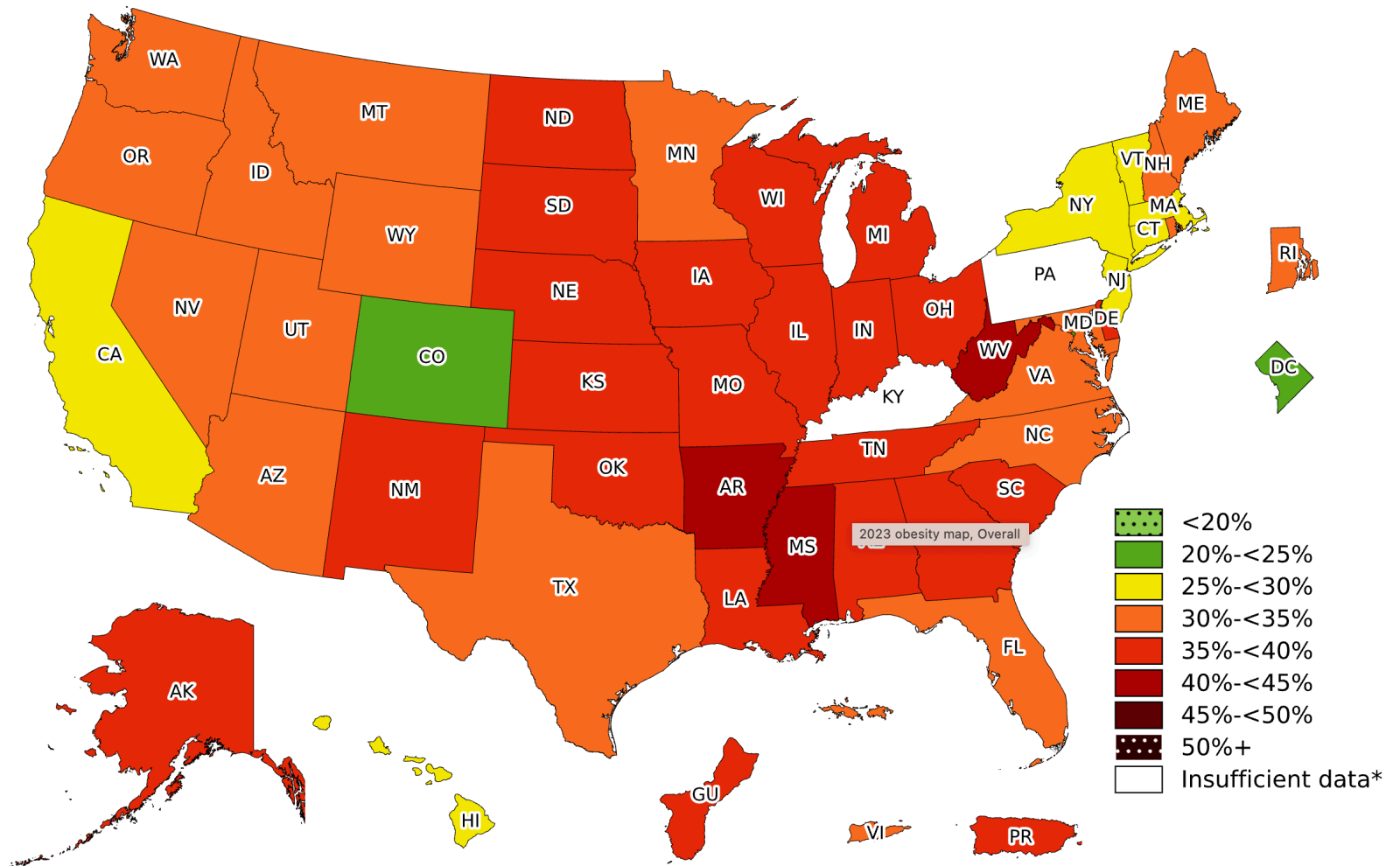
# Why Weight Management Matters?

- Health impacts of excess weight
- Mental and emotional effects



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Obesity is considered one of the leading causes of **preventable** deaths globally



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# What Is Adiposity?

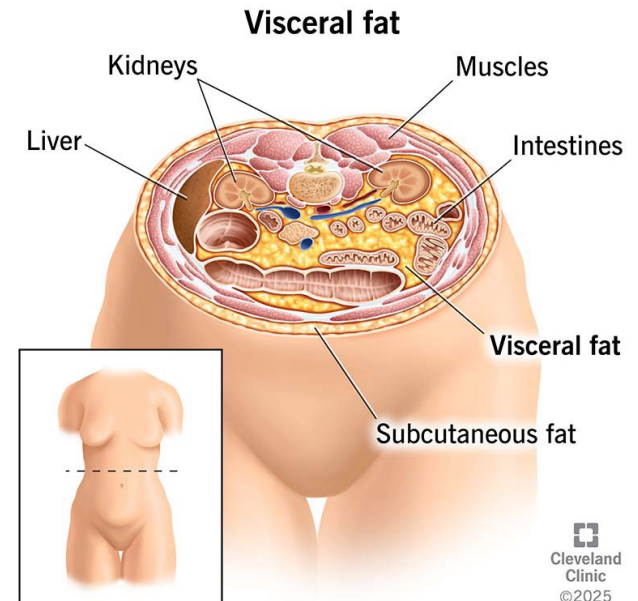


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# “Adiposity”

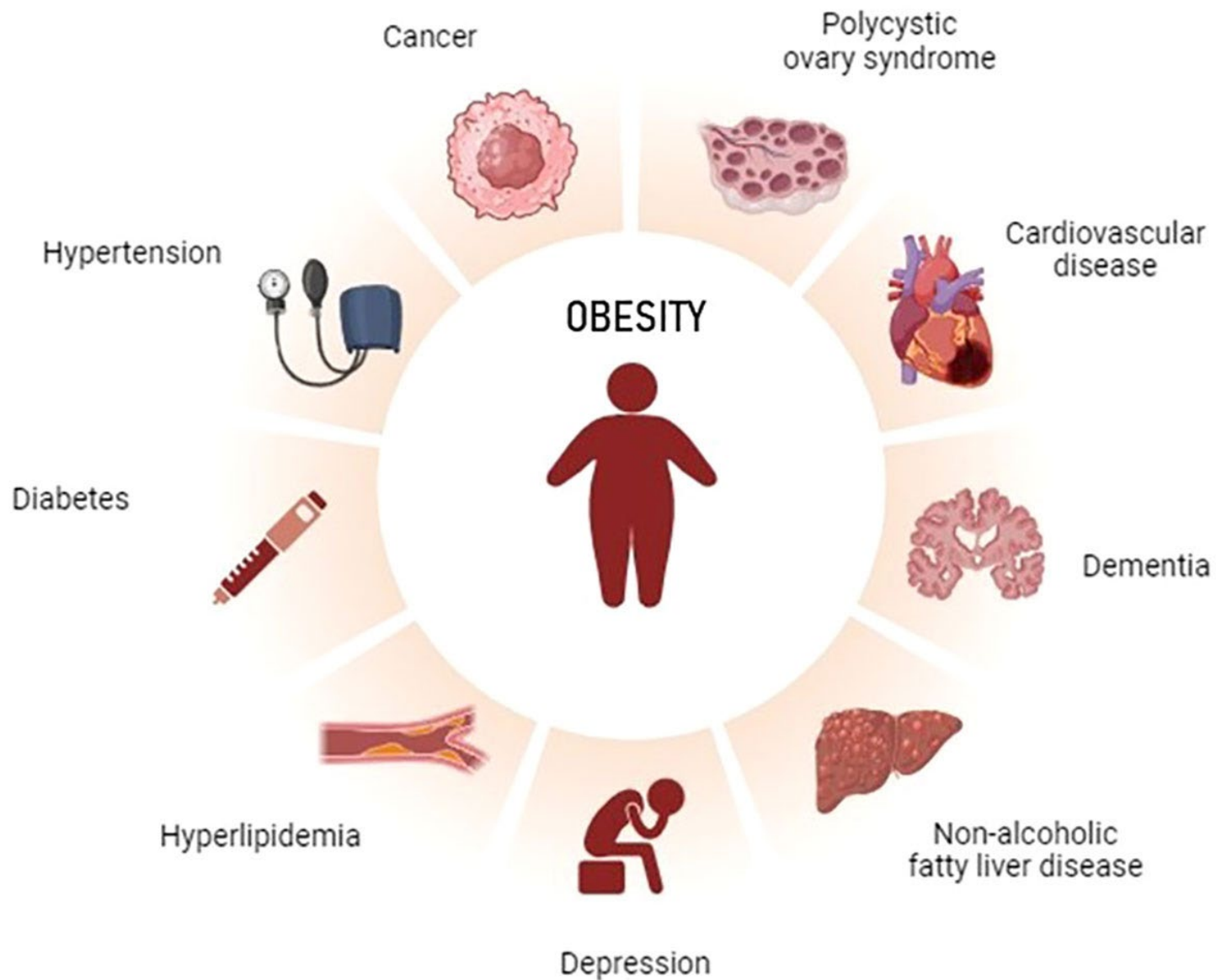
- Adipose tissue – an active organ, not just storage
- Releases hunger hormones →
  - Leptin
  - Ghrelin
  - Estrogen
- Too much visceral fat → **insulin resistance, higher disease risk, inflammation**



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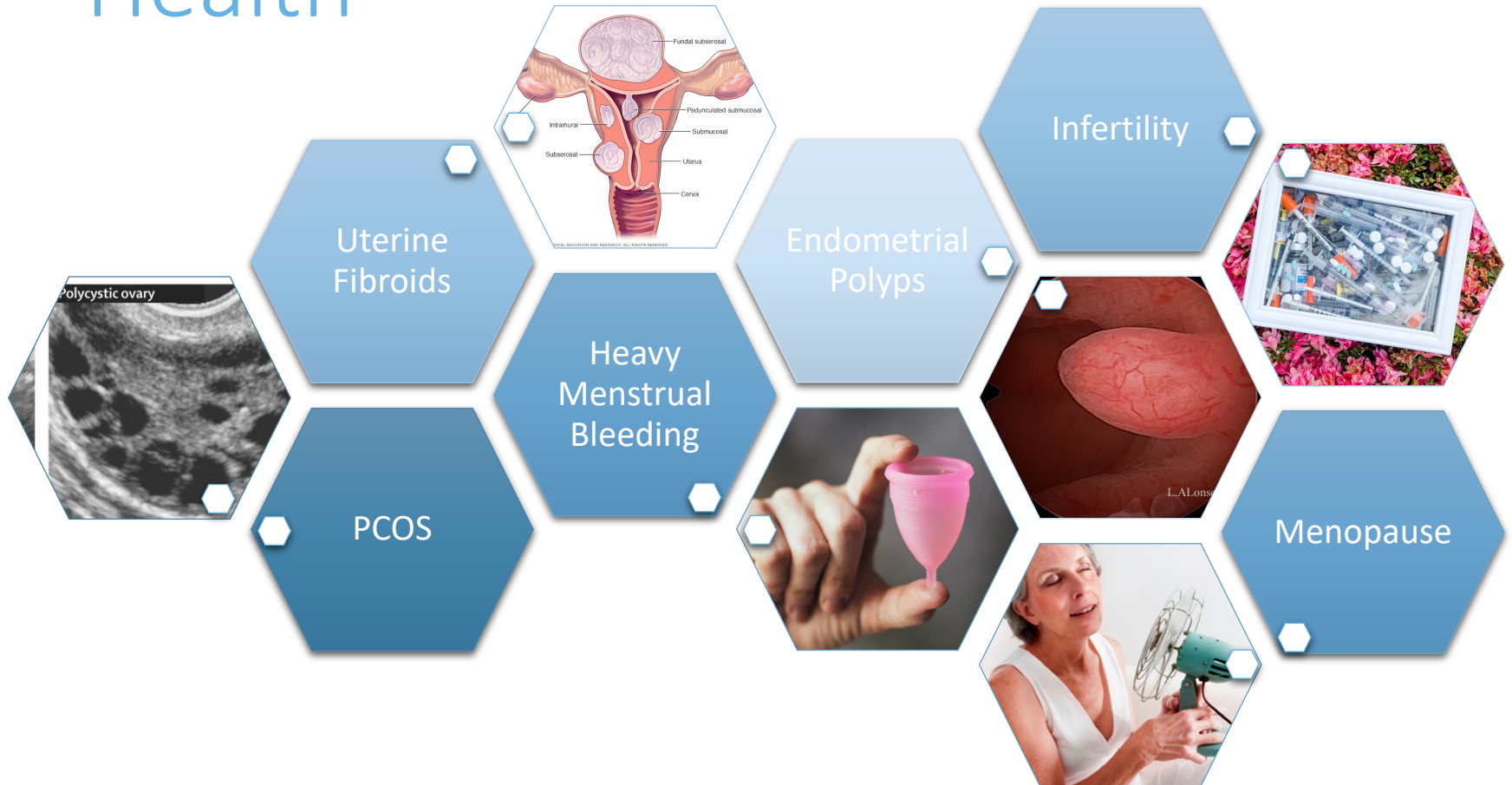


Female obesity: clinical and psychological assessment toward the best treatment.  
Guglielmi, V et al. Endocrinol, May 2024.



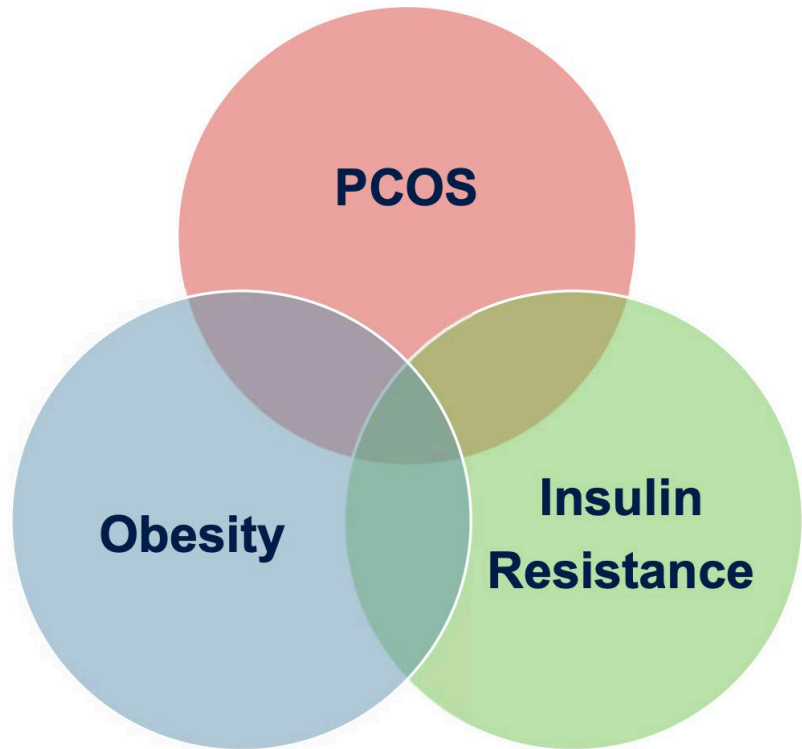
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# Estrogen, Weight, & Women's Health

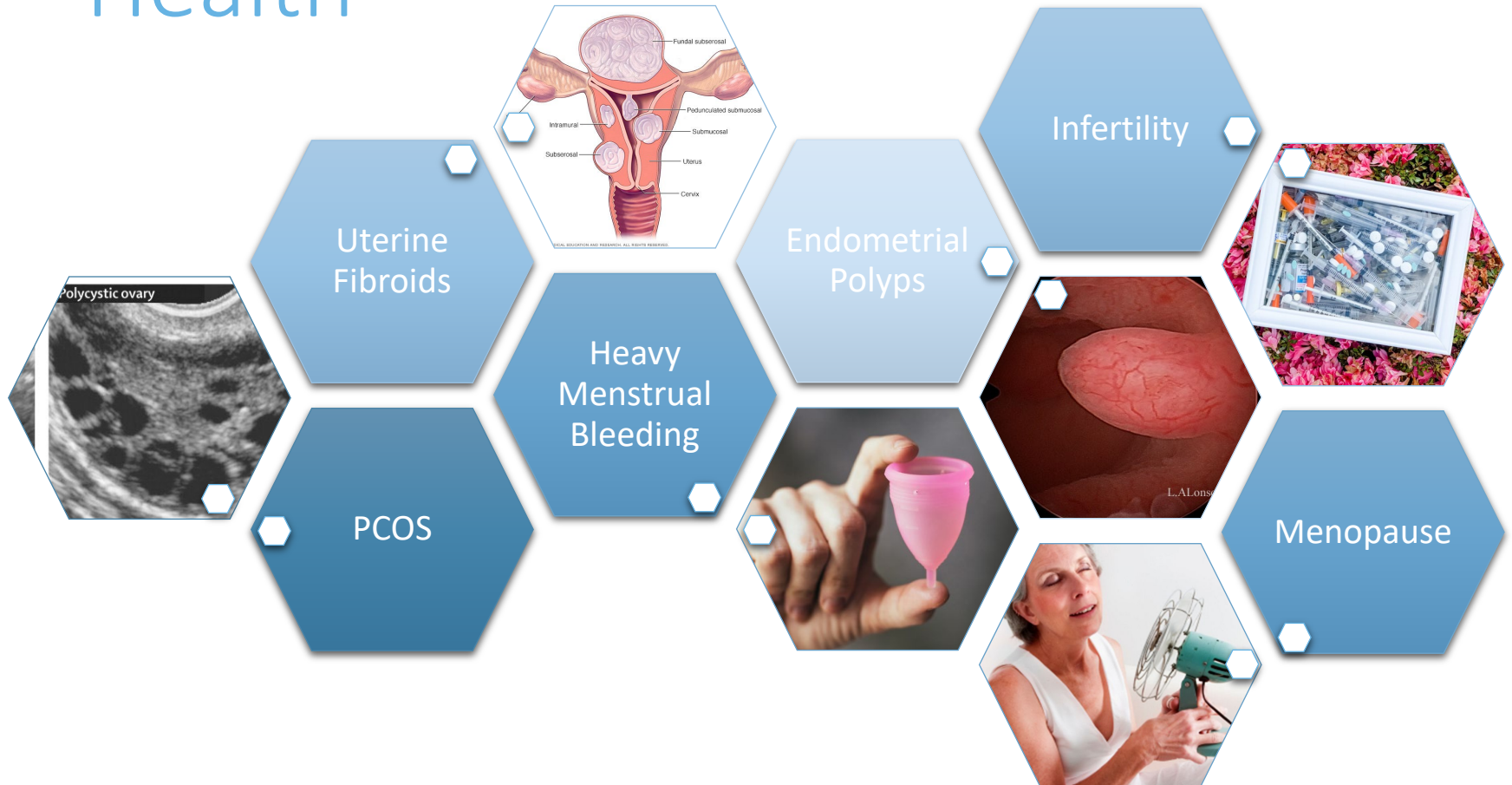


# PCOS

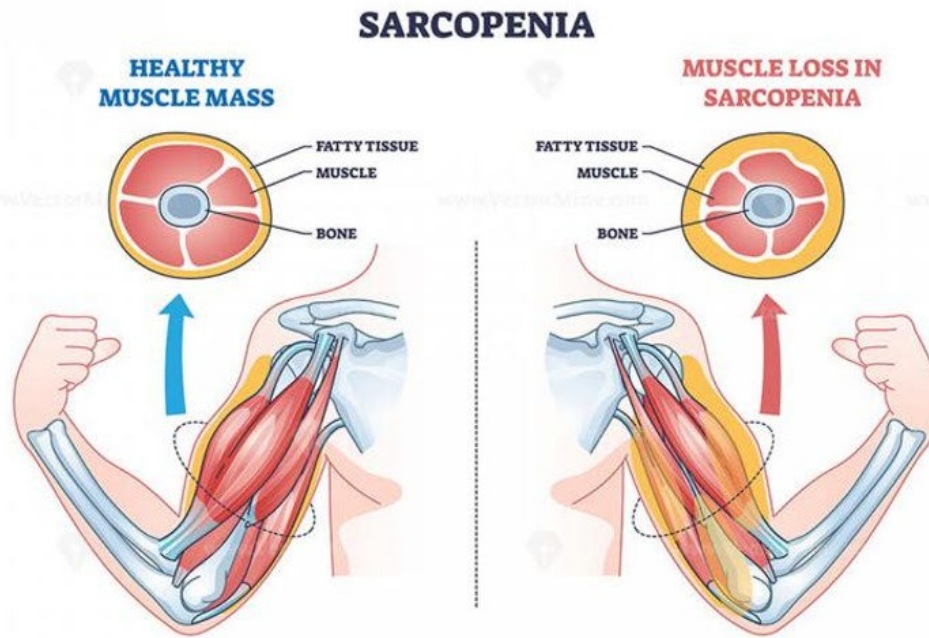
- High insulin → stimulates ovarian androgens
  - High cholesterol
  - Diabetes & cardiovascular disease
  - Chronic inflammation
  - Weight gain
- **1<sup>st</sup> Line Therapy --> weight management**



# Estrogen, Weight, & Women's Health



# Weight Changes in Menopause



- **↓** Estrogen = *loss of lean body mass*
- **↑** *Total and central adipose tissue*



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# Vasomotor Symptoms

Women with obesity  
have increased  
frequency & severity of  
vasomotor symptoms  
(VMS)



Gibson, et al, 2023; Knittel et al., 2024; Thurston et al., 2021



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What do we do?



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# Gut Hormones

- Insulin
- Leptin & Ghrelin
- Cortisol
- Thyroid
- Estrogen & Progesterone



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# Hormones and Weight

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**Insulin →**

- Controls blood sugar and fat storage

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**Leptin & Ghrelin**

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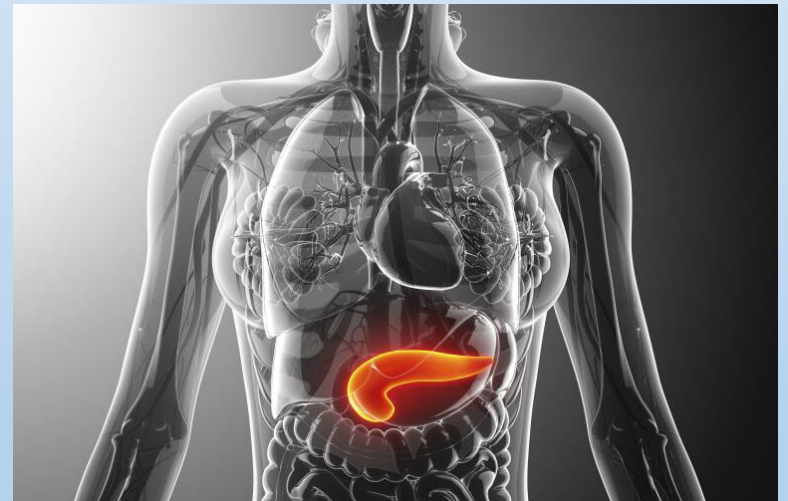
**Cortisol**

---

**Thyroid**

---

**Estrogen & Progesterone**



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# Hormones and Weight

---

Insulin

---

**Ghrelin & Leptin →**

---

Cortisol

---

Thyroid

---

Estrogen & Progesterone

- **Ghrelin** = “hunger” hormone
  - Stimulates hunger
  - Increases fat storage
- **Leptin** = “full” hormone
  - Increases fat breakdown
  - Stops storage of new fat

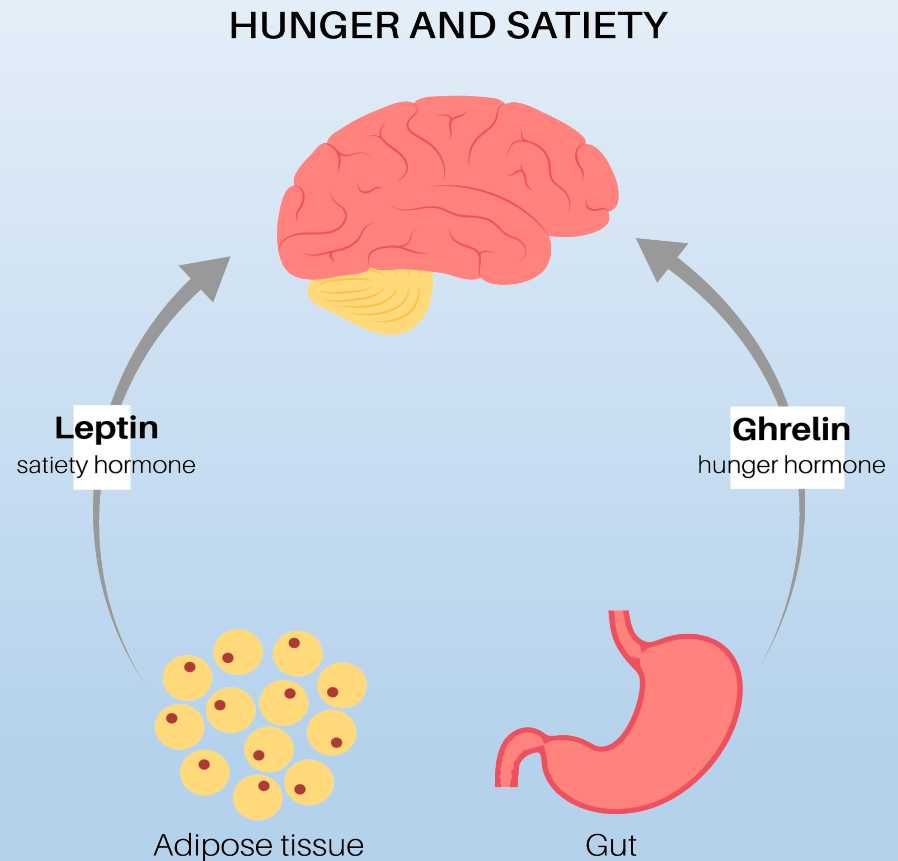


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# Hunger Hormones: Ghrelin & Leptin

- **Chronic overeating**
  - desensitizes the brain to leptin, causing higher ghrelin levels
- **Poor sleep**
  - *increases ghrelin*
- **Chronic stress**
  - increased *cortisol* & ghrelin  
→ increased appetite and storage
- **Inflammation**



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# Hormones and Weight

---

Insulin

---

Leptin & Ghrelin

---

**Cortisol →**

---

Thyroid

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Estrogen & Progesterone

- Short–Term Stress Response
- Long-term Stress Response
  - Increased fat storage
  - Increased appetite
  - Insulin resistance



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# Hormones and Weight

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Insulin

- Affects the basal metabolic rate

---

Leptin & Ghrelin

---

Cortisol

---

**Thyroid →**

---

Estrogen & Progesterone



# Hormones and Weight

---

Insulin

---

Leptin & Ghrelin

---

Cortisol

---

Thyroid

---

**Estrogen & Progesterone →**

- Estrogen stimulates fat storage in estrogen-sensitive tissues (breast hips)
  - May decrease ghrelin
- Progesterone – may increase water retention
  - High levels may increase ghrelin



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# Glucagon-Like Peptide 1

## GLP-1:

- Stimulates insulin release to decrease blood sugar
  - Slows gastric emptying
  - Stimulates pancreas
- 
- Released naturally with:
    - Exercise
    - High fiber/protein foods
    - Sleep



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# Management of Adiposity



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# The 4 Pillars of Weight Loss



**Nutritional Therapy**



**Physical Activity**



**Behavioral Counseling**



**Medical Management**

Pharmacotherapy

Complication  
Management

Bariatric Procedures

Obesity Medicine Association



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# Nutritional Therapy

- The old days of calories

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**THE BEST DIET IS THE ONE  
THAT WORKS FOR YOU!!**



Simpson et al, 2022; Ford et al., 2017



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# Physical Activity



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# Physical Activity

Goal: Move more Sit less!

- Recommend 150-30 minutes of moderate-intensity activity weekly.
- 5,000 (minimum) to 10,000 steps per day
- Resistance training at least 2 days per week

Physical activity alone has a small but significant impact on weight loss.

- Avg 2% exercise alone → increases to ~8% with diet/exercise
- Decreases % body fat
- Increased burning of visceral fat (adipose)
- Decreases subcutaneous body fat

Improves physical function, cognition, stress reduction, cardiovascular

Prevents bone & muscle loss



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# WHAT IS **NEAT** AND WHY IS IT IMPORTANT?

**NEAT = NON-EXERCISE ACTIVITY THERMOGENESIS**

*AKA: ALL MOVEMENT THAT ISN'T STRUCTURED EXERCISE*



**WALKING  
YOUR DOG**



**PACING ON  
THE PHONE**



**CLEANING  
THE HOUSE**



**DANCING  
IN THE SHOWER**

@cheatdaydesign

**1 HOUR OF EXERCISE = 4% OF YOUR DAY**

**NEAT = 63% OF YOUR DAY**

*(IF YOU SLEEP 8 HOURS)*

**Increasing your NEAT will...**



**HELP WITH  
FAT LOSS**



**IMPROVE  
OVERALL HEALTH**

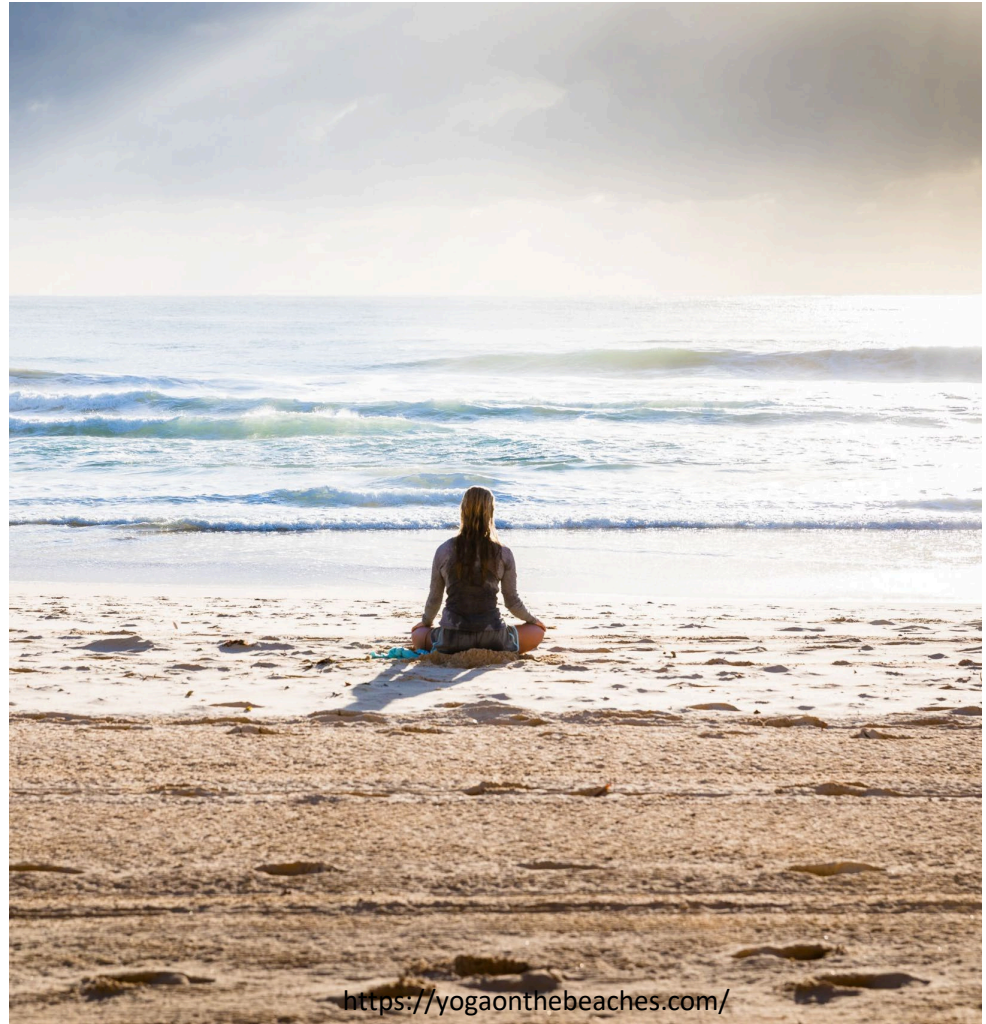


**ENHANCE  
YOUR MOOD**



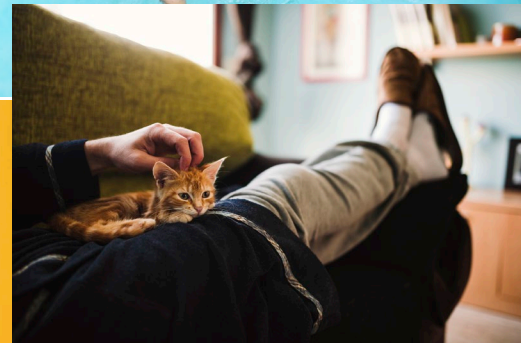
# Behavioral

- Mental Health
  - Management of medications
  - Treatment of anxiety/depression
  - Body image counseling
- Sleep
  - 7-9 hours of good sleep
- Limit alcohol & don't smoke
- Stress Reduction



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# Medical Management



- Identify of reversible causes
- Underlying medical problems
- Anti-Obesity Medications (AOMs)?
- Surgery

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# Anti-Obesity Medications

- Who are candidates?
    - Current guidelines:
      - BMI  $\geq$  27 with comorbidities
      - BMI  $\geq$  30
  - Other:
    - Cardiovascular disease
    - Diabetes
    - Obstructive Sleep Apnea
- **Adiposopathy frequently begins prior to reaching a BMI of 25**



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# Anti-Obesity Medications

- Oral Options

- Phentermine
- Alli® or Xenical®
- Contrave®
- Qysmia®

- Injectable

- Liraglutide
- Semaglutide
- Tirzepatide



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# Glucagon-Like Peptides

- Semaglutide
  - Wegovy
- Tirzepatide
  - Zepbound
- Liraglutide



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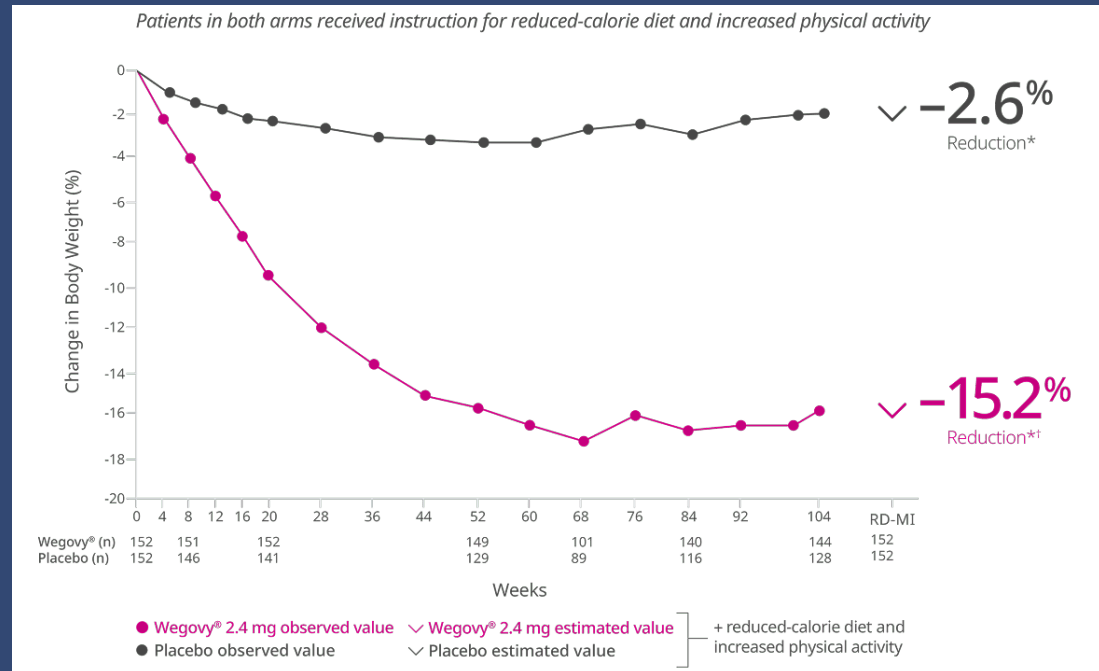
# Semaglutide

GLP-1 inhibitor

- "Wegovy" or "Ozempic"

Also approved for:

- Cardiovascular disease
- Metabolic-Associated Steatohepatitis (MASH)



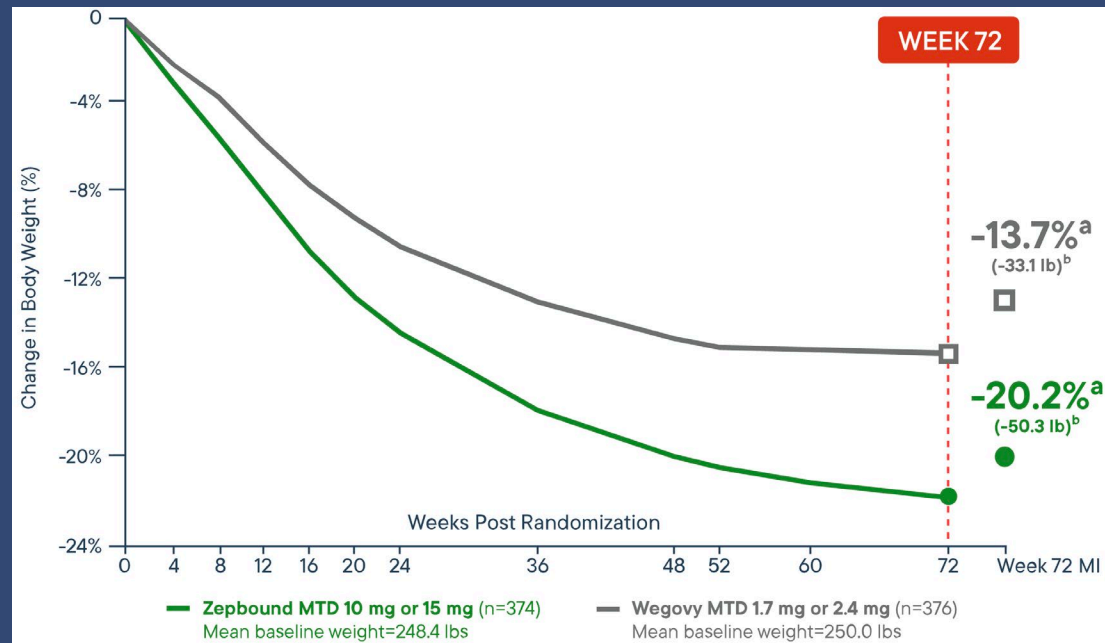
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# Tirzepatide

- GLP-1 and GIP inhibitor
- “Zepbound” or “Mounjaro”

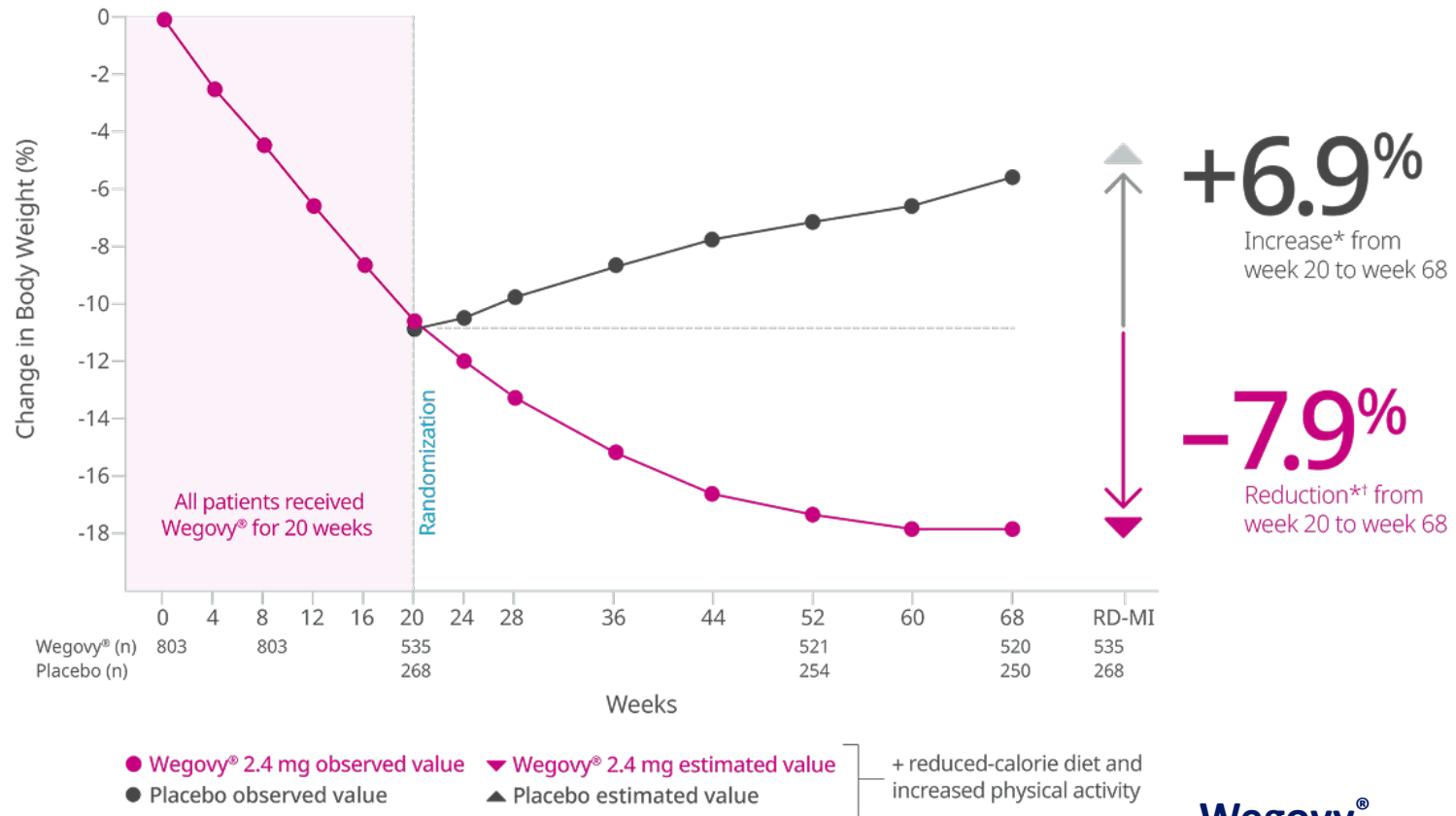
Also approved for:

- Obstructive Sleep Apnea (OSA)



# When Can I Stop?

*Patients in both arms continued a reduced-calorie diet and increased physical activity after randomization*



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# When Can I Stop?



Requires life-long management



Goal: obtain the lowest dose to prevent weight re-gain



Work Together with Nutrition & Exercise specialists!



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# Myth Busters!



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# Supplements

I take a  
“natural”  
GLP-1  
patch!



There are  
currently no  
transdermal FDA-  
approved GLP-1  
medications



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# Hormone Therapy

Can I start  
hormone  
therapy to  
lose weight?



Hormone therapy  
does **NOT** cause  
weight loss, and  
may even cause  
weight gain.



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## Menopausal Hormone Therapy (MHT)

---

Vastly underused

---

Reduces insulin resistance

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May counteract some of the loss of lean mass & increased central adiposity

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Reduces symptoms of depression alone or with antidepressants

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Associated with greater weight reduction when combined with semaglutide in postmenopausal women

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Early menopause & premature ovarian insufficiency should be treated with MHT

---

Can be used beyond age 65 years & into the 80s

The Menopause Society, 2024; Gnanasegar et al., 2024; Hurtado et al., 2024; Sullivan et al., 2016; Goel et al., 2024; Wright et al., 2024



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# Testosterone

I would like  
to start  
Testosterone  
therapy to  
build muscle.



There is no  
evidence that  
testosterone builds  
muscle or supports  
bone health in  
women <70yo.



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# Muscle

I heard  
AOMs cause  
too much  
muscle loss.

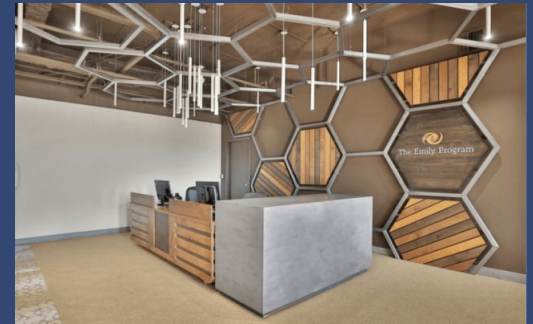


Somewhat TRUE



If you or someone you know suffers from an Eating Disorder, there are resources for you:

- The Emily Program: [1-888-272-0845](tel:1-888-272-0845)
- The Melrose Center: [\(952\) 993-6200](tel:952-993-6200)



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# Thank you!!

A big THANKS to:

Obesity Medical Association

The Menopause Society



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# References

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