

# AU InforMed

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<https://www.worldobesityday.org/>



## **Key Inforbits**

- What is obesity?
- Obesity is a multifactorial disease state
- Recommendations and Treatments
- What's new in drug treatments?
- Surgery counseling
- Pharmacist role
- In summary

March 4<sup>th</sup> was World Obesity Day, which aims to bring awareness to the prevalence of obesity and create a larger conversation among people living with obesity, healthcare providers, and policy makers about how we all view obesity.<sup>1</sup>

## **What is obesity?**

The World Health Organization (WHO) defines obesity as abnormal or excessive fat accumulation that presents with a risk to health.<sup>2</sup> The metrics used to diagnose and classify obesity is a combination of a person's height and weight, which is used to calculate a body mass index (BMI). The WHO defines a normal, healthy BMI from 18.5 to 24.9 kg/m<sup>2</sup>. A BMI of  $\geq 25$  is considered to be overweight,  $\geq 30$  is considered to be obese, and  $\geq 40$  is considered to be severe obesity.

## **Obesity is a multifactorial disease state**

As a disease state with many environmental and genetic factors, understanding the complex roots of obesity can be the defining factor in affecting change moving forward.<sup>3</sup> A patient's full life circumstances should be taken into consideration by clinicians when treating obesity.<sup>4</sup> Clinicians should also use consideration when establishing a timeline of treatment based on other possible or diagnosed comorbidities. Obesity is associated with a higher risk of developing diabetes mellitus, coronary heart disease, certain forms of cancer, and sleep-breathing disorders.<sup>5</sup>

## Recommendations and Treatments

According to the 2013 American Heart Association/American College of Cardiology/The Obesity Society (AHA/ACC/TOS) guidelines, comprehensive lifestyle intervention is first line treatment for all patients.<sup>6</sup> A full assessment of a patient's lifestyle should be conducted, and lifestyle recommendations should be made and then “prescribed” to the patient. Adjunctive drug therapy will be recommended for patients with one of the following criteria:

- BMI  $\geq$  30 kg/m<sup>2</sup>
- BMI  $\geq$  27 + 1 associated comorbid medical condition (hypertension, dyslipidemia, prediabetes, type 2 diabetes mellitus, elevated waist circumference)

## Comprehensive Lifestyle Recommendations<sup>7</sup>

- New eating habits
  - **Increase the good and decrease the bad.** As simple as it is, increasing fresh foods and decreasing processed food consumption is a key factor in decreasing your BMI.
- Increased physical activity
  - **Get up and move!** Physical activity should be treated like a prescription when treating obesity. Activity should include cardiovascular, strength and flexibility exercises performed at the patient's comfort level. When beginning to treat obesity, a recommended goal for physical activity is 30-45 minutes, most days of the week (3-4).<sup>8</sup> Consistency is key, set small, steady goals for patients to build up self-confidence in their ability to lose weight and maintain a healthy lifestyle.
- Achieve an energy deficit
  - When you **burn more calories than you consume**, that is considered an energy deficit. An energy deficit of 500-750 kcal/day is considered to be productive for weight loss. Weight loss programs recommended to patients should aim to achieve this goal for its participants.

The following table summarizes pharmacotherapy treatment options for obesity:<sup>9,10</sup>

**Table 1: Pharmacotherapy Classes for Weight Loss**

Drug	Dosing	MOA	Key Points
<b>GLP-1 Receptor Agonist</b>			
Semaglutide (Ozempic*, Rybelsus*, Wegovy)	<ul style="list-style-type: none"> <li>• Week 1 to week 4: 0.25 mg SubQ once weekly</li> <li>• Week 5 to week 8: 0.5 mg SubQ once weekly</li> <li>• Week 9 to week 12: 1 mg SubQ once weekly</li> <li>• Week 13 to week 16: 1.7 mg SubQ once weekly</li> <li>• Week 17 and thereafter: 2.4 mg SubQ once weekly</li> </ul>	Increases insulin secretion, decreases glucagon secretion, slows gastric emptying, and decreases food intake	ADRs: GI upset, fatigue, headache, hypotension  Monitor for new/worse behavior or mood changes like depression or suicidal thoughts.
Liraglutide (Saxenda)	Initial: 0.6 mg SubQ once daily for 1 week; increase by 0.6 mg daily at weekly intervals to a target dose of 3 mg once daily		ADRs: Increased heart rate, hypoglycemia, GI upset, local injection site reactions

Drug	Dosing	MOA	Key Points
<b>Lipase Inhibitor</b>			
Orlistat (Alli-OTC)	60 mg po TID	Reduces the absorption of fat from the intestine	ADRs: oily rectal leakage, abdominal distress, frequent bowel movements  Take with main meals containing fat  Supplement with fat-soluble vitamins (A, D, E, K)
Orlistat (Xenical-Rx)	120 mg po TID		
<b>Sympathomimetic</b>			
Phentermine IR (Lomaira)	Oral tablet: 8 mg 3 times daily 30 min before meals	Suppresses appetite	ADRs: hypertension, tachycardia, insomnia, dry mouth  For short-term use (up to 12 weeks)
<b>Combination Therapy</b>			
Phentermine/Topiramate ER (Qsymia)	Initial: 3.75 mg phentermine/23 mg topiramate once daily for 14 days then increase as tolerated to a dose of 7.5 mg/46 mg once daily for 12 weeks then evaluate weight loss	Increases energy and suppresses appetite	ADRs: tachycardia, depression, anxiety  Avoid in patients with known cardiovascular disease
Naltrexone/Bupropion ER (Contrave)	Initial: 8/90mg po daily x 1 week; increase as tolerated in weekly intervals Week 2: 1 tablet po BID Week 3: 2 tablets po QAM and 1 tablet po QPM Week 4: 2 tablets po BID	Reduces cravings/ Suppresses appetite	ADRs: headache, sleep disorder, GI upset, hypertension, dizziness.

Notes: \* = not FDA approved for weight loss

Abbreviations: **ADRs**, adverse drug reactions; **BID**, twice a day; **ER**, extended release; **GI**, gastrointestinal; **GLP-1**, glucagon-like peptide 1; **IR**, immediate release; **MOA**, mechanism of action; **mg**, milligrams; **OTC**, over-the-counter; **po**, by mouth; **QAM**, every morning; **QPM**, every evening; **Rx**, prescription; **SubQ**, subcutaneously; **TID**, three times a day

**Table 2: Novel Drug Class**

<b>GLP-1 AND GIP Receptor Agonist<sup>9,10</sup></b>			
Drug	Dosing	MOA	Key Points
Tirzepatide (Mounjaro)*	Initial: 2.5 mg once weekly x 4 weeks. May increase in 2.5 mg/week increments Q4 weeks	Increases insulin secretion, decreases glucagon secretion, and slows gastric emptying	ADRs: GI upset, decreased appetite, increased heart rate,

	PRN to achieve glycemic goals (maximum dose: 15 mg/week)		constipation, injection site reaction  C/I in patients with personal or family history of medullary thyroid carcinoma (MTC)
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Notes: \*= not FDA approved for weight loss

Abbreviations: **ADRs**, adverse drug reactions; **C/I**, contraindication; **GIP**, glucose-dependent insulinotropic peptide; **GLP-1**, glucagon-like peptide 1; **mg**, milligrams; **MOA**, mechanism of action; **PRN**, as needed; **Q4**, every 4

### **What's New in Drug Treatment?**

On May 13<sup>th</sup>, 2022 the US Food and Drug Administration (FDA) approved tirzepatide (Mounjaro) to be used for the treatment of type 2 diabetes mellitus.<sup>11</sup> This novel drug works by activating both GLP-1 and GIP receptors in the body which stimulate the release of incretin in the body. Tirzepatide, when compared to semaglutide, lowered A1c by an additional 0.5% and caused patients to lose another 15 pounds in clinical trials conducted. Research to evaluate long-term effects are still ongoing.

The FDA has listed Mounjaro on their drug shortage list since December 2022, about 6 months after it was approved for diabetes treatment.<sup>12</sup> The manufacturer of the drug, Lilly, has struggled to meet the demand for the drug in light of the interest in its off-label use for weight loss. The company has attempted to prioritize access to the drug for patients with type 2 diabetes. However, the FDA has “fast tracked” the approval process for obesity treatment and it is expected to be approved later this year. This approval for weight loss would most likely cause the drug to remain in short supply.

### **Major Counseling Points for Patients who have undergone Bariatric Surgery**

- Weight loss surgery is recommended only for people with one of the following:<sup>13,14</sup>
  - BMI  $\geq$  40
  - BMI  $\geq$  35<40 with  $\geq$  2 risk factors
- The most common types of bariatric surgeries include:
  - Gastric bypass: A surgeon creates a small stomach pouch by dividing the stomach and attaching it to the small intestine leading to weight reduction through less consumption of food and fewer calories absorbed.
  - Gastric sleeve: A less aggressive surgery than bypass which reduces the size of the stomach and makes it a narrow tube. The new stomach is much smaller and does not stretch when eating.
  - Gastric balloon: A non-incision procedure that places an inflatable balloon inside the stomach via the mouth and esophagus using an endoscope. A gastric balloon can help obese patients feel full with less food and gradually lose weight without surgery.
- The goal of weight loss surgery is to reduce the risk of illness or death associated with obesity.
- Acetaminophen (Tylenol) is recommended for mild to moderate pain relief. Avoid nonsteroidal anti-inflammatory drugs (NSAIDs), such as aspirin, ibuprofen (Motrin, Advil) and naproxen (Aleve) after surgery due to the increased risk of stomach ulcers. Patients who had gastric bypass surgery should avoid these medications indefinitely.<sup>15</sup>

- Excluding extended-release tablets, other tablet medications need to be broken up or crushed for the first three months to prevent medications from getting stuck in the digestive tract or not being fully absorbed.
- Common medications that require adjustments after bariatric surgery are Enalapril, ketoconazole, lamotrigine, metformin, metoprolol tartrate, niacin, olanzapine, quetiapine fumarate, ramipril, simvastatin, and zolpidem.<sup>16</sup>

### The Pharmacists' Role<sup>17</sup>

- Counsel patients on prescribed and over-the-counter medications used for weight loss (e.g. administration, indication, side effects, storage)
- Monitor the patient's medication profile for drug interactions, medications that may be affected by an altered gastrointestinal environment, and potential agents that may cause weight gain.
- Encourage the patient to utilize long-term weight-management goals rather than a "quick-fix".
- Inform patients that even a moderate amount of weight loss is beneficial in health outcomes.



### The last "dose" ...

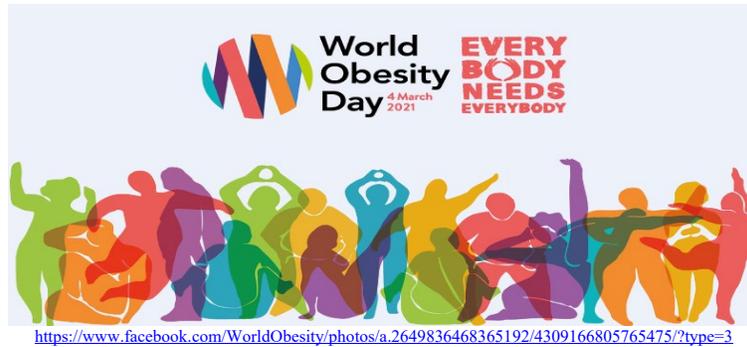
*"Exercise to stimulate, not to annihilate. The world wasn't formed in a day, and neither were we. Set small goals and build upon them."*

*-Lee Haney (1959 - ), American former IFBB professional bodybuilder.*



## Resources

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