

A hand in a white glove is shown drawing liquid from a glass vial into a syringe. The background is a soft-focus clinical setting. The text is overlaid on this image.

# GI side effects and complication GLP1 receptor agonist

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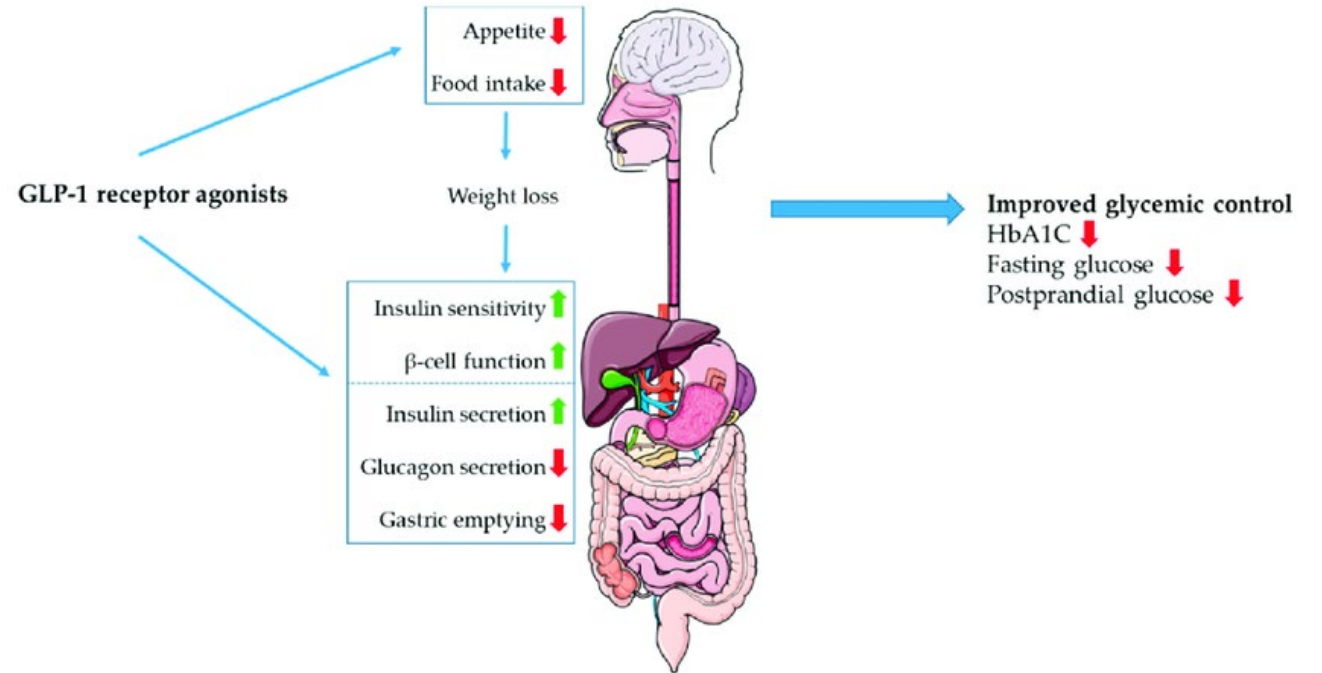
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Financial Disclosure: Owner of The Medicine Shoppe in Shillington.

# What is GLP-1?

**Definition:** GLP-1 (Glucagon-Like Peptide-1) is a hormone that regulates appetite and insulin secretion.

**Mechanism:** GLP-1 analogs enhance insulin release, inhibit glucagon secretion, slow gastric emptying, and promote satiety.



# GLP-1 Medications

**Semaglutide:**  
Wegovy  
and Ozempic

**Liraglutide:**  
Saxenda and  
Victoza

**Dulaglutide:**  
Trulicity

**Exenatide:**  
Byetta and  
Bydureon

**Tirzepatide:**  
Zepbound and  
Mounjaro

# Efficacy and Benefits

## **Weight Loss**

**Statistics:** Studies have shown that these medications can lead to significant weight loss when combined with **diet and exercise**.

## **Additional Health**

**Benefits:** Reduced risk of diabetes, improved blood pressure, and lower cholesterol levels.

# Weight Loss Medication Pipeline

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## Chronic Weight Management Pipeline:

*Source: IPD Analytics Market and Financial Insights, accessed in October 2023*

Drug	Manufacturer	Administration	Current Status; Approval Outlook
Oral semaglutide	Novo Nordisk	Oral once daily	Phase 3; 2024
CagriSema	Novo Nordisk	Subcutaneous once weekly	Phase 3; 2026
Orforglipron	Eli Lilly	Oral once daily	Phase 3; 2026+
Retatutide ("triple G")	Eli Lilly	Subcutaneous once weekly	Phase 3; 2027
Danuglipron	Pfizer	Oral twice daily	Phase 2; 2027+
Survodutide	Boehringer Ingelheim, Zealand	Subcutaneous once weekly	Phase 2; 2027+
CT-868	Carmot	Subcutaneous once daily	Phase 2; 2027+
Pemvidutide	Altimune	Subcutaneous once weekly	Phase 2; 2027+
AMG 133	Amgen	Subcutaneous once monthly	Phase 2; 2027+

# Side Effects of GLP-1

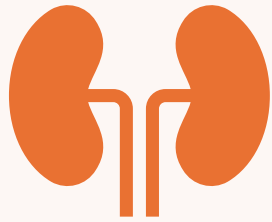
**GI: 40-50%**

- Nausea
- Vomiting
- Diarrhea
- Constipation
- Indigestion

**Less common but severe:**

- Pancreatitis
- Gallbladder Issue

# Side Effects of GLP-1 cont...



## Other Noteworthy Side Effects

Hypoglycemia: specifically with other diabetes medication

Kidney Issues: Dehydration due to GI side effects



## Psychological S/E:

Mood swings, anxiety, or depression

# Nausea and other GI side effects.

- 44% patients report Nausea and 20% reports vomiting primarily in early phases of treatment. \*
- Solution:
  - Gradually increase the dose to allow the body to adjust.
  - Nausea and vomiting decreases overtime.

\* A 2021 study published in *The Lancet Diabetes & Endocrinology*



# Case study – Appetite supresant

- A 52-year-old woman started on Semaglutide (Wegovy) for obesity and successfully lost over 15% of her body weight in the first year. Initially, she experienced the common GI side effects, including nausea, early satiety, and occasional vomiting, which gradually improved over several months.
- However, after discontinuing the medication (due to a change in insurance coverage), she noticed persistent changes in her appetite. Even months after stopping the medication, she reported a significantly reduced desire to eat and early satiety, which contributed to unintentional continued weight loss and difficulty in maintaining a balanced diet.
- Her healthcare provider evaluated her and suggested that her digestive system might have adjusted to the medication's appetite-suppressing effects, causing lingering changes to her natural hunger signals and gastric motility.

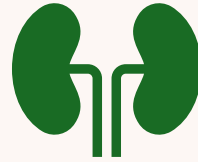
# Case study – Key takeaway

- **Mechanism of Prolonged Effects:** GLP-1 medications slow gastric emptying and impact appetite-regulating centers in the brain. In some cases, these effects may persist even after the medication is stopped, possibly due to adjustments the body made over time.
- **Potential Risks:** Persistent appetite suppression can lead to unintended weight loss and may increase the risk of nutrient deficiencies if not managed properly.
- **Management and Outcome:** The patient was advised to try high-calorie nutrient-dense foods to maintain weight and eventually saw some improvement, though she continued to experience lower appetite than before starting the medication.

# Pancreatitis



**Rare less than 0.1% \***



GLP-1 drugs stimulate insulin secretion, and this process may, in rare cases, strain the pancreas, potentially leading to inflammation.



**Solution:**

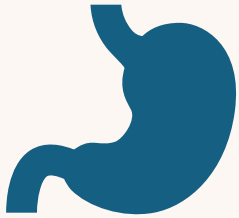
Avoid with history of pancreatitis

# Case study

**Case Summary:** 50s M with type 2 DM and obesity started on a GLP-1 agonist (Semaglutide) and was successful in losing approximately 12% of his body weight over 18 months. However, he developed symptoms of pancreatitis (severe abdominal pain) after about a year on the medication. After hospitalization and treatment for acute pancreatitis, his GLP-1 medication was discontinued.

**Key Takeaway:** While cases like these are rare, patients with a history of pancreatitis or pancreatic issues should use GLP-1 agonists with caution and undergo regular monitoring.

# Gallbladder and Gallstone Risk



3% experience gallbladder  
related issue



This is due to rapid weight  
loss.



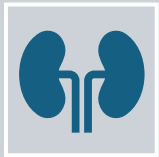
Gradually increase the dose  
reduces the risk factor.

# Case study

**Case Summary:** A 46-year-old woman with obesity was prescribed liraglutide and experienced rapid weight loss of about 25 pounds within 3 months. She began experiencing abdominal pain and was eventually diagnosed with gallstones, and removal of gall bladder

**Key Takeaway:** Rapid weight loss, a common effect of GLP-1 medications, may increase the risk of gallstones. This case underscores the importance of monitoring and potentially managing the pace of weight loss.

# Kidney and other complications



## Kidney

1% of patients

Increase risk with pre-existing kidney disease.  
Hydration and monitor vomiting.



## Mood related side effects

Due to rapid weight loss or hormonal shifts

# Case study -Mood

**Case Summary:** A 29-year-old patient using liraglutide (Saxenda) for weight management reported experiencing increased anxiety and depressive symptoms, which were unusual for her. After consulting with her healthcare provider, her dose was adjusted, and psychological symptoms improved. Her doctor hypothesized that the rapid weight loss and physiological changes from the medication may have contributed to her psychological side effects.

**Key Takeaway:** This case underscores the importance of mental health monitoring, especially in patients with a history of mood disorders, and highlights that dose adjustments can help alleviate certain side effects.

# Case study - Kidney

**Case Summary:** A 65 y/o male with pre-existing kidney disease was prescribed Semaglutide for weight loss and glycemic control. After experiencing severe vomiting and dehydration over a short period, his kidney function worsened, and he required temporary dialysis. His GLP-1 medication was d/c, and he was stabilized through fluid management.

**Key Takeaway:** This case shows the risk of dehydration-induced kidney issues with GLP-1 use, particularly for patients with pre-existing renal conditions. Staying hydrated and promptly addressing vomiting can mitigate such risks.

# Wegovy dosing chart



# Zepbound dosing chart





# Conclusion

- **Summary:**
- GLP-1 medications needs to be supervised and monitory closely.
- Balance approach that includes lifestyle modifications diet and exercise are must.
- Go slow and low with GLP-1 Meds.