# Understanding GLP-1 Agonists: Benefits, Risks, and What You Need to Know

By Robert Ferguson

**Robert's Note:** Before starting one of these medications, I encourage you to read this article. If you are currently taking one, we can guide you through transitioning off. Please read with an open mind, and feel free to download, print, and share it with others, including the physician who prescribed the medication.

GLP-1 (glucagon-like peptide-1) agonists like Ozempic, Wegovy, and Zepbound have become increasingly popular for weight loss and glucose regulation. These medications are groundbreaking in their ability to help individuals shed pounds and manage conditions like type 2 diabetes. However, it's essential to understand how these drugs work, their benefits, and their potential risks to make informed decisions about their use.

## What Is GLP-1?

GLP-1 is a hormone made in the intestines. It belongs to a group of hormones known as incretins, which play a vital role in food processing and blood sugar regulation. GLP-1 is a multitasker:

- **Slows Gastric Emptying**: It slows down digestion, which helps regulate blood sugar levels.
- **Inhibits Glucagon Production**: Glucagon is a hormone that signals the liver to release stored sugar (glycogen) into the bloodstream. By inhibiting glucagon, GLP-1 helps stabilize blood sugar.
- **Reduces Hunger and Increases Satiety**: GLP-1 communicates with the brain to suppress appetite, making it easier to consume fewer calories.

## How Do GLP-1 Agonists Work?

GLP-1 agonists mimic the natural actions of GLP-1 in the body. By amplifying the hormone's effects, they help:

- **Control Glucose Levels**: By reducing glucagon release.
- **Suppress Appetite**: Reducing hunger and cravings.
- **Slow Digestion**: Leading to better blood sugar regulation.

Some of the most well-known GLP-1 medications include exenatide, liraglutide (Saxenda, Victoza), dulaglutide (Trulicity), and semaglutide (Ozempic, Wegovy). There is also an oral form called Rybelsus, though injectable versions are generally more effective.

## Weight Loss Effects

GLP-1 agonists are proven to result in significant weight loss. Studies show a 15% reduction in body weight for many individuals. This is largely due to appetite suppression, as users naturally consume fewer calories. Essentially, people lose weight because they are eating far less than their bodies require, like the conditions observed in the Minnesota Starvation Experiment. However, there is a stark difference: while participants in the experiment experienced the full range of negative effects associated with starvation, individuals on GLP-1 agonist medications typically do not feel the physical and psychological consequences of extreme caloric restriction. The body is still undergoing a form of starvation, but the medication blunts the discomfort and awareness of missing food. Despite this, the long-term consequences—including muscle loss and potential metabolic harm—mirror those seen in the experiment.

## A Real-Life Story: Wendy's Journey

Wendy, a 60-year-old woman, found herself heavier than she'd like. Most of her adult life, she maintained a weight around 140 pounds, but after an illness, surgery, and a period of inactivity, her weight climbed to 190 pounds. Feeling distraught and out of options, Wendy's doctor suggested Ozempic to help her drop the pounds and manage her cravings for sweets.

She agreed, saying, "Let's do it."

After starting Ozempic, Wendy noticed a dramatic change: she lost all desire to eat sweets, her appetite was significantly reduced, and she eventually returned to 140-145 pounds. While the number on the scale brought her some relief, there were unintended consequences her doctor hadn't warned her about:

- Her hair thinned out considerably.
- The elasticity of her skin worsened.
- Most concerning, she unknowingly lost skeletal muscle, a critical component of overall health and longevity.

Wendy reached out to me, and I took her on as a client. Together, we're now working on a program to maintain her weight while improving her skin elasticity and rebuilding skeletal muscle. This is no small challenge, especially for someone in her 60s. When patients stop taking drugs like Ozempic, cravings often return, along with regular eating habits, and in many cases, their body fat percentage increases even if the scale remains steady.

It's a harsh reality: someone may appear smaller, but their body composition shifts to include a higher percentage of fat, making them metabolically less healthy. The older a person is, the more challenging it becomes to reverse these effects. Excess body fat can interfere with overall health and vitality, making it harder to thrive.

# Risks and Side Effects of GLP-1 Agonists

While GLP-1 agonists offer benefits, they also come with risks. Wendy's experience highlights some of the common challenges, but here are other documented concerns:

## 1. Mental Health Concerns

Research from Chung Shan Medical University in Taiwan revealed that individuals on GLP-1 agonists had:

- A 195% higher risk of major depression.
- A 108% increased risk of anxiety.
- A 106% elevated risk of suicidal behavior.

This statistically significant data underscores the potential impact of these drugs on mental health, including symptoms like anhedonia (inability to feel pleasure) (Chung Shan Medical University, 2023).

## 2. Muscle Loss

Studies indicate that about 40% of weight loss from these drugs comes from fat-free mass, including skeletal muscle. This is a critical concern because skeletal muscle is essential for:

- Overall health and longevity.
- Strength and mobility.
- Regulating blood sugar levels.

Losing muscle can lead to serious health risks, such as a 300% increased likelihood of heart attack (JAMA, 2023). Additionally, muscle loss compromises metabolic health and makes it harder to maintain long-term weight loss.

## 3. Fat Cell Multiplication

Certain GLP-1 agonists, like liraglutide, have been shown to activate the **peroxisome proliferator-activated receptor gamma (PPAR-γ)**. This receptor plays a critical role in fat cell differentiation and the formation of new fat cells (a process known as adipogenesis). During treatment, these newly formed fat cells shrink, resulting in weight loss. However, when the medication is discontinued, these fat cells can rapidly fill up, often leading to:

- A higher body fat percentage.
- Faster weight regain, especially as lost muscle mass does not return as quickly.

For every 10 pounds lost, approximately 6 pounds come from fat and 4 pounds from muscle. Upon discontinuation of the drug, fat returns disproportionately, often doubling in size (Clinical Endocrinology Journal, 2022).

### 4. Omega-3 Index and AA Balance

Understanding the omega-3 index and arachidonic acid (AA) percentages is crucial when evaluating overall health. If AA levels are too low or too high, the body can fall out of balance, increasing the risk of:

- Blood clots.
- Heart attack.
- Stroke.
- Narrowing of the arteries.

Omega-3 fatty acids are essential for mitigating inflammation and maintaining cardiovascular health, and balance between omega-3 and AA is critical for reducing these risks.

### 5. Other Side Effects

Some patients report reduced cravings for sweet foods, which can be beneficial. However, the potential for dependency on these drugs for appetite control remains a concern.

## The Role of GLP-1 in Insulin Regulation

While GLP-1 agonists are primarily known for their effects on glucagon inhibition and appetite suppression, their impact on insulin regulation is still being studied. Research from Denmark suggests that high doses of GLP-1 agonists can lower insulin production during high-carbohydrate meals. This challenges the traditional understanding of GLP-1's relationship with insulin secretion (Flint et al., 2021).

## Long-Term Considerations

GLP-1 agonists are not a cure-all. While they offer significant short-term benefits, their long-term use raises questions:

- Can patients maintain weight loss after stopping the drug?
- What are the mental health implications?
- How do muscle loss and fat cell changes impact overall health?

## Conclusion: A Balanced Perspective

GLP-1 agonists like Ozempic and Wegovy are powerful tools for weight loss and glucose regulation. However, they come with serious risks, including mental health concerns, muscle loss, and fat cell multiplication. These medications work by amplifying natural processes in the brain, gastrointestinal tract, and pancreas, but their long-term effects require careful consideration.

Wendy's story reminds us that while these drugs can offer short-term benefits, their long-term consequences must not be overlooked. Before starting a GLP-1 medication, it's important to weigh the benefits against the risks and explore sustainable health strategies. Consulting a healthcare professional is crucial to making an informed decision.

If you are thinking about starting to take GLP-1 medications, or you are currently taking them, or you are ready to transition off them, schedule a free consultation with me to learn how our programs work.

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