



MEDICAL STUDENTS
FOR SIZE INCLUSIVITY

GLP-1 Agonist Medications: Informed Consent Resource

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I. Introduction

This resource was created by Medical Students for Size Inclusivity (MSSI), an international group of medical students working to address weight bias in medicine.

In recent years, there has been a rapid rise in the promotion and use of glucagon-like peptide-1 receptor agonist medications (GLP-1s) for weight loss. We first published a guide in 2023 and have since updated it to reflect their increasing use and help patients make informed decisions about the use of these medications for weight loss.

GLP-1s are well-established medications for the treatment of diabetes in patients of all body sizes. This resource focuses specifically on their use for weight loss. It is not intended to provide individual medical advice, but rather to support informed conversations and shared decision-making with a healthcare provider.

MSSI does not believe weight and BMI are accurate measures of health or that weight loss improves health outcomes. We also don't believe that diseases presenting in higher weight people require different treatments than the same diseases in lower weight people. At the same time, we support patient autonomy and believe everyone deserves access to complete and clear information to make their own medical decisions.

II. An Overview of GLP-1s

GLP-1s are medications first developed to treat Type 2 Diabetes. Diabetes is a chronic disease where your body does not respond well to insulin (a hormone that moves sugar from your blood into cells for energy). Over time, high blood sugar can damage blood vessels and important organs, like the kidneys, eyes, nerves, and heart. This can lead to complications including, but not limited to, kidney disease (nephropathy), vision problems (retinopathy), nerve damage (neuropathy), heart disease, and stroke.

GLP-1 is a natural hormone released by the gut after eating. It helps regulate blood sugar and appetite. The medication form of GLP-1 is created to last longer in the body, making the effect stronger than our natural hormone.

What does GLP-1 specifically do when it's in the body?

Lowers blood sugar	Affects appetite and fullness
● Helps the pancreas release insulin (a hormone that lowers blood sugar) ● Stops the liver from making glucagon (a hormone that raises blood sugar) ● This combination then lowers Alc, fasting blood sugar, and post-meal blood sugars ● This helps the pancreas from “tiring out,” allowing it to keep making insulin over time, which helps manage diabetes	● Acts on the brain to help you feel full sooner ● Slows stomach emptying and digestion, so you feel full for longer ● Overall decreases appetite and food intake, which can contribute to weight loss

GLP-1s are currently approved for Type 2 Diabetes and the management of “obesity.” For diabetes, the goal is to use the lowest effective dose to lower blood sugar and limit side effects. For weight loss, doses are often increased to the highest tolerated level to maximize the effect, which often results in more side effects.

GLP-1s at low doses are a well established treatment for Type 2 Diabetes in patients of all sizes. However, the use of GLP-1s for the treatment of “obesity” to induce weight loss is a newer practice. Below we list 5 claims commonly used to support GLP-1s as treatment for weight loss, and we introduce additional evidence to add nuance to these claims.

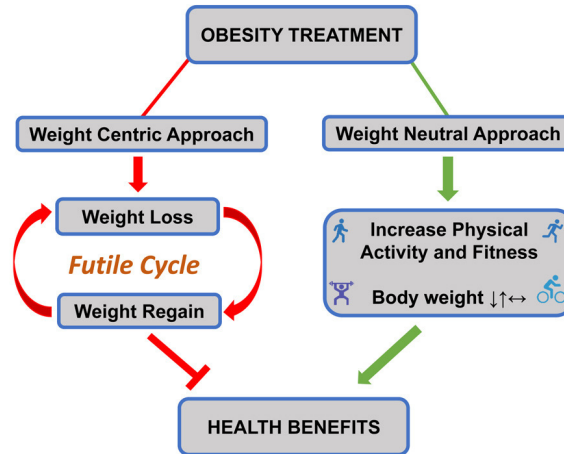


III. Responses to 5 Common Claims

GLP-1s are now marketed and approved at higher doses for the treatment of body size and of some conditions commonly associated with body size. These recommendations are based on common assumptions and are challenged below with our additional frameworks providing a more complete viewpoint.

Common Claim #1: “Higher weight causes health issues”

A MORE COMPLETE VIEWPOINT:¹



- **Weight is not a reliable measure of health.**
 - Markers like blood sugar, cholesterol, or blood pressure give a more accurate picture.
 - Measures of weight, like BMI, have been shown to be inaccurate when assessing a patient's health.²
- **People in larger bodies can be healthy.**
 - Nearly 50% of larger-body people who are classified as “overweight” and “obese” do not have high blood pressure, high cholesterol, or diabetes, the top 3 conditions historically linked with higher BMI.^{3,4}
 - In contrast, there are many people of “normal” weight who have high blood pressure, high cholesterol, or diabetes.⁵
 - Assuming higher weight equates to more health issues leads to misdiagnosis of patients regardless of body size.
- **Weight cycling negatively affects health.**
 - People of all sizes may be encouraged to or may attempt to lose weight. However, the body resists weight loss to protect survival, so many weight loss attempts result in weight regain over time, regardless of a patient's efforts.
 - This means that weight loss attempts often result in periods of weight loss and regain, known as **weight cycling**.⁶
 - Weight cycling itself has been linked to high blood sugar, diabetes, high cholesterol, heart disease, muscle wasting, and inflammation. Many of these conditions are commonly blamed on higher weight but may be at least partially caused by weight cycling.^{6,7,8}
- **Weight stigma also negatively affects health.**
 - Weight stigma often drives the desire to pursue weight loss, further increasing health risks associated with weight loss attempts.

- The stress of being treated unjustly can lead to increased inflammation, activation of the fight or flight system, and increased cortisol (stress hormone), blood pressure, and blood sugars.⁹ This is important because many of these conditions are often blamed on weight alone, when weight stigma itself directly contributes to these health outcomes.⁹

Bottom line: Weight is an imprecise measure of health. Assuming that higher weight leads to worse health issues leads to misdiagnoses. Weight cycling and weight stigma directly contribute to the development of many chronic conditions historically blamed on weight (diabetes, heart disease, etc.). Therefore, prescribing weight loss as treatment for these chronic conditions may not actually improve health outcomes.

Common Claim #2: “Weight loss treats health issues in larger-bodied people”

A MORE COMPLETE VIEWPOINT:

- **Weight loss is a common treatment prescribed only to larger-bodied people.**
 - This results in different treatment options for the same medical issue based on body size.
 - This is based on the assumption that weight loss alone will improve a patient’s symptoms.
- **However, there are flaws in the studies that claim weight loss improves health.**
 - Weight loss alone is not associated with long-term changes in health markers like blood pressure, blood sugar, and cholesterol.¹⁰
 - Engaging in positive health behaviors like exercise or eating a well-rounded diet can improve these health markers regardless of any weight change.^{11,12,13}
 - Additionally, simply losing weight without these positive health behavior changes does not consistently improve health markers like blood pressure, blood sugar, and cholesterol.^{14,15}
- **Weight loss for most people is also not sustainable.**
 - 95% of intentional weight loss attempts result in weight regain.¹⁶
 - The weight cycling that results, as mentioned above, negatively effects health.

Bottom line: There is no evidence to show that larger-bodied people should be prescribed a different treatment, such as weight loss, than smaller-bodied people. Weight loss is not sustainable for the overwhelming majority of patients, and may not be as sustainable or effective as health promoting behaviors, such as those discussed in the last section of this document.

Common Claim #3: “GLP-1s cause rapid and permanent weight loss”

A MORE COMPLETE VIEWPOINT:

Research shows that GLP-1s can lower blood sugar and lead to weight loss for some patients.^{17,18,19} However, it’s important to understand the limits of these studies and how to interpret their results in context. Below are some important considerations:

GLP-1s don’t lead to weight loss for everyone: Nearly 1 in 5 people do not lose weight on GLP-1 medications.²⁰ Across studies, 25–50% of people don’t lose 10% of their body weight, and about half of people don’t lose 15%.²¹

Weight loss is not permanent: Weight loss with GLP-1 medications usually levels off after about one year. Weight regain is common after stopping GLP-1s (often faster than with other weight loss methods) and has been shown to occur even with continued use of the medications.^{21,22,23,24}

Many people stop taking them long-term: Many people stop GLP-1s due to side effects, cost, insurance changes or drug shortages. Studies show up to 13.3% of people leave a GLP-1 study due to side effects and up to 25% are unable to stay on the highest 2.4mg dose.²¹ In real-world use, 33–53% of people stop use within 1 year and up to 85% stop use by 2 years.²⁵

Studies don’t include people from all backgrounds: Most participants are white women around age 45, with a large majority under age 70. If you are not in this group, these results may not apply to you.^{17,18,19}

Study conditions differ from real life: Trials often require strict diets, intense exercise plans, and frequent healthcare visits, which aren’t sustainable long-term in everyday life.¹⁸

Many studies involve financial conflicts of interest: Many studies are funded by the pharmaceutical companies themselves and conducted by researchers with financial ties to those companies. This raises concern about potential bias. For a deeper dive on this, check out Ragen Chastain’s new publication [here](#) as well as her Weight and Healthcare Newsletter [here](#).

There isn’t enough long-term data: Studies currently do not go beyond 4 years, so the long-term safety and effectiveness of these medications is still unclear.

High dropout rates skew results: In the longest GLP-1 study, only 10.5% of participants still remained in the study at 4 years. Those with less weight loss were more likely to leave the study, so the final results likely overrepresent people with better outcomes.²¹

Weight loss drugs have previously been withdrawn: Weight loss drugs in the past (like Fen-Phen and Belviq) were later removed from the market due to safety issues that became apparent as more people took them for longer periods. Long-term safety data revealed dangerous side effects including heart valve issues and cancer.^{[26,27](#)} Interestingly, the number of adverse events and deaths associated with GLP-1s have already surpassed those of other weight loss medications before they were withdrawn.^{[28](#)}

Common Claim #4: “GLP-1s are generally well tolerated”

A MORE COMPLETE VIEWPOINT:

When used for weight loss, GLP-1s are given at significantly higher doses than when used to treat Type 2 Diabetes. This may lead to faster weight loss, but often increases the risk of side effects.

Note: *The total frequencies of side effects may be under-reported. Many individuals get their GLP-1s outside of a healthcare setting, where side effects are not properly tracked. Patients also may not report side effects for fear of the medication being stopped.*

Common side effects and frequencies include:^{[29](#)}

Nausea and vomiting (which can lead to dehydration if severe)	40%
Constipation, diarrhea, or bloating	20%
Gallstones (which may require gallbladder removal)	0.5–2%
Decreased absorption of other medications	Unknown frequency

Serious side effects include:^{[29,30,31,32](#)}

Gastroparesis	Slowed stomach emptying that can cause severe nausea, vomiting, and pain.
Aspiration pneumonia	A lung infection caused by inhaled stomach contents, especially under anesthesia, due to slowed stomach emptying.
Pancreatitis	A severely painful inflammation of the pancreas, occurs 0.2% of the time.
Kidney injury	Often due to lack of hydration, occurs 0.2% of the time.
Ileus	A disease where the intestines stop moving food forward well,

	causing a blockage.
Cholecystitis	Inflammation of the gallbladder, often requiring surgery to remove it.
Ischemic optic neuropathy	Decreased blood flow to the eye leading to permanent vision loss.
Cancer risk	The FDA has issued a black box warning to avoid GLP-1s in those with a history of medullary thyroid cancer.

Newer and emerging side effects:	
Muscle loss	Up to 25-39% of the weight lost on GLP-1s is from muscle which can cause weakness, higher fall risk, increased hospitalizations, and frailty, especially concerning in older patients. ^{33,34,35,36}
Bone loss	This occurs particularly at the hip for those on GLP-1s, increasing risk for fracture. ^{37}
Malnutrition	Decreased food intake due to taking GLP-1s can cause vitamin and nutrient deficiencies, most commonly in vitamin D, iron, and protein. ^{38}
Worse disordered eating behaviors	Weight loss with GLP-1s can exacerbate prior disordered eating behaviors like restriction, over-exercise, purging, and more. ^{39,40,41}
Poorer social wellbeing	People can experience stigma for taking GLP-1s; reduced interest in food and/or alcohol can also affect social interactions. ^{42}
Anhedonia	Many report decreased “food noise” in their minds, but this can also cause emotional flattening/disinterest in things that used to bring pleasure. ^{43}
Disruption of body image	As a person’s body changes while on GLP-1s, this can bring about many, possibly distressing, feelings around body image. ^{44}
Rebound weight gain and hunger after discontinuation	The vast majority of people regain weight if they stop a GLP-1 and often experience severe hunger after discontinuation. ^{45}
Pregnancy-related risks	Research shows higher risk of preterm delivery, gestational diabetes, and blood pressure disorders in people who took GLP-1s within the past 3 years. ^{46}

Bottom line: There are both permanent and reversible gastrointestinal, muscular, kidney, mental, reproductive, and social side effects related to taking GLP-1s. Maximizing regular nutrition and monitoring for side effects is essential for patients who choose to take a GLP-1.

Common Claim #5: “GLP-1s are useful treatments for health conditions other than diabetes or weight loss”

A MORE COMPLETE VIEWPOINT:

Research is ongoing to understand whether GLP-1s may benefit health conditions beyond diabetes. We believe the current studies do not support widespread use of these medications at weight loss doses for the treatment of reducing body size. Future research may show benefits of GLP-1s for other conditions, but GLP-1s should be compared to current treatments to determine if they are actually favorable. If you are considering a GLP-1 medication for a condition other than diabetes or weight loss, consider asking your doctor the questions listed below.

Some conditions you may see GLP-1s used for:

- Mental Health
- Fertility
- Heart Disease
- Kidney Disease
- Metabolic Liver Disease
- Addiction

Questions to ask your doctor about using GLP-1s for other health conditions:

- **How is this condition treated in someone with a smaller body? Could we try those treatments?**
 - Evidence-based treatments remain first-line regardless of body size. There are many existing and effective treatments available for the conditions mentioned above that do not involve weight loss.
- **Are GLP-1s actually better than the current standard of care for this condition?**
 - Many studies add GLP-1s to the existing treatment regimens, rather than actually comparing GLP-1s to the current treatment standards. Studies have not shown GLP-1s to be more effective at treating chronic conditions than existing treatments.
- **If you do ultimately decide to use a GLP-1 medication, consider asking: “Could a lower or gradually increased dose of a GLP-1 medication be effective, rather than starting at the high weight-loss dose?”**
 - GLP-1s are often prescribed at the high weight-loss doses, but for other health conditions, starting at lower doses and titrating up may still be effective, while also reducing side effects.



IV. Alternative Ways to Care for Your Body that Don't Include Pursuing Weight Loss

There are many reasons you might want to lose weight, and you have the right to do so. We live in a world that unjustly oppresses people in larger bodies. This can be difficult to navigate, and desiring weight loss is an understandable response to experienced stigma.

We also want you to know that while weight loss is often implied as the only option, there are many ways to take care of your body that do not rely on trying to change body size. This is the core guiding principle of **weight-inclusive medicine**.

Although there are more and more providers practicing weight-inclusive medicine, it can still be hard to find one. Below are some possible statements and questions to use in conversations with your current provider to help you receive weight-inclusive care.

Talking points for your next visit:

- "I'd like to decline being weighed today."
- "I'd like to focus our conversation on my health concerns today, rather than discussing my weight."
- "I do not want to discuss weight today."
- "What would you suggest if I lost weight, and was still experiencing this problem? Are there reasons not to start that now, too?"
- "What would you recommend to someone in a smaller body with this same health condition? Is there a reason we aren't starting with that?"
- "I understand your concern, but I don't want weight loss to be the focus of our treatment right now. What are the next steps?"
- Consider bringing someone to the appointment to help advocate for you!

Resources to check if there's a size inclusive provider in your area:

- [🌐 Health at Every Size® Healthcare Provider Listing](#)
- [Weight Neutral Provider Excel](#)
- [Fat Friendly Docs](#)

Below we present some other more sustainable ways to improve health, which do not focus on trying to alter body weight, shape, or size:

Movement

Increasing movement, even a little, can improve well-being, help manage disease, and lower the risk of early death.¹ This may include exercise at a gym, gardening, housework, dancing, playing with kids or pets, or going for a walk. Breaking up long periods of sitting with short bursts of movement is also beneficial. These “**exercise snacks**,” such as climbing stairs for 30 seconds or 5-minute activity break a few times a day can improve heart health, muscle endurance, cholesterol, and insulin levels.^{47,48,49} Even light walking or rolling in your wheelchair after meals can help lower blood sugar and insulin levels when compared to sitting, making these movements an accessible way to support health without focusing on weight change.⁵⁰ **All of the benefits of movement apply regardless of body size!**

Nutritious Dietary Choices

Working on positive additions to your dietary intake can significantly improve health outside of medication use or any weight change.⁵¹

Here are a few ideas:

- Consuming a wide variety of foods, including servings of vegetables, fruits, legumes/beans, and whole grain products in alignment with your dietary needs.
 - Check with your healthcare provider before making dietary changes if you're unsure how they will impact your medical history.
- Checking in with your hunger and fullness cues before and after meals.
 - Consider filling out the [intuitive eating workbook](#) to re-engage your hunger and fullness cues.
- Eating enough calories every day for your body's needs.
- Asking your provider for a referral to a **size-inclusive, culturally aware registered dietitian (RD)** who can help you tune in to your body's needs and offer new ideas that are easy to integrate into your food prep.
- A list of size-inclusive registered dietitians can be found [here](#). Consider asking your dietitian about intuitive eating.⁵²

Mental Health Care

Internalized weight stigma negatively impacts mental health, including increased depression, anxiety, body dissatisfaction, eating disorder symptoms, and decreased self-esteem.^{53,54} Strategies to support positive mental health are included below:

- **Individual counseling / virtual counseling services**
 - [Therapy for Black Girls](#)
 - [Latinx Therapy Directory](#)
 - Affordable therapy options at [Open Path Collective](#)

- **Journal prompts**
- **Gratitude journal:** write down 3 things you are grateful for today
- **Guided meditations** on free apps like Insight Timer or on YouTube
- **Strong social ties**
- **Supportive community spaces**
 - Check out the National Association to Advance Fat Acceptance (NAAFA) at naafa.org for events, resources, blog posts, and newsletters within the size inclusive space!

Sleep Hygiene

Another proven way to positively impact health is to improve sleep quality & quantity.⁵⁵ Strategies include:

- Having a consistent bedtime / wake time
- Ensuring a dark and slightly cool room
- Implementing “wind down time” when electronic exposure is limited 30 minutes prior to sleep
- Sticking to a consistent bedtime routine, which could include stretching, hot showers, reading, or journaling

V. If You Choose to Take a GLP-1 Medication

MSSI believes that people do not need to lose weight in order to improve their health. However, after reviewing the information in this document, you may still be interested in trying GLP-1s. Below are some things to ask yourself and your doctor before you decide.

Questions to ask your provider:

1	How will GLP-1s impact the absorption of my other medications? (GLP-1s can decrease absorption of other medications which can worsen your other health conditions.⁵⁶) ● Be sure to ask specifically about seizure medications, mood medications (such as SSRIs and lithium), blood pressure medications, ADHD treatments, oral contraceptives, and coumadin/warfarin.
2	Does my insurance cover GLP-1s? If so, what are the requirements to qualify for coverage?
3	Can you place a referral for me to see a registered dietitian? (MSSI specifically

	recommends a HAES-aligned, size-inclusive dietitian if available. Dietitians are a great resource to help you manage side effects and ensure all your nutritional needs are met while taking a GLP-1.)
4	If you've ever had an eating disorder or disordered eating: Can you place a referral for me to see an eating disorder specialist? (We recommend this prior to starting GLP-1s, as these medications can worsen disordered eating. ^{39,57})

Questions to ask yourself:

1	Do I have any health conditions that should be addressed more directly, rather than with a trial of weight loss? Have I asked my doctor what recommendations they would make to a person in a smaller body with my same health condition?
2	Do I feel that short term weight loss is worth the cost and potential side effects? What if it results in weight cycling?
3	Do I have a history of disordered eating that might be triggered by beginning this medication, or by a loss of appetite?
4	If I were to set weight aside, what intervention would make the biggest difference in my health? Am I pursuing that as well?
5	Do I need help caring for myself in the body I have now? What professionals or community supports could I access for help?

Changes to look out for after starting a GLP-1 medication:

If you experience any of the following while taking a GLP-1 agonist, we recommend bringing these up to discuss with your provider and/or registered dietitian.	
1	Skipping meals or avoiding certain food groups
2	Avoiding eating with others
3	Thinking about food, weight or body more than before

4	Trying to eat less than recommended or trying to lose more weight than planned
5	Trouble eating regularly

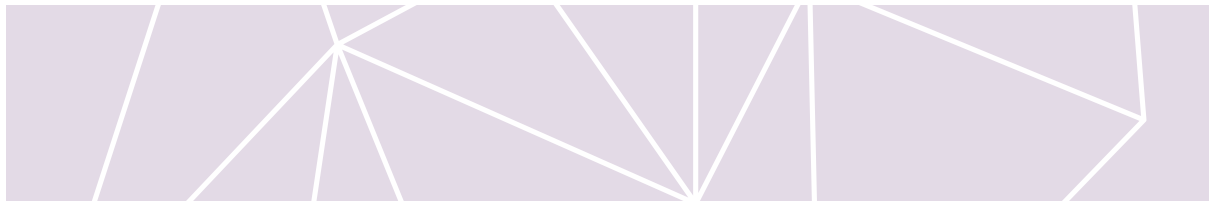
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MSSI would like to especially thank and credit our MSSI Advisors for the work they have put into reviewing and analyzing the clinical trials behind these medications. This resource does not provide individualized medical advice. Please discuss decision-making with a licensed healthcare provider.

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