

A guide to GLP-1 agonists



New prescription medications for weight loss and weight management make achieving and maintaining a healthy weight (and enjoying the associated benefits) a realistic and attainable goal for more individuals than ever before.

Drugs for the treatment of obesity are typically designed to work in one of three major ways:


- To increase energy expenditure
- To reduce hunger and make it easier to eat less
- To block the absorption of fat in the gut

Recently, a new class of medications called glucagon-like peptide 1 (GLP-1) receptor agonists have gained unprecedented popularity for weight loss purposes. These medications work in a variety of ways, including slowing the emptying of food from the stomach and affecting areas in the brain that regulate appetite. These actions improve satiety (fullness), reduce hunger and reduce cravings.¹

GLP-1 receptor agonists and another class of anti-obesity drugs called dual gastric inhibitory polypeptide (GIP) and GLP-1 receptor agonists are medications that were initially developed for the treatment of diabetes. In this handout, we use the term “GLP-1 agonists” to refer to both GLP-1 receptor agonists and dual GIP and GLP-1 receptor agonists.

In certain countries, GLP-1 agonists have been approved as weight loss medications for people with obesity or overweight with weight-related medical problems. These medications should always be used with a reduced-calorie healthy eating pattern and increased physical activity. Keep these important points in mind:

- There is no published evidence of GLP-1 agonists' effectiveness without making positive lifestyle changes at the same time
- Product monographs from the drugs' manufacturers specifically state that GLP-1 agonists should be used along with lifestyle/behavioral changes
- GLP-1 agonist use without lifestyle/behavioral change is very likely to result in weight regain when people stop taking GLP-1 agonists



GLP-1 agonists for weight loss

GLP-1 agonists are very effective weight loss medications. They are the preferred drugs in people with obesity, especially those with type 2 diabetes. The table below lists the most popular GLP-1 agonists.¹ Drug names and availability may differ by country.

Most popular injectable GLP-1 agonists available by prescription

Generic name	Brand name	Indication	How taken	Manufacturer
Semaglutide	Ozempic	Diabetes	Injection weekly	Novo Nordisk
Semaglutide	Wegovy	Obesity	Injection weekly	Novo Nordisk
Tirzepatide	Mounjaro	Diabetes	Injection weekly	Eli Lilly and Company
Tirzepatide	Zepbound	Obesity	Injection weekly	Eli Lilly and Company

Dosage: how/when to take

The above-listed prescription GLP-1 agonists are taken once weekly by injection under the skin in the abdomen, thigh or upper arm.

They should be injected on the same day of the week, at any time of day, with or without meals. If one dose is missed and the next scheduled dose is more than two days away (48 hours), a dose should be administered as soon as possible. If one dose is missed and the next scheduled dose is less than two days away (48 hours), the dose should not be administered. Dosing can be resumed on the regularly scheduled day of the week. If more than two consecutive doses are missed, dosing should be resumed as scheduled or, if needed, the individual can start again as prescribed by their doctor or healthcare provider.

GLP-1 agonists should only be taken in the dosage prescribed by your doctor or healthcare provider. Typically, they are started at a low dose then increased gradually to help minimize side effects. If the recommended dose isn't tolerated due to side effects, individuals may continue at a lower dose if they continue to lose weight. For people with diabetes, weight loss and blood glucose should be monitored closely. Dosage of other diabetes medications may need to be reduced while taking a GLP-1 receptor agonist.



Risks and precautions

Safety

- Taking GLP-1 agonists may cause hypoglycemia (low blood glucose) in people with type 2 diabetes who are taking insulin or sulfonylureas—these people should self-monitor their blood glucose levels at least daily to avoid episodes of hypoglycemia
- People taking GLP-1 agonists should be monitored for symptoms of acute pancreatitis (inflammation of the pancreas) and gall bladder disease
- People with diabetic retinopathy (eye disease) should be monitored for eye complications

Disadvantages

- Side effects are common, particularly at higher doses; gastrointestinal side effects may include nausea, vomiting, constipation, heartburn, diarrhea and abdominal pain
- For most people, adverse effects are generally mild to moderate and improve over time; kidney function should be monitored in people reporting severe gastrointestinal side effects
- Rapid weight loss, regardless of how it is attained, can result in muscle loss which, in turn, can lead to a reduction in strength and lower bone density (osteoporosis); fortunately, much of the loss of muscle with rapid weight loss can be avoided by exercising regularly and eating adequate protein while taking GLP-1 agonists
- Taking GLP-1 agonists may affect absorption of other medications due to slowing of stomach emptying
- Most people who start GLP-1 agonists will discontinue use, and without meaningful behavior change, there is a very high probability of regaining weight
- The need for an injection and out-of-pocket cost/lack of insurance coverage may limit use of these medications

Who should not take these drugs

- Women who are pregnant or trying to become pregnant
- Women who are breastfeeding
- People with a history of pancreatitis (inflammation of the pancreas)
- People with multiple endocrine neoplasia (rare inherited disorder affecting multiple glands in the endocrine system)
- People with a personal or family history of medullary thyroid cancer (rarest type of thyroid cancer that forms inside the thyroid gland)
- People with other conditions that their doctors or healthcare providers believe put them at an increased risk for problems — only take these medications if prescribed by your doctor or healthcare provider



Dealing with side effects

Like with any medication, individuals should report any side effects to their doctor or healthcare provider while taking weight loss medications. It may be necessary to reduce the dosage or switch to another medication. Individuals should be especially alert to any undesirable side effects that may develop from combining weight loss medications with any other medications, including over-the-counter drugs, supplements and herbs. Individuals should inform doctors, healthcare providers and pharmacists about all of the medications they are taking. Doctors and healthcare providers can work with individuals not taking medications due to cost or side effects to find a solution that works.

A summary of practical recommendations for managing gastrointestinal side effects is provided on the following page.² ►



Practice healthy eating habits

General recommendations

- Eat slowly
- Eat only if you are truly hungry
- Eat smaller portions
- Avoid using a straw when drinking fluids
- Increase the frequency of meals — for example, eat five or six small meals over the course of the day
- Stop eating before you feel full
- Avoid lying down after having a meal
- Try not to be too physically active after eating
- Avoid eating too close to bedtime
- Create a pleasant environment for eating, without distractions
- Enjoy your food

Adapting what you eat

- Choose bland, easy-to-digest foods
- Choose a meal plan low in fat, especially saturated fat
- Use low-fat cooking methods: broiling, grilling, roasting, steaming, poaching.
- Drink adequate fluids, especially clear, fresh, sugar-free drinks; take small sips of fluids; don't drink so much fluid that you feel full
- Eat healthy foods that contain water, such as low-sodium soups, liquid yogurt, gelatin, melon, grapes
- Avoid sweet meals
- Avoid dressings, spicy foods, canned foods and sauces that are not home-cooked (due to sodium/high fat)

Practicing other healthy habits

- Get some fresh outdoor air
- Do some light exercise



Deal with unpleasant side effects

If you have nausea...

- Allow at least 30 minutes after the last GLP-1 agonist dose, then eat foods that ease your symptoms, such as crackers, apples, mint, ginger root or ginger-based drinks
- Avoid strong smells

If you experience vomiting...

- Stay hydrated by drinking adequate fluids
- Eat smaller amounts of food in more frequent meals

If you experience diarrhea...

- Stay hydrated by drinking adequate fluids
- Avoid sports drinks with added sugar
- Avoid dairy products, laxative juices or meals, coffee, alcoholic drinks, carbonated drinks, very cold or very hot foods, products with sweeteners ending in "ol" (sorbitol, mannitol, xylitol, maltitol), including candy and gum
- Avoid or temporarily reduce foods with high fiber content; once symptoms improve, gradually increase the amount of fiber you eat
- Eat chicken broth, white rice, cooked carrots, very ripe fruit without skin

If you experience constipation...

- Be sure to eat an adequate amount of fiber
- Increase physical activity, including lifestyle activity, throughout the day
- Choose a variety of healthy foods from all food groups.
- Drink adequate water or other sugar-free, non-alcoholic beverages; color of urine should be pale yellow or clear

If your symptoms are severe or persistent...

- For persistent nausea and/or vomiting, avoid drinking fluids with meals — drink fluids 30 to 60 minutes before or after a meal
- If nausea, vomiting, diarrhea and/or constipation persist after following the guidelines listed above, see your doctor or healthcare provider as soon as possible



Activity: Medications log

If your doctor or healthcare provider prescribes medication for weight loss, it is critical to take it as prescribed. Using a log can help you accurately track and analyze your medication use. Enter the date and time that you actually take your medications on the log below. Make a separate entry for each medication. Include brief notes about why a dose was missed or any possible side effects from medications.

Date	Medication	Time	Notes

References:

1. Sforzo, Gary, et al. "Health and Well-Being Coaching Adjuvant to GLP-1 Induced Weight Loss." American Journal of Lifestyle Medicine, 2024, (In press).

2. Gorgojo-Martínez, Juan J., et al. "Clinical Recommendations to Manage Gastrointestinal Adverse Events in Patients Treated with GLP-1 Receptor Agonists: A Multidisciplinary Expert Consensus." Journal of Clinical Medicine, vol. 12, 2023, p. 145, <https://doi.org/10.3390/jcm12010145>.

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