

Semaglutide

Generic name: semaglutide

Brand names: Ozempic, Wegovy, Rybelsus

Dosage form: subcutaneous injection, tablet

Drug class: Incretin mimetics

Medically reviewed by Melisa Puckey, BPharm. Last updated on Oct 24, 2023.

What is semaglutide?

Semaglutide (Wegovy, Ozempic, Rybelsus) is a medicine used for weight loss in specific patients, and to lower blood sugar levels and reduce the risk of major cardiovascular events such as heart attack or stroke in type two diabetes patients. Semaglutide is a GLP-1 agonist and works by increasing insulin release, lowering the amount of glucagon released, delaying gastric emptying and reducing appetite.

Semaglutide is not for use in people with type 1 diabetes.

Each of the different brands of semaglutide (Wegovy, Ozempic, Rybelus) are FDA approved for different conditions.

What is the difference between Wegovy, Ozempic and Rybelus?

The different brands of semaglutide have different uses and different forms:

- **Wegovy** (subcutaneous injection) is used for weight management for a specific group of patients and is given as a subcutaneous injection weekly.
- **Ozempic** (subcutaneous injection) is used lower blood sugar levels for type two diabetic patients, along with diet and exercise. It is also used for diabetic patients who already have cardiovascular disease, to help lower the risk of major cardiovascular events such as heart attack or stroke. Ozempic is given as a subcutaneous injection weekly.

- **Rybelsus** (tablet) is used to lower blood sugar levels for type two diabetic patients along with diet and exercise, and is taken as a tablet once a day.

Brand of semaglutide	Ozempic	Wegovy	Rybelsus
Form	subcutaneous injection	subcutaneous injection	tablet
Strength	0.25 mg or 0.5 mg dose pen, 1 mg dose pen, 2mg dose pen.	0.25 mg dose pen, 0.5 mg dose pen, 1 mg dose pen, 1.7 mg dose pen, 2.4 mg dose pen	3mg tablet, 7mg tablet, 14mg tablet
Dose	weekly	weekly	daily
Uses	Used to help control blood sugar levels in type 2 diabetic patients, it is used together with diet and exercise. It is also used to reduce the risk of major cardiac events such as heart attack and strokes in type 2 diabetic patients who already have cardiovascular disease.	Used for weight loss for patients who have an initial BMI (body mass index) of 30kg/m ² or greater or patients who have a BMI of 27kg/m ² or greater and also have least one weight-related condition, such as high blood pressure, type 2 diabetes and high cholesterol. It is use together with diet and exercise.	Used to help control blood sugar levels in type 2 diabetic patients, it is used together with diet and exercise.

Warnings

Call your doctor at once if you have signs of a thyroid tumor, such as swelling or a lump in your neck, trouble swallowing, a hoarse voice, or shortness of breath.

You should not use semaglutide if you have multiple endocrine neoplasia type 2 (tumors in your glands), or a personal or family history of medullary thyroid cancer.

Before taking this medicine

You should not use semaglutide if you are allergic to it, or if you have:

- multiple endocrine neoplasia type 2 (tumors in your glands);

- a personal or family history of medullary thyroid carcinoma (a type of thyroid cancer); or
- diabetic ketoacidosis (call your doctor for treatment).

Tell your doctor if you have ever had:

- a stomach or intestinal disorder;
- pancreatitis;
- kidney disease; or
- eye problems caused by diabetes (retinopathy).

In animal studies, semaglutide caused thyroid tumors or thyroid cancer. It is not known whether these effects would occur in people. Ask your doctor about your risk.

Men and women should stop using semaglutide at least 2 months before you plan to get pregnant. Ask your doctor for a safer medicine to use during this time. Controlling diabetes is very important during pregnancy, as is gaining the right amount of weight. Even if you are overweight, losing weight during pregnancy could harm the unborn baby.

Ask a doctor if it is safe to breastfeed while using this Ozempic or Wegovy.

You should not breastfeed while using Rybelsus.

Semaglutide is not approved for use by anyone younger than 18 years old.

 Semaglutide pregnancy and breastfeeding warnings (more detail)

How does semaglutide work?

Semaglutide works to lower high blood sugar by increasing the amount of insulin that is released, lowering the amount of glucagon released and by delaying gastric emptying. Semaglutide also controls appetite and so helps you reduce the amount of food that you want to eat. Semaglutide is a glucagon-like peptide-1 (GLP-1) agonist

How should I take semaglutide?

Wegovy and Ozempic are given as a subcutaneous injection once a week.

Rybelsus is a tablet that you take once a day in the morning, 30 minutes before eating, drinking or taking any other medicines. You may eat, drink or take oral medicine 30 minutes after taking Rybelsus

Dosing information:

Ozempic dose

Ozempic injection 0.25 mg or 0.5 mg dose pen.

- Pen can deliver 0.25 mg or 0.5 mg doses.
- 2mg/1.5mL (1.34mg/mL)
- Each 1.5 ml pen contains 8 doses of 0.25mg or 4 doses of 0.5mg.

Ozempic injection 1 mg dose pen.

- Pen delivers a 1mg dose.
- 4mg/3mL (1.34mg/mL)
- Each 3ml pen contains 4 doses.

Ozempic injection 2mg dose pen.

- Pen delivers a 2mg dose.
- 8mg/3mL (2.68 mg/mL)
- Each 3ml pen contains 4 doses.

Ozempic Recommended Dosage

- Start Ozempic with a 0.25 mg subcutaneous injection (injection under the skin) once weekly for 4 weeks. The 0.25 mg dosage is intended for treatment initiation and is not effective for glycemic control.
- After 4 weeks on the 0.25 mg dosage, increase the dosage to 0.5 mg once weekly.
- If additional glycemic control is needed after at least 4 weeks on the 0.5 mg dosage, the dosage may be increased to 1 mg once weekly.
- If additional glycemic control is needed after at least 4 weeks on the 1 mg dosage, the dosage may be increased to 2 mg once weekly. The maximum recommended dosage is 2 mg once weekly.
- Administer Ozempic once weekly, on the same day each week, at any time of the day, with or without meals.
- The day of weekly administration can be changed if necessary as long as the time between two doses is at least 2 days (>48 hours).
- If a dose is missed, administer Ozempic as soon as possible within 5 days after the missed dose. If more than 5 days have passed, skip the missed dose and administer the next dose on the regularly scheduled day. In each case, patients can then resume their regular once weekly dosing schedule

Wegovy dose

Strengths available:

- Wegovy 0.25 mg pen delivers one 0.25 mg dose (0.25 mg/0.5 mL)
- Wegovy 0.5 mg pen delivers one 0.5 mg dose (0.5 mg / 0.5 mL)
- Wegovy 1 mg pen delivers one 1 mg dose (1 mg / 0.5 mL)
- Wegovy 1.7 mg pen delivers one 1.7 mg dose (1.7 mg / 0.75 mL)
- Wegovy 2.4 mg pen delivers one 2.4 mg dose (2.4 mg / 0.75 mL)

Wegovy Recommended Dosage

Initiate Wegovy with a dose of 0.25 mg injected subcutaneously once-weekly and follow the dose escalation schedule below to minimize gastrointestinal adverse reactions

- Week 1 to week 4: 0.25mg weekly
- Week 5 to week 8: 0.5mg weekly
- Week 9 to week 12: 1mg weekly
- Week 13 to week 16: 1.7mg weekly
- Week 17 onwards: 2.4mg weekly

If patients do not tolerate a dose during dose escalation, consider delaying dose escalation for 4 weeks

The maintenance dose of Wegovy is 2.4 mg injected subcutaneously once-weekly.

If patients do not tolerate the maintenance 2.4 mg once-weekly dose, the dose can be temporarily decreased to 1.7 mg once-weekly, for a maximum of 4 weeks. After 4 weeks, increase Wegovy to the maintenance dose of 2.4 mg once-weekly.

Discontinue Wegovy if the patient cannot tolerate the 2.4 mg dose.

In patients with type 2 diabetes, monitor blood glucose prior to starting Wegovy and during Wegovy treatment.

Rybelsus dose

- Rybelsus tablets strengths are available in 3mg, 7mg, and 14mg

Take Rybelsus at least 30 minutes before the first food, beverage, or other oral medications of the day with no more than 4 ounces of plain water only. After 30 minutes of taking the tablet you may eat, drink or take other oral medicines. Swallow tablets whole. Do not split, crush, or chew tablets.

Rybelsus Recommended Dosage

- Start Rybelsus with 3 mg once daily for 30 days. The 3 mg dose is intended for treatment initiation and is not effective for glycemic control.
- After 30 days on the 3 mg dose, increase the dose to 7 mg once daily.

- Dose may be increased to 14 mg once daily if additional glycemic control is needed after at least 30 days on the 7 mg dose.
- Taking two 7 mg Rybelsus tablets to achieve a 14 mg dose is not recommended.
- If a dose is missed, the missed dose should be skipped, and the next dose should be taken the following day.

Switching Patients between Ozempic and Rybelsus

- Patients treated with Rybelsus 14 mg daily can be transitioned to Ozempic subcutaneous injection 0.5 mg once weekly. Patients can start Ozempic the day after their last dose of Rybelsus.
- Patients treated with once weekly Ozempic 0.5 mg subcutaneous injection can be transitioned to Rybelsus 7 mg or 14 mg. Patients can start Rybelsus up to 7 days after their last injection of Ozempic. There is no equivalent dose of Rybelsus for Ozempic 1 mg.

General semaglutide dosing information

Ozempic and Wegovy are injected under the skin, usually once per week at any time of the day, with or without food. Use an injection on the same day each week.

Read and follow all instructions you have been given. Ask your doctor or pharmacist if you need help.

Prepare an injection only when you are ready to give it. Call your pharmacist if the medicine looks cloudy, has changed colors, or has particles in it.

Your healthcare provider will show you where to inject semaglutide. Do not inject into the same place two times in a row.

If you choose a different weekly injection day, start your new schedule after at least 2 days have passed since the last injection you gave.

Do not use different brands of semaglutide at the same time.

Blood sugar can be affected by stress, illness, surgery, exercise, alcohol use, or skipping meals.

Low blood sugar (**hypoglycemia**) can make you feel very hungry, dizzy, irritable, or shaky. To quickly treat hypoglycemia, eat or drink hard candy, crackers, raisins, fruit juice, or non-diet soda. Your doctor may prescribe glucagon injection in case of severe hypoglycemia.

Tell your doctor if you have frequent symptoms of high blood sugar (hyperglycemia) such as increased thirst or urination. Ask your doctor before changing your dose or medication schedule.

Your treatment may also include diet, exercise, weight control, medical tests, and special medical care.

You may get dehydrated during prolonged illness. Call your doctor if you are sick with vomiting or diarrhea, or if you eat or drink less than usual.

Never share an injection pen, even if you changed the needle. Sharing an injection can pass infection or disease from person to person.

Store **Rybelsus** in the original package at room temperature, away from moisture and heat.

Store **unopened Ozempic or Wegovy injection pens** in the original carton in a refrigerator, protected from light. Do not use past the expiration date. **Throw away an injection pen that has been frozen.**

If needed, you may store an unopened Wegovy pen at cool room temperature for up to 28 days. Do not remove the cap until you are ready to use the injection pen. The pen contains a single dose. Throw the pen away after one use, even if there is still medicine left inside.

The Ozempic injection pen contains more than one dose. After your first use, store the pen with the needle removed in a refrigerator or at room temperature. Protect from heat and light. Keep the cap on when not in use. Throw the pen away 56 days after the first use, or if less than 0.25 mg is shown on the dose counter.

Do not reuse a needle. Place it in a puncture-proof "sharps" container and dispose of it following state or local laws. Keep out of the reach of children and pets.

 Detailed Semaglutide dosage information

What happens if I miss a dose?

For Rybelsus: Skip the missed dose and use your next dose at the regular time.

For Ozempic: Use the medicine as soon as you can and then go back to your regular schedule. If you are more than 5 days late for the injection, skip the missed dose and return to your regular schedule.

For Wegovy: Use the medicine as soon as you can and then go back to your regular schedule. If your next dose is due in less than 2 days (48 hours), skip the missed dose and return to your regular schedule.

Do not use two doses of semaglutide at one time.

Call your doctor if you miss more than 2 doses in a row of Wegovy. You may need to restart the medicine at a lower dose to avoid stomach problems.

What happens if I overdose?

Seek emergency medical attention or call the Poison Help line at 1-800-222-1222.

Overdose may cause severe nausea, vomiting, or low blood sugar.

Semaglutide side effects

Get emergency medical help if you have signs of an allergic reaction: hives, itching; dizziness, fast heartbeats; difficult breathing; swelling of your face, lips, tongue, or throat.

Serious side effects of semaglutide may include:

call your doctor at once if you have:

- vision changes;
- unusual mood changes, thoughts about hurting yourself;
- pounding heartbeats or fluttering in your chest;
- a light-headed feeling, like you might pass out;
- signs of a thyroid tumor--swelling or a lump in your neck, trouble swallowing, a hoarse voice, feeling short of breath;
- symptoms of pancreatitis--severe pain in your upper stomach spreading to your back, nausea with or without vomiting, fast heart rate;

- gallbladder problems--upper stomach pain, fever, clay-colored stools, jaundice (yellowing of the skin or eyes);
- low blood sugar--headache, hunger, weakness, sweating, confusion, irritability, dizziness, fast heart rate, or feeling jittery;
- kidney problems--swelling, urinating less, feeling tired or short of breath; or
- stomach flu symptoms--stomach cramps, vomiting, loss of appetite, diarrhea (may be watery or bloody).

Common side effects of semaglutide may include:

- low blood sugar (in people with type 2 diabetes);
- upset stomach, heartburn, burping, gas, bloating;
- nausea, vomiting, stomach pain, loss of appetite;
- diarrhea, constipation;
- stomach flu symptoms; o
- headache, dizziness, tiredness.

This is not a complete list of side effects and others may occur. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

 [Semaglutide side effects \(more detail\)](#)

What other drugs will affect semaglutide?

Semaglutide can slow your digestion, and it may take longer for your body to absorb any medicines you take by mouth.

Tell your doctor about all your other medicines, especially insulin or other diabetes medicine, such as dulaglutide, exenatide, liraglutide, Byetta, Trulicity, Victoza, and others.

Other drugs may affect semaglutide, including prescription and over-the-counter medicines, vitamins, and herbal products. Tell your doctor about all other medicines you use.

 Semaglutide drug interactions (more detail)

Pregnancy and breastfeeding

Pregnancy: Men and women should stop using semaglutide at least 2 months before you plan to get pregnant. Ask your doctor for a safer medicine to use during this time. Controlling diabetes is very important during pregnancy, as is gaining the right amount of weight. Even if you are overweight, losing weight during pregnancy could harm the unborn baby.

Breastfeeding: Ask a doctor if it is safe to breastfeed while using this Ozempic or Wegovy.

You should not breastfeed while using Rybelsus.

Storage

Ozempic

- Prior to first use, Ozempic should be stored in a refrigerator between 36°F to 46°F (2°C to 8°C). Do not store in the freezer or directly adjacent to the refrigerator cooling element. Do not freeze Ozempic and do not use Ozempic if it has been frozen.
- After first use of the Ozempic pen, the pen can be stored for 56 days at controlled room temperature (59°F to 86°F; 15°C to 30°C) or in a refrigerator (36°F to 46°F; 2°C to 8°C). Do not freeze.
- Keep the pen cap on when not in use. Ozempic should be protected from excessive heat and sunlight.
- Always remove and safely discard the needle after each injection and store the Ozempic pen without an injection needle attached. Always use a new needle for each injection.

Wegovy

- Store the single-dose pen in the refrigerator from 2°C to 8°C (36°F to 46°F). If needed, prior to cap removal, the pen can be kept from 8°C to 30°C (46°F to 86°F) for up to 28 days. Do not freeze. Protect Wegovy from light. Wegovy must be kept in the original carton until time of administration. Discard the Wegovy pen after use.

Rybelsus:

- Store at 68° to 77°F (20 to 25°C); excursions permitted to 59° to 86°F (15° to 30°C) [see USP Controlled Room Temperature]. Store and dispense in the original bottle.
- Store tablets in the original bottle until used to protect tablets from moisture. Store this medicine in a dry place away from moisture.

What are the Ingredients of semaglutide?

Active ingredient: semaglutide

Inactive ingredients:

Ozempic: disodium phosphate dihydrate, propylene glycol, phenol, and water for injections. Ozempic has a pH of approximately 7.4. Hydrochloric acid or sodium hydroxide may be added to adjust pH.

Wegovy: disodium phosphate dihydrate, sodium chloride, and water for injection

Rybelsus: magnesium stearate, microcrystalline cellulose, povidone and salcaprozate sodium (SNAC).

Ozempic, Wegovy and Rybelsus are Manufactured by: Novo Nordisk A/S, DK-2880 Bagsvaerd, Denmark

Popular FAQ

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[What happens when you stop taking Ozempic?](#) 

[How does Ozempic \(semaglutide\) help with weight loss?](#) 

Will my insurance cover Ozempic?



How does semaglutide work for weight loss?



What is Ozempic face and how to avoid it?



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References

1. Food and Drug Administration (FDA) Rybelsus Product Label
2. Food and Drug Administration (FDA) Wegovy Product Label
3. Food and Drug Administration (FDA) Ozempic Product Label

Further information

Always consult your healthcare provider to ensure the information displayed on this page applies to your personal circumstances.