

CENTER FOR DRUG EVALUATION AND RESEARCH

Approval Package for:

APPLICATION NUMBER:

209637Orig1s035

Trade Name: OZEMPIC

Generic or Proper Name: semaglutide

Sponsor: Novo Nordisk Inc.

Approval Date: October 14, 2025

Indication: OZEMPIC is a glucagon-like peptide 1 (GLP-1) receptor agonist indicated:

- as an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus.
- to reduce the risk of major adverse cardiovascular events in adults with type 2 diabetes mellitus and established cardiovascular disease.
- to reduce the risk of sustained eGFR decline, end-stage kidney disease and cardiovascular death in adults with type 2 diabetes mellitus and chronic kidney disease.

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APPROVAL LETTER

NDA 209637/S-035, S-037

SUPPLEMENT APPROVAL

Novo Nordisk Inc.
Attention: Christina Talley
Associate Director, Regulatory Affairs
P.O. Box 846
800 Scudders Mill Road
Plainsboro, NJ 08536

Dear Christina Talley:

Please refer to your supplemental new drug applications (sNDAs) dated and received March 21, 2025, and June 20, 2025, and your amendments, submitted under section 505(b) of the Federal Food, Drug, and Cosmetic Act (FDCA) for Ozempic (semaglutide) injection.

Prior Approval sNDA S-035 provides for the following revisions to the Prescribing Information (PI):

- Revise Warnings and Precautions Section 5.2 Acute Pancreatitis and related language in Section 17 for consistency with the class.
- Revise Warnings and Precautions Section 5.7 Severe Gastrointestinal Adverse Reactions to include the statement “Severe gastrointestinal adverse reactions have also been reported postmarketing with GLP-1 receptor agonists.”
- Add ‘intestinal obstruction, severe constipation including fecal impaction’ and ‘acute kidney injury’ in Section 6.2, Postmarketing Experience.

Prior Approval sNDA S-037 provides for revisions to the PI to add ‘headache’ in Section 6.2, Postmarketing Experience.

APPROVAL & LABELING

We have completed our review of this application, as amended. It is approved, effective on the date of this letter, for use as recommended in the enclosed agreed-upon labeling with minor editorial revisions listed below and reflected in the enclosed labeling.

- Updated date for ‘Warnings and Precautions Severe Gastrointestinal Adverse Reactions’ in Recent Major Changes.
- Updated cross reference to Section 6 under Warnings and Precautions Section 5.7.

CONTENT OF LABELING

As soon as possible, but no later than 14 days from the date of this letter, submit the content of labeling [21 CFR 314.50(l)] in structured product labeling (SPL) format using the FDA automated drug registration and listing system (eLIST), as described at FDA.gov.¹ Content of labeling must be identical to the enclosed labeling (text for the PI, Instructions for Use, and Medication Guide), with the addition of any labeling changes in pending “Changes Being Effected” (CBE) supplements, as well as annual reportable changes not included in the enclosed labeling.

Information on submitting SPL files using eList may be found in the guidance for industry *SPL Standard for Content of Labeling Technical Qs and As*.²

The SPL will be accessible from publicly available labeling repositories.

Also within 14 days, amend all pending supplemental applications that include labeling changes for this NDA, including CBE supplements for which FDA has not yet issued an action letter, with the content of labeling [21 CFR 314.50(l)(1)(i)] in Microsoft Word format, that includes the changes approved in this supplemental application, as well as annual reportable changes. To facilitate review of your submission(s), provide a highlighted or marked-up copy that shows all changes, as well as a clean Microsoft Word version. The marked-up copy should provide appropriate annotations, including supplement number(s) and annual report date(s).

REQUIRED PEDIATRIC ASSESSMENTS

Under the Pediatric Research Equity Act (PREA) (21 U.S.C. 355c), all applications for new active ingredients (which includes new salts and new fixed combinations), new indications, new dosage forms, new dosing regimens, or new routes of administration are required to contain an assessment of the safety and effectiveness of the product for the claimed indication in pediatric patients unless this requirement is waived, deferred, or inapplicable.

Because none of these criteria apply to your supplemental application, you are exempt from this requirement.

¹ <http://www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/default.htm>

² We update guidances periodically. For the most recent version of a guidance, check the FDA Guidance Documents Database <https://www.fda.gov/RegulatoryInformation/Guidances/default.htm>.

PROMOTIONAL MATERIALS

You may request advisory comments on proposed introductory advertising and promotional labeling. For information about submitting promotional materials, see the final guidance for industry *Providing Regulatory Submissions in Electronic and Non-Electronic Format-Promotional Labeling and Advertising Materials for Human Prescription Drugs*.³

You must submit final promotional materials and Prescribing Information, accompanied by a Form FDA 2253, at the time of initial dissemination or publication [21 CFR 314.81(b)(3)(i)]. Form FDA 2253 is available at FDA.gov.⁴ Information and Instructions for completing the form can be found at FDA.gov.⁵

All promotional materials that include representations about your drug product must be promptly revised to be consistent with the labeling changes approved in this supplement, including any new safety-related information [21 CFR 314.70(a)(4)]. The revisions in your promotional materials should include prominent disclosure of the important new safety-related information that appears in the revised labeling. Within 7 days of receipt of this letter, submit your statement of intent to comply with 21 CFR 314.70(a)(4).

PATENT LISTING REQUIREMENTS

Pursuant to 21 CFR 314.53(d)(2) and 314.70(f), certain changes to an approved NDA submitted in a supplement require you to submit patent information for listing in the Orange Book upon approval of the supplement. You must submit the patent information required by 21 CFR 314.53(d)(2)(i)(A) through (C) and 314.53(d)(2)(ii)(A) and (C), as applicable, to FDA on Form FDA 3542 within 30 days after the date of approval of the supplement for the patent information to be timely filed (see 21 CFR 314.53(c)(2)(ii)). You also must ensure that any changes to your approved NDA that require the submission of a request to remove patent information from the Orange Book are submitted to FDA at the time of approval of the supplement pursuant to 21 CFR 314.53(d)(2)(ii)(B) and 314.53(f)(2)(iv).

REPORTING REQUIREMENTS

We remind you that you must comply with reporting requirements for an approved NDA (21 CFR 314.80 and 314.81).

Your product is a Part 3 combination product (21 CFR 3.2(e)); therefore, you must also comply with postmarketing safety reporting requirements for an approved combination

³ For the most recent version of a guidance, check the FDA guidance web page at <https://www.fda.gov/media/128163/download>.

⁴ <http://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Forms/UCM083570.pdf>

⁵ <http://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Forms/UCM375154.pdf>

product (21 CFR 4, Subpart B). Additional information on combination product postmarketing safety reporting is available at FDA.gov.⁶

If you have any questions, contact Marisa Petruccelli, Safety Regulatory Project Manager, at (240) 402-6147.

Sincerely,

{See appended electronic signature page}

Monika Houstoun, Pharm.D., M.P.H.
Deputy Director for Safety
Division of Diabetes, Lipid Disorders, and Obesity
Office of Cardiology, Hematology, Endocrinology,
and Nephrology
Office of New Drugs
Center for Drug Evaluation and Research

ENCLOSURES:

- Content of Labeling
 - Prescribing Information
 - Medication Guide (version previously approved on January 28, 2025)
 - Instructions for Use (0.25 mg or 0.5 mg, 3 mL)(version previously approved September 22, 2023)
 - Instructions for Use (2 mg, 3mL) (version previously approved September 22, 2023)
 - Instructions for Use (1 mg, 3 mL) (version previously approved September 22, 2023)

⁶ <https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products>

This is a representation of an electronic record that was signed electronically. Following this are manifestations of any and all electronic signatures for this electronic record.

/s/

MONIKA A HOUSTOUN
10/14/2025 03:32:15 PM

**CENTER FOR DRUG EVALUATION AND
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APPLICATION NUMBER:

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LABELING

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use OZEMPIC® safely and effectively. See full prescribing information for OZEMPIC.

OZEMPIC (semaglutide) injection, for subcutaneous use Initial U.S. Approval: 2017

WARNING: RISK OF THYROID C-CELL TUMORS See full prescribing information for complete boxed warning.

- In rodents, semaglutide causes thyroid C-cell tumors. It is unknown whether OZEMPIC causes thyroid C-cell tumors, including medullary thyroid carcinoma (MTC), in humans as the human relevance of semaglutide-induced rodent thyroid C-cell tumors has not been determined (5.1, 13.1).
- OZEMPIC is contraindicated in patients with a personal or family history of MTC or in patients with Multiple Endocrine Neoplasia syndrome type 2 (MEN 2). Counsel patients regarding the potential risk of MTC and symptoms of thyroid tumors (4, 5.1).

RECENT MAJOR CHANGES

Indication and Usage (1).....	1/2025
Dosage and Administration (2.2).....	1/2025
Warnings and Precautions, Severe Gastrointestinal Adverse Reactions (5.7).....	10/2025
Pulmonary Aspiration During General Anesthesia or Deep Sedation(5.10).....	1/2025

INDICATIONS AND USAGE

OZEMPIC is a glucagon-like peptide 1 (GLP-1) receptor agonist indicated:

- as an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus. (1)
- to reduce the risk of major adverse cardiovascular events in adults with type 2 diabetes mellitus and established cardiovascular disease. (1)
- to reduce the risk of sustained eGFR decline, end-stage kidney disease and cardiovascular death in adults with type 2 diabetes mellitus and chronic kidney disease. (1)

DOSAGE AND ADMINISTRATION

- Administer once weekly at any time of day, with or without meals. (2.1)
- Start at 0.25 mg once weekly. After 4 weeks, increase the dosage to 0.5 mg once weekly. (2.2)
- If additional glycemic control is needed, increase the dosage to 1 mg once weekly after at least 4 weeks on the 0.5 mg dose. (2.2)
- If additional glycemic control is needed, increase the dosage to 2 mg once weekly after at least 4 weeks on the 1 mg dosage. (2.2)
- To reduce the risk of sustained eGFR decline, end-stage kidney disease and cardiovascular death, increase the dosage to 1 mg once weekly after at least 4 weeks on the 0.5 mg dosage. (1, 2.2)
- If a dose is missed, administer within 5 days of missed dose. (2.1)
- Inject subcutaneously in the abdomen, thigh, or upper arm. (2.1)

DOSAGE FORMS AND STRENGTHS

- Injection: 2 mg/3 mL (0.68 mg/mL) available in:
- Single-patient-use pen that delivers 0.25 mg or 0.5 mg per injection (3)
- Injection: 4 mg/3 mL (1.34 mg/mL) available in:
- Single-patient-use pen that delivers 1 mg per injection (3)
- Injection: 8 mg/3 mL (2.68 mg/mL) available in:
- Single-patient-use pen that delivers 2 mg per injection (3)

CONTRAINDICATIONS

- Personal or family history of MTC or in patients with MEN 2. (4)
- Serious hypersensitivity reaction to semaglutide or any of the excipients in OZEMPIC. (4)

WARNINGS AND PRECAUTIONS

- **Acute Pancreatitis:** Has been observed in patients treated with GLP-1 receptor agonists, including semaglutide. Discontinue if pancreatitis is suspected. (5.2)
- **Diabetic Retinopathy Complications:** Has been reported in a clinical trial. Patients with a history of diabetic retinopathy should be monitored. (5.3)
- **Never share an OZEMPIC pen between patients,** even if the needle is changed. (5.4)
- **Hypoglycemia:** Concomitant use with an insulin secretagogue or insulin may increase the risk of hypoglycemia, including severe hypoglycemia. Reducing dose of insulin secretagogue or insulin may be necessary. (5.5)
- **Acute Kidney Injury Due to Volume Depletion:** Monitor renal function in patients reporting adverse reactions that could lead to volume depletion. (5.6)
- **Severe Gastrointestinal Adverse Reactions:** Use has been associated with gastrointestinal adverse reactions, sometimes severe. OZEMPIC is not recommended in patients with severe gastroparesis. (5.7)
- **Hypersensitivity Reactions:** Serious hypersensitivity reactions (e.g., anaphylaxis and angioedema) have been reported. Discontinue OZEMPIC if suspected and promptly seek medical advice. (5.8)
- **Acute Gallbladder Disease:** If cholelithiasis or cholecystitis are suspected, gallbladder studies are indicated. (5.9)
- **Pulmonary Aspiration During General Anesthesia or Deep Sedation:** Has been reported in patients receiving GLP-1 receptor agonists undergoing elective surgeries or procedures. Instruct patients to inform healthcare providers of any planned surgeries or procedures. (5.10)

ADVERSE REACTIONS

The most common adverse reactions, reported in $\geq 5\%$ of patients treated with OZEMPIC, are: nausea, vomiting, diarrhea, abdominal pain and constipation. (6.1)

To report SUSPECTED ADVERSE REACTIONS, contact Novo Nordisk Inc., at 1-888-693-6742 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

DRUG INTERACTIONS

Oral Medications: OZEMPIC delays gastric emptying. May impact absorption of concomitantly administered oral medications. Use with caution. (7.2)

USE IN SPECIFIC POPULATIONS

Females and Males of Reproductive Potential: Discontinue OZEMPIC in women at least 2 months before a planned pregnancy due to the long washout period for semaglutide. (8.3)

See 17 for PATIENT COUNSELING INFORMATION and Medication Guide.

Revised: 10/2025

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FULL PRESCRIBING INFORMATION

WARNING: RISK OF THYROID C-CELL TUMORS

- **In rodents, semaglutide causes dose-dependent and treatment-duration-dependent thyroid C-cell tumors at clinically relevant exposures. It is unknown whether OZEMPIC causes thyroid C-cell tumors, including medullary thyroid carcinoma (MTC), in humans as human relevance of semaglutide-induced rodent thyroid C-cell tumors has not been determined [see Warnings and Precautions (5.1), Nonclinical Toxicology (13.1)].**
- **OZEMPIC is contraindicated in patients with a personal or family history of MTC or in patients with Multiple Endocrine Neoplasia syndrome type 2 (MEN 2) [see Contraindications (4)]. Counsel patients regarding the potential risk for MTC with the use of OZEMPIC and inform them of symptoms of thyroid tumors (e.g., a mass in the neck, dysphagia, dyspnea, persistent hoarseness). Routine monitoring of serum calcitonin or using thyroid ultrasound is of uncertain value for early detection of MTC in patients treated with OZEMPIC [see Contraindications (4), Warnings and Precautions (5.1)].**

1 INDICATIONS AND USAGE

OZEMPIC is indicated:

- as an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus.
- to reduce the risk of major adverse cardiovascular events (cardiovascular death, non-fatal myocardial infarction or non-fatal stroke) in adults with type 2 diabetes mellitus and established cardiovascular disease.
- to reduce the risk of sustained eGFR decline, end-stage kidney disease, and cardiovascular death in adults with type 2 diabetes mellitus and chronic kidney disease.

2 DOSAGE AND ADMINISTRATION

2.1 Important Administration Instructions

- Inspect OZEMPIC visually before use. It should appear clear and colorless. Do not use OZEMPIC if particulate matter and coloration is seen.
- Administer OZEMPIC once weekly, on the same day each week, at any time of the day, with or without meals.
- Inject OZEMPIC subcutaneously in the abdomen, thigh, or upper arm. Instruct patients to use a different injection site each week when injecting in the same body region.
- When using OZEMPIC with insulin, instruct patients to administer as separate injections and to never mix the products. It is acceptable to inject OZEMPIC and insulin in the same body region, but the injections should not be adjacent to each other.
- 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.

2.2 Recommended Dosage

Recommended Initiation Dosage

Initiate OZEMPIC with a dosage of 0.25 mg injected subcutaneously once weekly for 4 weeks. Follow the dosage escalation below to reduce the risk of gastrointestinal adverse reactions [see *Warnings and Precautions (5.7)*, *Adverse Reactions (6.1)*].

After 4 weeks on the 0.25 mg dosage, increase the dosage to 0.5 mg once weekly.

Recommended Maintenance and Maximum Dosages for Glycemic Control

The recommended maintenance dosage is 0.5 mg, 1 mg, or 2 mg, injected subcutaneously once weekly, based on glycemic control.

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.
- 1 mg dosage, the dosage may be increased to 2 mg once weekly.

The maximum recommended dosage is 2 mg once weekly.

Recommended Maintenance Dosage in Patients with Type 2 Diabetes Mellitus and Chronic Kidney Disease

Increase the dosage to the maintenance dosage, 1 mg once weekly, after at least 4 weeks on the 0.5 mg dosage.

3 DOSAGE FORMS AND STRENGTHS

Injection: clear, colorless solution available in 3 prefilled, disposable, single-patient-use pens:

Dose per Injection	Total Strength per Total Volume	Strength per mL
0.25 mg		
0.5 mg	2 mg / 3 mL	0.68 mg/mL
1 mg	4 mg / 3 mL	1.34 mg/mL
2 mg	8 mg / 3 mL	2.68 mg/mL

The 2 mg/1.5 mL (1.34 mg/mL) strength is not currently marketed by Novo Nordisk Inc.

4 CONTRAINDICATIONS

OZEMPIC is contraindicated in patients with:

- A personal or family history of MTC or in patients with MEN 2 [see *Warnings and Precautions (5.1)*].
- A serious hypersensitivity reaction to semaglutide or to any of the excipients in OZEMPIC. Serious hypersensitivity reactions including anaphylaxis and angioedema have been reported with OZEMPIC [see *Warnings and Precautions (5.8)*].

5 WARNINGS AND PRECAUTIONS

5.1 Risk of Thyroid C-Cell Tumors

In mice and rats, semaglutide caused a dose-dependent and treatment-duration-dependent increase in the incidence of thyroid C-cell tumors (adenomas and carcinomas) after lifetime exposure at clinically relevant plasma exposures [see *Nonclinical Toxicology (13.1)*]. It is unknown whether OZEMPIC causes thyroid C-cell tumors, including MTC, in humans as human relevance of semaglutide-induced rodent thyroid C-cell tumors has not been determined.

Cases of MTC in patients treated with liraglutide, another GLP-1 receptor agonist, have been reported in the postmarketing period; the data in these reports are insufficient to establish or exclude a causal

relationship between MTC and GLP-1 receptor agonist use in humans.

OZEMPIC is contraindicated in patients with a personal or family history of MTC or in patients with MEN 2. Counsel patients regarding the potential risk for MTC with the use of OZEMPIC and inform them of symptoms of thyroid tumors (e.g., a mass in the neck, dysphagia, dyspnea, persistent hoarseness).

Routine monitoring of serum calcitonin or using thyroid ultrasound is of uncertain value for early detection of MTC in patients treated with OZEMPIC. Such monitoring may increase the risk of unnecessary procedures, due to the low-test specificity for serum calcitonin and a high background incidence of thyroid disease. Significantly elevated serum calcitonin value may indicate MTC and patients with MTC usually have calcitonin values >50 ng/L. If serum calcitonin is measured and found to be elevated, the patient should be further evaluated. Patients with thyroid nodules noted on physical examination or neck imaging should also be further evaluated.

5.2 Acute Pancreatitis

Acute pancreatitis, including fatal and non-fatal hemorrhagic or necrotizing pancreatitis, has been observed in patients treated with GLP-1 receptor agonists, including semaglutide [*see Adverse Reactions (6.1)*].

After initiation of OZEMPIC, observe patients carefully for signs and symptoms of acute pancreatitis which may include persistent or severe abdominal pain (sometimes radiating to the back) and which may or may not be accompanied by nausea or vomiting. If pancreatitis is suspected, discontinue OZEMPIC and initiate appropriate management.

5.3 Diabetic Retinopathy Complications

In a 2-year trial involving patients with type 2 diabetes and high cardiovascular risk, more events of diabetic retinopathy complications occurred in patients treated with OZEMPIC (3.0%) compared to placebo (1.8%). The absolute risk increase for diabetic retinopathy complications was larger among patients with a history of diabetic retinopathy at baseline (OZEMPIC 8.2%, placebo 5.2%) than among patients without a known history of diabetic retinopathy (OZEMPIC 0.7%, placebo 0.4%).

Rapid improvement in glucose control has been associated with a temporary worsening of diabetic retinopathy. The effect of long-term glycemic control with semaglutide on diabetic retinopathy complications has not been studied. Patients with a history of diabetic retinopathy should be monitored for progression of diabetic retinopathy.

5.4 Never Share an OZEMPIC Pen Between Patients

OZEMPIC pens must never be shared between patients, even if the needle is changed. Pen-sharing poses a risk for transmission of blood-borne pathogens.

5.5 Hypoglycemia with Concomitant Use of Insulin Secretagogues or Insulin

Patients receiving OZEMPIC in combination with an insulin secretagogue (e.g., sulfonylurea) or insulin may have an increased risk of hypoglycemia, including severe hypoglycemia [*see Adverse Reactions (6.1), Drug Interactions (7)*].

The risk of hypoglycemia may be lowered by a reduction in the dose of sulfonylurea (or other concomitantly administered insulin secretagogue) or insulin. Inform patients using these concomitant medications of the risk of hypoglycemia and educate them on the signs and symptoms of hypoglycemia.

5.6 Acute Kidney Injury Due to Volume Depletion

There have been postmarketing reports of acute kidney injury, in some cases requiring hemodialysis, in patients treated with semaglutide. The majority of the reported events occurred in patients who experienced gastrointestinal reactions leading to dehydration such as nausea, vomiting, or diarrhea [see *Adverse Reactions (6.1)*]. Monitor renal function in patients reporting adverse reactions to OZEMPIC that could lead to volume depletion, especially during dosage initiation and escalation of OZEMPIC.

5.7 Severe Gastrointestinal Adverse Reactions

Use of OZEMPIC has been associated with gastrointestinal adverse reactions, sometimes severe [see *Adverse Reactions (6)*]. In OZEMPIC clinical trials, severe gastrointestinal adverse reactions were reported more frequently among patients receiving OZEMPIC (0.5 mg 0.4%, 1 mg 0.8%) than placebo (0%). Severe gastrointestinal adverse reactions have also been reported postmarketing with GLP-1 receptor agonists.

OZEMPIC is not recommended in patients with severe gastroparesis.

5.8 Hypersensitivity Reactions

Serious hypersensitivity reactions (e.g., anaphylaxis, angioedema) have been reported in patients treated with OZEMPIC. If hypersensitivity reactions occur, discontinue use of OZEMPIC; treat promptly per standard of care, and monitor until signs and symptoms resolve. Do not use in patients with a previous hypersensitivity to OZEMPIC [see *Contraindications (4)*, *Adverse Reactions (6.2)*].

Anaphylaxis and angioedema have been reported with other GLP-1 receptor agonists. Use caution in a patient with a history of angioedema or anaphylaxis with another GLP-1 receptor agonist because it is unknown whether such patients will be predisposed to anaphylaxis with OZEMPIC.

5.9 Acute Gallbladder Disease

Acute events of gallbladder disease such as cholelithiasis or cholecystitis have been reported in GLP-1 receptor agonist trials and postmarketing. In placebo-controlled trials, cholelithiasis was reported in 1.5% and 0.4% of patients-treated with OZEMPIC 0.5 mg and 1 mg, respectively. Cholelithiasis was not reported in placebo-treated patients. If cholelithiasis is suspected, gallbladder studies and appropriate clinical follow-up are indicated.

5.10 Pulmonary Aspiration During General Anesthesia or Deep Sedation

OZEMPIC delays gastric emptying [see *Clinical Pharmacology (12.2)*]. There have been rare postmarketing reports of pulmonary aspiration in patients receiving GLP-1 receptor agonists undergoing elective surgeries or procedures requiring general anesthesia or deep sedation who had residual gastric contents despite reported adherence to preoperative fasting recommendations.

Available data are insufficient to inform recommendations to mitigate the risk of pulmonary aspiration during general anesthesia or deep sedation in patients taking OZEMPIC, including whether modifying preoperative fasting recommendations or temporarily discontinuing OZEMPIC could reduce the incidence of retained gastric contents. Instruct patients to inform healthcare providers prior to any planned surgeries or procedures if they are taking OZEMPIC.

6 ADVERSE REACTIONS

The following serious adverse reactions are described below or elsewhere in the prescribing information:

- Risk of Thyroid C-cell Tumors [see *Warnings and Precautions (5.1)*]
- Acute Pancreatitis [see *Warnings and Precautions (5.2)*]

- Diabetic Retinopathy Complications [see Warnings and Precautions (5.3)]
- Hypoglycemia with Concomitant Use of Insulin Secretagogues or Insulin [see Warnings and Precautions (5.5)]
- Acute Kidney Injury Due to Volume Depletion [see Warnings and Precautions (5.6)]
- Severe Gastrointestinal Adverse Reactions [see Warnings and Precautions (5.7)]
- Hypersensitivity Reactions [see Warnings and Precautions (5.8)]
- Acute Gallbladder Disease [see Warnings and Precautions (5.9)]
- Pulmonary Aspiration During General Anesthesia or Deep Sedation [see Warnings and Precautions (5.10)]

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

Pool of Placebo-Controlled Trials

The data in **Table 1** are derived from 2 placebo-controlled trials (1 monotherapy trial and 1 trial in combination with basal insulin) in patients with type 2 diabetes [see *Clinical Studies (14)*]. These data reflect exposure of 521 patients to OZEMPIC and a mean duration of exposure to OZEMPIC of 32.9 weeks. Across the treatment arms, the mean age of patients was 56 years, 3.4% were 75 years or older and 55% were male. In these trials 71% were White, 7% were Black or African American, and 19% were Asian; 21% identified as Hispanic or Latino ethnicity. At baseline, patients had type 2 diabetes for an average of 8.8 years and had a mean HbA_{1c} of 8.2%. At baseline, 8.9% of the population reported retinopathy. Baseline estimated renal function was normal (eGFR ≥ 90 mL/min/1.73m²) in 57.2%, mildly impaired (eGFR 60 to 90 mL/min/1.73m²) in 35.9% and moderately impaired (eGFR 30 to 60 mL/min/1.73m²) in 6.9% of patients.

Pool of Placebo- and Active-Controlled Trials

The occurrence of adverse reactions was also evaluated in a larger pool of patients with type 2 diabetes participating in 7 placebo- and active-controlled glycemic control trials [see *Clinical Studies (14)*] including two trials in Japanese patients evaluating the use of OZEMPIC as monotherapy and add-on therapy to oral medications or insulin. In this pool, a total of 3150 patients with type 2 diabetes were treated with OZEMPIC for a mean duration of 44.9 weeks. Across the treatment arms, the mean age of patients was 57 years, 3.2% were 75 years or older and 57% were male. In these trials, 60% were White, 6% were Black or African American, and 31% were Asian; 16% identified as Hispanic or Latino ethnicity. At baseline, patients had type 2 diabetes for an average of 8.2 years and had a mean HbA_{1c} of 8.2%. At baseline, 7.8% of the population reported retinopathy. Baseline estimated renal function was normal (eGFR ≥ 90 mL/min/1.73m²) in 63.1%, mildly impaired (eGFR 60 to 90 mL/min/1.73m²) in 34.3%, and moderately impaired (eGFR 30 to 60 mL/min/1.73m²) in 2.5% of the patients.

Common Adverse Reactions

Table 1 shows common adverse reactions, excluding hypoglycemia, associated with the use of OZEMPIC in the pool of placebo-controlled trials. These adverse reactions occurred more commonly on OZEMPIC than on placebo and occurred in at least 5% of patients treated with OZEMPIC.

Table 1. Adverse Reactions in Placebo-Controlled Trials Reported in $\geq 5\%$ of OZEMPIC-Treated Patients with Type 2 Diabetes Mellitus

Adverse Reaction	Placebo (N=262) %	OZEMPIC 0.5 mg (N=260) %	OZEMPIC 1 mg (N=261) %

Nausea	6.1	15.8	20.3
Vomiting	2.3	5	9.2
Diarrhea	1.9	8.5	8.8
Abdominal pain	4.6	7.3	5.7
Constipation	1.5	5	3.1

In the pool of placebo- and active-controlled trials and in the 2-year cardiovascular outcomes trial, the types and frequency of common adverse reactions, excluding hypoglycemia, were similar to those listed in **Table 1**.

In a clinical trial with 959 patients treated with OZEMPIC 1 mg or OZEMPIC 2 mg as add-on to metformin with or without sulfonylurea treatment for 40 weeks, no new safety signals were identified.

In the FLOW trial [see *Clinical Studies 14.3*] in patients with type 2 diabetes mellitus and chronic kidney disease, safety data collection was limited to serious adverse events and selected predefined categories of adverse events regardless of seriousness. There were no new serious or severe adverse reactions identified in this trial.

Gastrointestinal Adverse Reactions

In the pool of placebo-controlled trials, gastrointestinal adverse reactions occurred more frequently among patients receiving OZEMPIC than placebo (placebo 15.3%, OZEMPIC 0.5 mg 32.7%, OZEMPIC 1 mg 36.4%). The majority of reports of nausea, vomiting, and/or diarrhea occurred during dose escalation. More patients receiving OZEMPIC 0.5 mg (3.1%) and OZEMPIC 1 mg (3.8%) discontinued treatment due to gastrointestinal adverse reactions than patients receiving placebo (0.4%).

In the trial with OZEMPIC 1 mg and 2 mg, gastrointestinal adverse reactions occurred more frequently among patients receiving OZEMPIC 2 mg (34%) vs OZEMPIC 1 mg (30.8%).

In addition to the reactions in **Table 1**, the following gastrointestinal adverse reactions with a frequency of <5% were associated with OZEMPIC (frequencies listed, respectively, as: placebo; 0.5 mg; 1 mg): dyspepsia (1.9%, 3.5%, 2.7%), eructation (0%, 2.7%, 1.1%), flatulence (0.8%, 0.4%, 1.5%), gastroesophageal reflux disease (0%, 1.9%, 1.5%), and gastritis (0.8%, 0.8%, 0.4%).

Other Adverse Reactions

Hypoglycemia

Table 2 summarizes the incidence of events related to hypoglycemia by various definitions in the placebo- controlled trials.

Table 2. Hypoglycemia Adverse Reactions in Placebo-Controlled Trials in Patients with Type 2 Diabetes Mellitus

	Placebo	OZEMPIC 0.5 mg	OZEMPIC 1 mg
Monotherapy			
(30 weeks)	N=129	N=127	N=130
Severe [†]	0%	0%	0%
Documented symptomatic (≤70 mg/dL glucose threshold)	0%	1.6%	3.8%
Severe [†] or Blood Glucose Confirmed Symptomatic (≤56 mg/dL glucose threshold)	1.6%	0%	0%

Add-on to Basal Insulin with or without Metformin			
(30 weeks)	N=132	N=132	N=131
Severe [†]	0%	0%	1.5%
Documented symptomatic (≤70 mg/dL glucose threshold)	15.2%	16.7%	29.8%
Severe [†] or Blood Glucose Confirmed Symptomatic (≤56 mg/dL glucose threshold)	5.3%	8.3%	10.7%

[†] “Severe” hypoglycemia adverse reactions are episodes requiring the assistance of another person.

Hypoglycemia was more frequent when OZEMPIC was used in combination with a sulfonylurea [*see Warnings and Precautions (5.5), Clinical Studies (14)*]. Severe hypoglycemia occurred in 0.8% and 1.2% of patients when OZEMPIC 0.5 mg and 1 mg, respectively, was coadministered with a sulfonylurea.

Documented symptomatic hypoglycemia occurred in 17.3% and 24.4% of patients when OZEMPIC 0.5 mg and 1 mg, respectively, was coadministered with a sulfonylurea. Severe or blood glucose confirmed symptomatic hypoglycemia occurred in 6.5% and 10.4% of patients when OZEMPIC 0.5 mg and 1 mg, respectively, was coadministered with a sulfonylurea.

Injection Site Reactions

In placebo-controlled trials, injection site reactions (e.g., injection-site discomfort, erythema) were reported in 0.2% of OZEMPIC-treated patients.

Increases in Amylase and Lipase

In placebo-controlled trials, patients exposed to OZEMPIC had a mean increase from baseline in amylase of 13% and lipase of 22%. These changes were not observed in placebo-treated patients.

Acute Pancreatitis

In glycemically controlled trials, acute pancreatitis was confirmed by adjudication in 7 OZEMPIC-treated patients (0.3 cases per 100 patient years) versus 3 in comparator-treated patients (0.2 cases per 100 patient years).

Cholelithiasis

In placebo-controlled trials, cholelithiasis was reported in 1.5% and 0.4% of patients treated with OZEMPIC 0.5 mg and 1 mg, respectively. Cholelithiasis was not reported in placebo-treated patients.

Increases in Heart Rate

In placebo-controlled trials, OZEMPIC 0.5 mg and 1 mg resulted in a mean increase in heart rate of 2 to 3 beats per minute. There was a mean decrease in heart rate of 0.3 beats per minute in placebo-treated patients.

Fatigue, Dysgeusia and Dizziness

Other adverse reactions with a frequency of >0.4% were associated with OZEMPIC include fatigue, dysgeusia and dizziness.

6.2 Postmarketing Experience

The following adverse reactions have been reported during post-approval use of semaglutide, the active ingredient of OZEMPIC. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug

exposure.

Gastrointestinal: ileus, intestinal obstruction, severe constipation including fecal impaction

Hypersensitivity: anaphylaxis, angioedema, rash, urticaria

Hepatobiliary: cholecystitis, cholecystectomy

Neurologic: dysesthesia, headache

Pulmonary: Pulmonary aspiration has occurred in patients receiving GLP-1 receptor agonists undergoing elective surgeries or procedures requiring general anesthesia or deep sedation.

Renal: acute kidney injury

Skin and Subcutaneous Tissue: alopecia

7 DRUG INTERACTIONS

7.1 Concomitant Use with an Insulin Secretagogue (e.g., Sulfonylurea) or with Insulin

OZEMPIC stimulates insulin release in the presence of elevated blood glucose concentrations. Patients receiving OZEMPIC in combination with an insulin secretagogue (e.g., sulfonylurea) or insulin may have an increased risk of hypoglycemia, including severe hypoglycemia. When initiating OZEMPIC, consider reducing the dose of concomitantly administered insulin secretagogue (such as sulfonylureas) or insulin to reduce the risk of hypoglycemia [see *Warnings and Precautions (5.5)*, *Adverse Reactions (6)*].

7.2 Oral Medications

OZEMPIC causes a delay of gastric emptying, and thereby has the potential to impact the absorption of concomitantly administered oral medications. In clinical pharmacology trials, semaglutide did not affect the absorption of orally administered medications to any clinically relevant degree [see *Clinical Pharmacology (12.3)*]. Nonetheless, caution should be exercised when oral medications are concomitantly administered with OZEMPIC.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

There are limited data with semaglutide use in pregnant women to inform a drug-associated risk for adverse developmental outcomes. There are clinical considerations regarding the risks of poorly controlled diabetes in pregnancy (see *Clinical Considerations*). Based on animal reproduction studies, there may be potential risks to the fetus from exposure to semaglutide during pregnancy. OZEMPIC should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

In pregnant rats administered semaglutide during organogenesis, embryofetal mortality, structural abnormalities and alterations to growth occurred at maternal clinical exposure based on AUC. In rabbits and cynomolgus monkeys administered semaglutide during organogenesis, early pregnancy losses or structural abnormalities were observed at clinical exposure (rabbit) and ≥ 2 -fold the MRHD (monkey). These findings coincided with a marked maternal body weight loss in both animal species (see *Data*).

In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2 to 4% and 15 to 20%, respectively. The estimated background risk of major birth defects is 6 to 10% in women with pre-gestational diabetes with a peri-conceptual HbA_{1c} >7 and has been reported to be as high as 20 to 25% in women with a peri-conceptual HbA_{1c} >10. The estimated background risk of miscarriage for the indicated population is unknown.

Clinical Considerations

Disease-Associated Maternal and/or Embryo/fetal Risk

Hypoglycemia and hyperglycemia occur more frequently during pregnancy in patients with pre-gestational diabetes. Poorly controlled diabetes during pregnancy increases the maternal risk for diabetic ketoacidosis, pre-eclampsia, spontaneous abortions, preterm delivery, and delivery complications. Poorly controlled diabetes increases the fetal risk for major birth defects, stillbirth, and macrosomia related morbidity.

Data

Animal Data

In a combined fertility and embryofetal development study in rats, subcutaneous doses of 0.01, 0.03 and 0.09 mg/kg/day (0.06-, 0.2-, and 0.6-fold the MRHD) were administered to males for 4 weeks prior to and throughout mating and to females for 2 weeks prior to mating, and throughout organogenesis to Gestation Day

17. In parental animals, pharmacologically mediated reductions in body weight gain and food consumption were observed at all dose levels. In the offspring, reduced growth and fetuses with visceral (heart blood vessels) and skeletal (cranial bones, vertebra, ribs) abnormalities were observed at the human exposure.

In an embryofetal development study in pregnant rabbits, subcutaneous doses of 0.0010, 0.0025 or 0.0075 mg/kg/day (0.02-, 0.2-, and 1.2-fold the MRHD) were administered throughout organogenesis from Gestation Day 6 to 19. Pharmacologically mediated reductions in maternal body weight gain and food consumption were observed at all dose levels. Early pregnancy losses and increased incidences of minor visceral (kidney, liver) and skeletal (sternebra) fetal abnormalities were observed at ≥ 0.0025 mg/kg/day, at clinically relevant exposures.

In an embryofetal development study in pregnant cynomolgus monkeys, subcutaneous doses of 0.015, 0.075, and 0.15 mg/kg twice weekly (0.5-, 3-, and 8-fold the MRHD) were administered throughout organogenesis, from Gestation Day 16 to 50. Pharmacologically mediated, marked initial maternal body weight loss and reductions in body weight gain and food consumption coincided with the occurrence of sporadic abnormalities (vertebra, sternebra, ribs) at ≥ 0.075 mg/kg twice weekly ($\geq 3X$ human exposure).

In a pre- and postnatal development study in pregnant cynomolgus monkeys, subcutaneous doses of 0.015, 0.075, and 0.15 mg/kg twice weekly (0.3-, 2-, and 4-fold the MRHD) were administered from Gestation Day 16 to 140. Pharmacologically mediated marked initial maternal body weight loss and reductions in body weight gain and food consumption coincided with an increase in early pregnancy losses and led to delivery of slightly smaller offspring at ≥ 0.075 mg/kg twice weekly ($\geq 2X$ human exposure).

8.2 Lactation

Risk Summary

There are no data on the presence of semaglutide in human milk, the effects on the breastfed infant, or the effects on milk production. Semaglutide was present in the milk of lactating rats, however, due to species-specific differences in lactation physiology, the clinical relevance of these data are not clear (see *Data*). The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for OZEMPIC and any potential adverse effects on the breastfed infant from OZEMPIC or from the underlying maternal condition.

Data

In lactating rats, semaglutide was detected in milk at levels 3- to 12-fold lower than in maternal plasma.

8.3 Females and Males of Reproductive Potential

Discontinue OZEMPIC in women at least 2 months before a planned pregnancy due to the long washout period for semaglutide [*see Use in Specific Populations (8.1)*].

8.4 Pediatric Use

Safety and efficacy of OZEMPIC have not been established in pediatric patients.

8.5 Geriatric Use

In the pool of placebo- and active-controlled glycemic control trials, 744 (23.6%) OZEMPIC-treated patients were 65 years of age and over and 102 OZEMPIC-treated patients (3.2%) patients were 75 years of age and over. In SUSTAIN 6, the cardiovascular outcome trial, 788 (48%) OZEMPIC-treated patients were 65 years of age and over and 157 OZEMPIC-treated patients (9.6%) patients were 75 years of age and over.

No overall differences in safety or efficacy were detected between these patients and younger patients, but greater sensitivity of some older individuals cannot be ruled out.

8.6 Renal Impairment

No dose adjustment of OZEMPIC is recommended for patients with renal impairment. In subjects with renal impairment including kidney failure, no clinically relevant change in semaglutide pharmacokinetics (PK) was observed [see *Clinical Pharmacology (12.3)*].

8.7 Hepatic Impairment

No dose adjustment of OZEMPIC is recommended for patients with hepatic impairment. In a study in subjects with different degrees of hepatic impairment, no clinically relevant change in semaglutide pharmacokinetics (PK) was observed [see *Clinical Pharmacology (12.3)*].

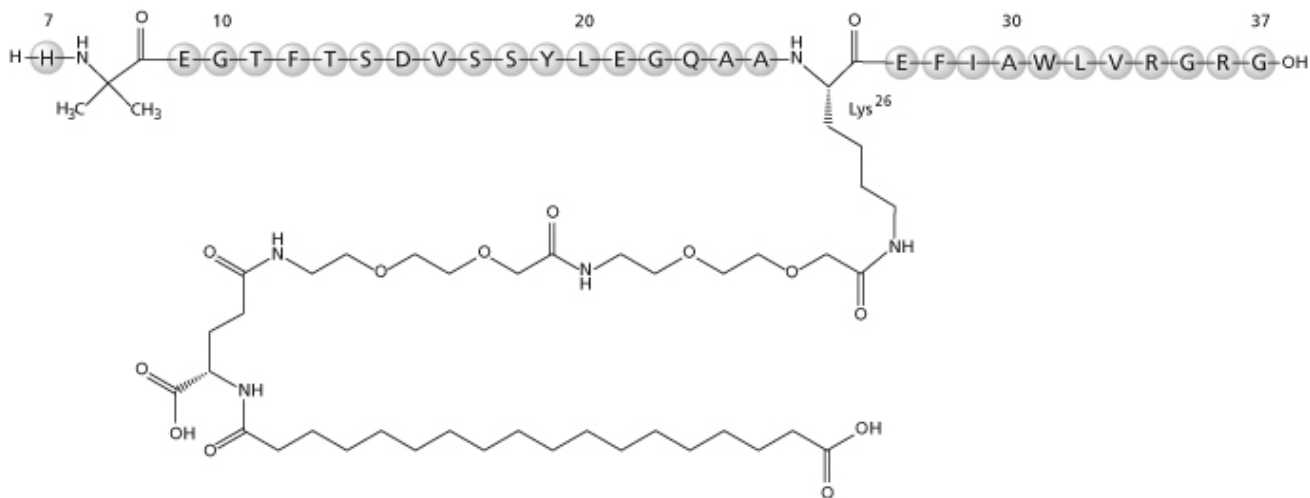
10 OVERDOSAGE

In the event of overdose, appropriate supportive treatment should be initiated according to the patient's clinical signs and symptoms. Consider contacting the Poison Help line (1-800-222-1222) or a medical toxicologist for additional overdose management recommendations. A prolonged period of observation and treatment for these symptoms may be necessary, taking into account the long half-life of OZEMPIC of approximately 1 week.

11 DESCRIPTION

OZEMPIC (semaglutide) injection, for subcutaneous use, contains semaglutide, a human GLP-1 receptor agonist (or GLP-1 analog). The peptide backbone is produced by yeast fermentation. The main protraction mechanism of semaglutide is albumin binding, facilitated by modification of position 26 lysine with a hydrophilic spacer and a C18 fatty di-acid. Furthermore, semaglutide is modified in position 8 to provide stabilization against degradation by the enzyme dipeptidyl-peptidase 4 (DPP-4). A minor modification was made in position 34 to ensure the attachment of only one fatty di-acid. The molecular formula is $C_{187}H_{291}N_{45}O_{59}$ and the molecular weight is 4113.58 g/mol.

Structural formula:



OZEMPIC is a sterile, aqueous, clear, colorless solution. Each 3 mL prefilled single-patient-use pen contains semaglutide 2 mg (0.68 mg/mL), 4 mg (1.34 mg/mL), or 8 mg (2.68 mg/mL). Each 1 mL of OZEMPIC solution also contains the following inactive ingredients: disodium phosphate dihydrate, 1.42 mg; propylene glycol, 14 mg; phenol, 5.5 mg; and water for injections. OZEMPIC has a pH of approximately 7.4. Hydrochloric acid or sodium hydroxide may be added to adjust pH. The 2 mg/1.5 mL (1.34 mg/mL) strength is not currently marketed by Novo Nordisk Inc.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Semaglutide is a GLP-1 analogue with 94% sequence homology to human GLP-1. Semaglutide acts as a GLP-1 receptor agonist that selectively binds to and activates the GLP-1 receptor, the target for native GLP-1.

GLP-1 is a physiological hormone that has multiple actions on glucose, mediated by the GLP-1 receptors.

The principal mechanism of protraction resulting in the long half-life of semaglutide is albumin binding, which results in decreased renal clearance and protection from metabolic degradation. Furthermore, semaglutide is stabilized against degradation by the DPP-4 enzyme.

Semaglutide reduces blood glucose through a mechanism where it stimulates insulin secretion and lowers glucagon secretion, both in a glucose-dependent manner. Thus, when blood glucose is high, insulin secretion is stimulated, and glucagon secretion is inhibited. The mechanism of blood glucose lowering also involves a minor delay in gastric emptying in the early postprandial phase.

The mechanism of kidney-related risk reduction has not been established.

12.2 Pharmacodynamics

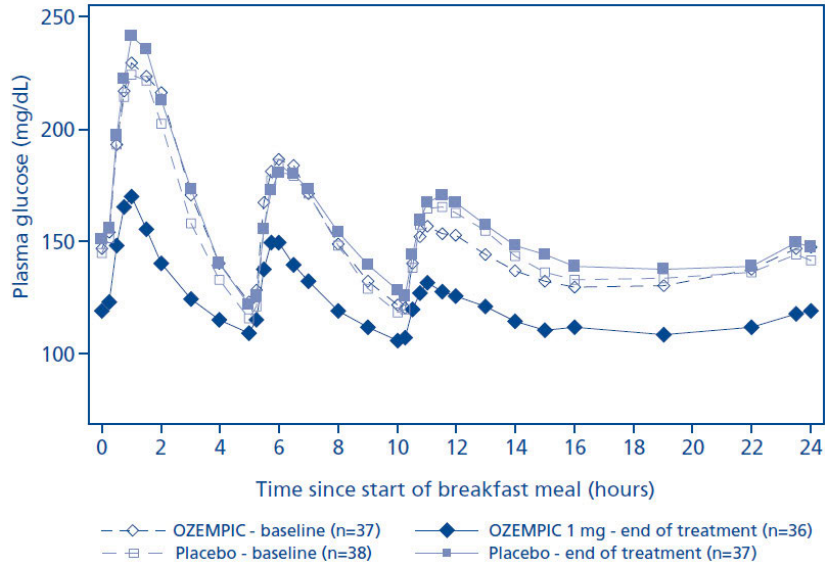
Semaglutide lowers fasting and postprandial blood glucose and reduces body weight. All pharmacodynamic evaluations were performed after 12 weeks of treatment (including dose escalation) at steady state with semaglutide 1 mg.

Fasting and Postprandial Glucose

Semaglutide reduces fasting and postprandial glucose concentrations. In patients with type 2 diabetes, treatment with semaglutide 1 mg resulted in reductions in glucose in terms of absolute change from baseline and relative reduction compared to placebo of 29 mg/dL (22%) for fasting glucose, 74 mg/dL (36%) for 2-hour postprandial glucose, and 30 mg/dL (22%) for mean 24-hour glucose concentration (see

Figure 1).

Figure 1. Mean 24-hour Plasma Glucose Profiles (standardized meals) in Patients with Type 2 Diabetes before (Baseline) and after 12 Weeks of Treatment with Semaglutide or Placebo



Insulin Secretion

Both first- and second-phase insulin secretion are increased in patients with type 2 diabetes treated with OZEMPIC compared with placebo.

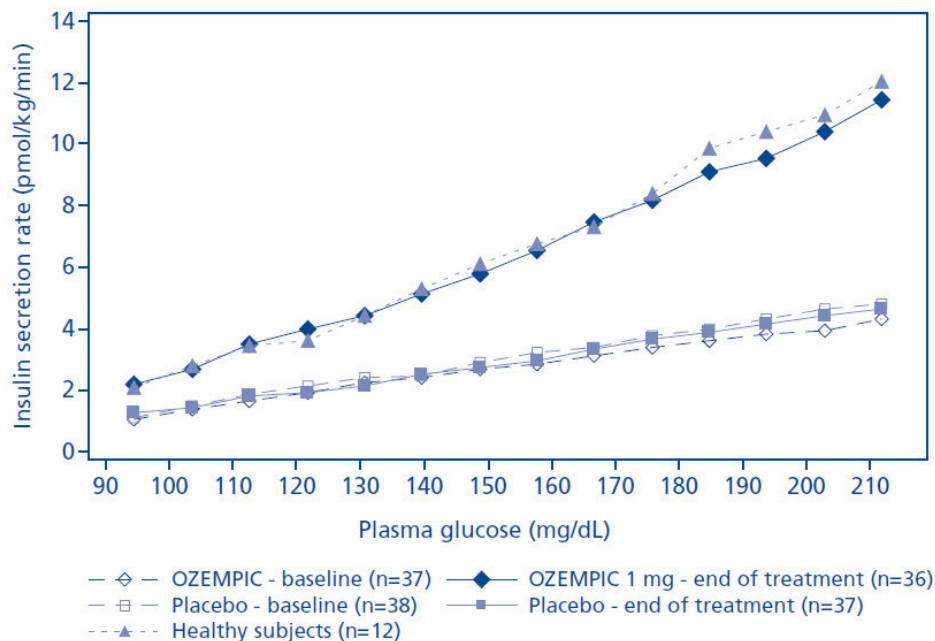
Glucagon Secretion

Semaglutide lowers the fasting and postprandial glucagon concentrations. In patients with type 2 diabetes, treatment with semaglutide resulted in the following relative reductions in glucagon compared to placebo, fasting glucagon (8%), postprandial glucagon response (14 to 15%), and mean 24-hour glucagon concentration (12%).

Glucose dependent insulin and glucagon secretion

Semaglutide lowers high blood glucose concentrations by stimulating insulin secretion and lowering glucagon secretion in a glucose-dependent manner. With semaglutide, the insulin secretion rate in patients with type 2 diabetes was similar to that of healthy subjects (see **Figure 2**).

Figure 2. Mean Insulin Secretion Rate Versus Glucose Concentration in Patients with Type 2 Diabetes during Graded Glucose Infusion before (Baseline) and after 12 Weeks of Treatment with Semaglutide or Placebo and in Untreated Healthy Subjects



During induced hypoglycemia, semaglutide did not alter the counter regulatory responses of increased glucagon compared to placebo and did not impair the decrease of C-peptide in patients with type 2 diabetes.

Gastric emptying

Semaglutide causes a delay of early postprandial gastric emptying, thereby reducing the rate at which glucose appears in the circulation postprandially.

Cardiac electrophysiology (QTc)

The effect of semaglutide on cardiac repolarization was tested in a thorough QTc trial. Semaglutide does not prolong QTc intervals at doses up to 1.5 mg at steady-state.

12.3 Pharmacokinetics

Absorption

Absolute bioavailability of semaglutide is 89%. Maximum concentration of semaglutide is reached 1 to 3 days post dose.

Similar exposure is achieved with subcutaneous administration of semaglutide in the abdomen, thigh, or upper arm.

In patients with type 2 diabetes, semaglutide exposure increases in a dose-proportional manner for once-weekly doses of 0.5 mg, 1 mg and 2 mg. Steady-state exposure is achieved following 4 to 5 weeks of once-weekly administration. In patients with type 2 diabetes, the mean population-PK estimated steady-state concentrations following once-weekly subcutaneous administration of 0.5 mg and 1 mg semaglutide were approximately 65 ng/mL and 123 ng/mL, respectively. In the trial comparing semaglutide 1 mg and 2 mg, the mean steady state concentrations were 111.1 ng/mL and 222.1 ng/mL, respectively.

Distribution

The mean apparent volume of distribution of semaglutide following subcutaneous administration in patients with type 2 diabetes is approximately 12.5L. Semaglutide is extensively bound to plasma albumin (>99%).

Elimination

The apparent clearance of semaglutide in patients with type 2 diabetes is approximately 0.05 L/h. With an elimination half-life of approximately 1 week, semaglutide will be present in the circulation for about 5 weeks after the last dose.

Metabolism

The primary route of elimination for semaglutide is metabolism following proteolytic cleavage of the peptide backbone and sequential beta-oxidation of the fatty acid sidechain.

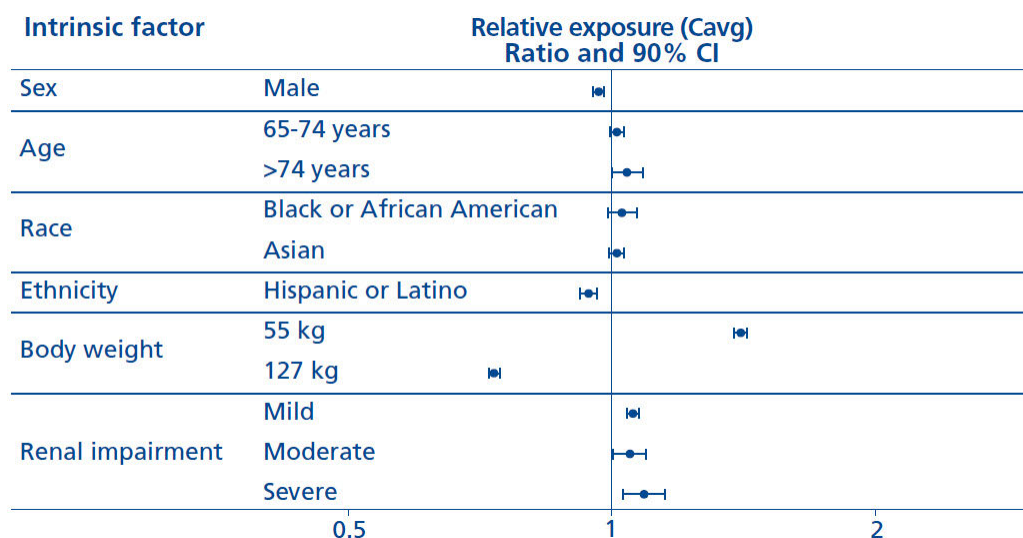
Excretion

The primary excretion routes of semaglutide-related material are via the urine and feces. Approximately 3% of the dose is excreted in the urine as intact semaglutide.

Specific Populations

Based on a population pharmacokinetic analysis, age, sex, race, and ethnicity, and renal impairment do not have a clinically meaningful effect on the pharmacokinetics of semaglutide. The exposure of semaglutide decreases with an increase in body weight. However, semaglutide doses of 0.5 mg and 1 mg provide adequate systemic exposure over the body weight range of 40 to 198 kg evaluated in the clinical trials. The effects of intrinsic factors on the pharmacokinetics of semaglutide are shown in **Figure 3**.

Figure 3. Impact of Intrinsic Factors on Semaglutide Exposure



Semaglutide exposure (C_{avg}) relative to reference subject profile: non-Hispanic/non-Latino, White, female below 65 years, body weight 85 kg, with normal renal function. Population PK model also included maintenance dose and injection site as covariates. Body weight test categories (55 and 127 kg) represent the 5% and 95% percentiles in the dataset. Abbreviations: C_{avg}: average semaglutide concentration. CI: Confidence interval.

Patients with Renal impairment - Renal impairment does not impact the pharmacokinetics of semaglutide in a clinically relevant manner. This was shown in a study with a single dose of 0.5 mg semaglutide in patients with different degrees of renal impairment (mild, moderate, severe, or kidney failure) compared with subjects with normal renal function. This was also shown for subjects with both type 2 diabetes and renal impairment based on data from clinical studies (**Figure 3**).

Patients with Hepatic impairment - Hepatic impairment does not have any impact on the exposure of semaglutide. The pharmacokinetics of semaglutide were evaluated in patients with different degrees of hepatic impairment (mild, moderate, severe) compared with subjects with normal hepatic function in a study with a single-dose of 0.5 mg semaglutide.

Pediatric Patients- Semaglutide has not been studied in pediatric patients.

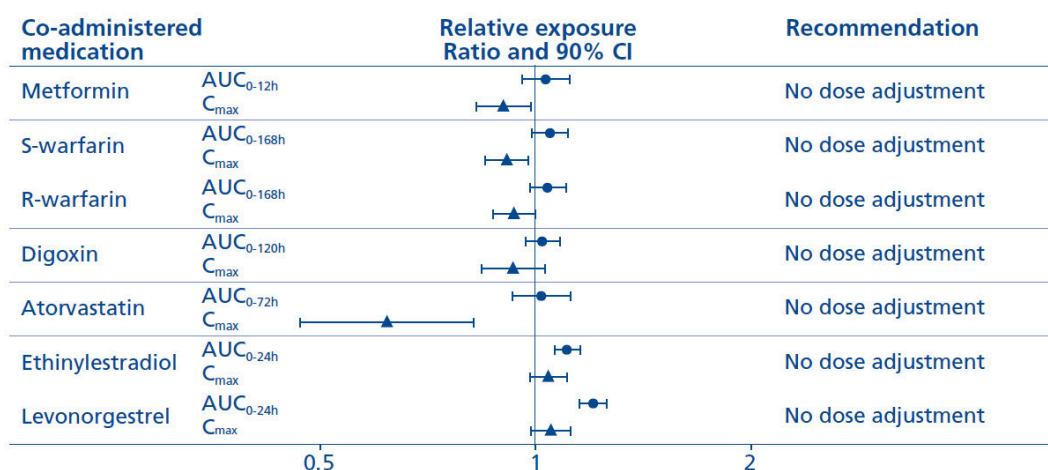
Drug Interaction Studies

In vitro studies have shown very low potential for semaglutide to inhibit or induce CYP enzymes, and to inhibit drug transporters.

The delay of gastric emptying with semaglutide may influence the absorption of concomitantly administered oral medicinal products [see *Drug Interactions (7.2)*]. The potential effect of semaglutide on the absorption of co-administered oral medications was studied in trials at semaglutide 1 mg steady-state exposure.

No clinically relevant drug-drug interaction with semaglutide (**Figure 4**) was observed based on the evaluated medications; therefore, no dose adjustment is required when co-administered with semaglutide. In a separate study, no apparent effect on the rate of gastric emptying was observed with semaglutide 2.4 mg.

Figure 4. Impact of Semaglutide on the Exposure of Coadministered Oral Medications



Relative exposure in terms of AUC and C_{max} for each medication when given with semaglutide compared to without semaglutide. Metformin and oral contraceptive drug (ethinylestradiol/levonorgestrel) were assessed at steady state. Warfarin (S-warfarin/R-warfarin), digoxin and atorvastatin were assessed after a single dose. Abbreviations: AUC: area under the curve. C_{max}: maximum concentration. CI: confidence interval.

12.6 Immunogenicity

The observed incidence of anti-drug antibodies is highly dependent on the sensitivity and specificity of the assay. Differences in assay methods preclude meaningful comparisons of the incidence of anti-drug antibodies (ADAs) in the studies described below with the incidence of ADAs in other studies, including those of semaglutide or of other semaglutide products.

Across the placebo- and active-controlled glyceic control trials, 32 out of 3,150 (1%) OZEMPIC-treated patients developed ADAs to the active ingredient in OZEMPIC (i.e., semaglutide). Of the 32 semaglutide-treated patients that developed semaglutide ADAs, 19 patients (0.6% of the overall population) developed antibodies cross-reacting with native GLP-1. The *in vitro* neutralizing activity of the antibodies is uncertain at this time.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

In a 2-year carcinogenicity study in CD-1 mice, subcutaneous doses of 0.3, 1 and 3 mg/kg/day [2-, 11-, and 30- fold the maximum recommended human dose (MRHD) of 2 mg/week, based on AUC] were administered to the males, and 0.1, 0.3 and 1 mg/kg/day (1-, 2-, and 7-fold MRHD) were administered to

the females. A statistically significant increase in thyroid C-cell adenomas and a numerical increase in C-cell carcinomas were observed in males and females at clinically relevant exposures.

In a 2-year carcinogenicity study in Sprague Dawley rats, subcutaneous doses of 0.0025, 0.01, 0.025 and 0.1 mg/kg/day were administered (below quantification, 0.2-, 0.5-, and 3-fold the exposure at the MRHD). A statistically significant increase in thyroid C-cell adenomas was observed in males and females at all dose levels, and a statistically significant increase in thyroid C-cell carcinomas was observed in males at ≥ 0.01 mg/kg/day, at clinically relevant exposures.

Human relevance of thyroid C-cell tumors in rats is unknown and could not be determined by clinical studies or nonclinical studies [see *Boxed Warning, Warnings and Precautions (5.1)*].

Semaglutide was not mutagenic or clastogenic in a standard battery of genotoxicity tests (bacterial mutagenicity (Ames), human lymphocyte chromosome aberration, rat bone marrow micronucleus).

In a combined fertility and embryo-fetal development study in rats, subcutaneous doses of 0.01, 0.03 and 0.09 mg/kg/day (0.06-, 0.2-, and 0.6-fold the MRHD) were administered to male and female rats. Males were dosed for 4 weeks prior to mating, and females were dosed for 2 weeks prior to mating and throughout organogenesis until Gestation Day 17. No effects were observed on male fertility. In females, an increase in estrus cycle length was observed at all dose levels, together with a small reduction in numbers of corpora lutea at ≥ 0.03 mg/kg/day. These effects were likely an adaptive response secondary to the pharmacological effect of semaglutide on food consumption and body weight.

14 CLINICAL STUDIES

14.1 Glycemic Control Trials in Adults with Type 2 Diabetes Mellitus

OZEMPIC has been studied as monotherapy and in combination with metformin, metformin and sulfonylureas, metformin and/or thiazolidinedione, and basal insulin in patients with type 2 diabetes mellitus. The efficacy of OZEMPIC was compared with placebo, sitagliptin, exenatide extended-release (ER), and insulin glargine.

Most trials evaluated the use of OZEMPIC 0.5 mg, and 1 mg, with the exception of the trial comparing OZEMPIC and exenatide ER where only the 1 mg dose was studied. One trial evaluated the use of OZEMPIC 2 mg once weekly.

In patients with type 2 diabetes mellitus, OZEMPIC produced clinically relevant reduction from baseline in HbA_{1c} compared with placebo.

The efficacy of OZEMPIC was not impacted by age, gender, race, ethnicity, BMI at baseline, body weight (kg) at baseline, diabetes duration and level of renal function impairment.

Monotherapy Use of OZEMPIC in Adults with Type 2 Diabetes Mellitus

In a 30-week double-blind trial (NCT02054897), 388 patients with type 2 diabetes mellitus inadequately controlled with diet and exercise were randomized to OZEMPIC 0.5 mg or OZEMPIC 1 mg once weekly or placebo. Patients had a mean age of 54 years and 54% were men. The mean duration of type 2 diabetes was 4.2 years, and the mean BMI was 33 kg/m². Overall, 64% were White, 8% were Black or African American, and 21% were Asian; 30% identified as Hispanic or Latino ethnicity.

Monotherapy with OZEMPIC 0.5 mg and 1 mg once weekly for 30 weeks resulted in a statistically significant reduction in HbA_{1c} compared with placebo (see **Table 3**).

Table 3. Results at Week 30 in a Trial of OZEMPIC as Monotherapy in Adult Patients with Type 2

Diabetes Mellitus Inadequately Controlled with Diet and Exercise

	Placebo	OZEMPIC 0.5 mg	OZEMPIC 1 mg
Intent-to-Treat (ITT) Population (N) ^a	129	128	130
HbA _{1c} (%)			
Baseline (mean)	8	8.1	8.1
Change at week 30 ^b	-0.1	-1.4	-1.6
Difference from placebo ^b [95% CI]		-1.2 [-1.5, -0.9] ^c	-1.4 [-1.7, -1.1] ^c
Patients (%) achieving HbA _{1c} <7%	28	73	70
FPG (mg/dL)			
Baseline (mean)	174	174	179
Change at week 30 ^b	-15	-41	-44

^a The intent-to-treat population includes all randomized and exposed patients. At week 30 the primary HbA_{1c} endpoint was missing for 10%, 7% and 7% of patients and during the trial rescue medication was initiated by 20%, 5% and 4% of patients randomized to placebo, OZEMPIC 0.5 mg and OZEMPIC 1 mg, respectively. Missing data were imputed using multiple imputation based on retrieved dropouts.

^b Intent-to-treat analysis using ANCOVA adjusted for baseline value and country.

^c $p < 0.0001$ (2-sided) for superiority, adjusted for multiplicity.

The mean baseline body weight was 89.1 kg, 89.8 kg, 96.9 kg in the placebo, OZEMPIC 0.5 mg, and OZEMPIC 1 mg arms, respectively. The mean changes from baseline to week 30 were -1.2 kg, -3.8 kg and -4.7 kg in the placebo, OZEMPIC 0.5 mg, and OZEMPIC 1 mg arms, respectively. The difference from placebo (95% CI) for OZEMPIC 0.5 mg was -2.6 kg (-3.8, -1.5), and for OZEMPIC 1 mg was -3.5 kg (-4.8, -2.2).

Combination Therapy Use of OZEMPIC in Adults with Type 2 Diabetes Mellitus

Combination with metformin and/or thiazolidinediones

In a 56-week, double-blind trial (NCT01930188), 1231 patients with type 2 diabetes mellitus were randomized to OZEMPIC 0.5 mg once weekly, OZEMPIC 1 mg once weekly, or sitagliptin 100 mg once daily, all in combination with metformin (94%) and/or thiazolidinediones (6%). Patients had a mean age of 55 years and 51% were men. The mean duration of type 2 diabetes was 6.6 years, and the mean BMI was 32 kg/m². Overall, 68% were White, 5% were Black or African American, and 25% were Asian; 17% identified as Hispanic or Latino ethnicity.

Treatment with OZEMPIC 0.5 mg and 1 mg once weekly for 56 weeks resulted in a statistically significant reduction in HbA_{1c} compared to sitagliptin (see **Table 4** and **Figure 5**).

Table 4. Results at Week 56 in a Trial of OZEMPIC Compared to Sitagliptin in Adult Patients with Type 2 Diabetes Mellitus in Combination with Metformin and/or Thiazolidinediones

	OZEMPIC 0.5 mg	OZEMPIC 1 mg	Sitagliptin
Intent-to-Treat (ITT) Population (N) ^a	409	409	407
HbA _{1c} (%)			
Baseline (mean)	8	8	8.2
Change at week 56 ^b	-1.3	-1.5	-0.7

Difference from sitagliptin ^b [95% CI]	-0.6 [-0.7, -0.4] ^c	-0.8 [-0.9, -0.6] ^c	
Patients (%) achieving HbA _{1c} <7%	66	73	40
FPG (mg/dL)			
Baseline (mean)	168	167	173
Change at week 56 ^b	-35	-43	-23

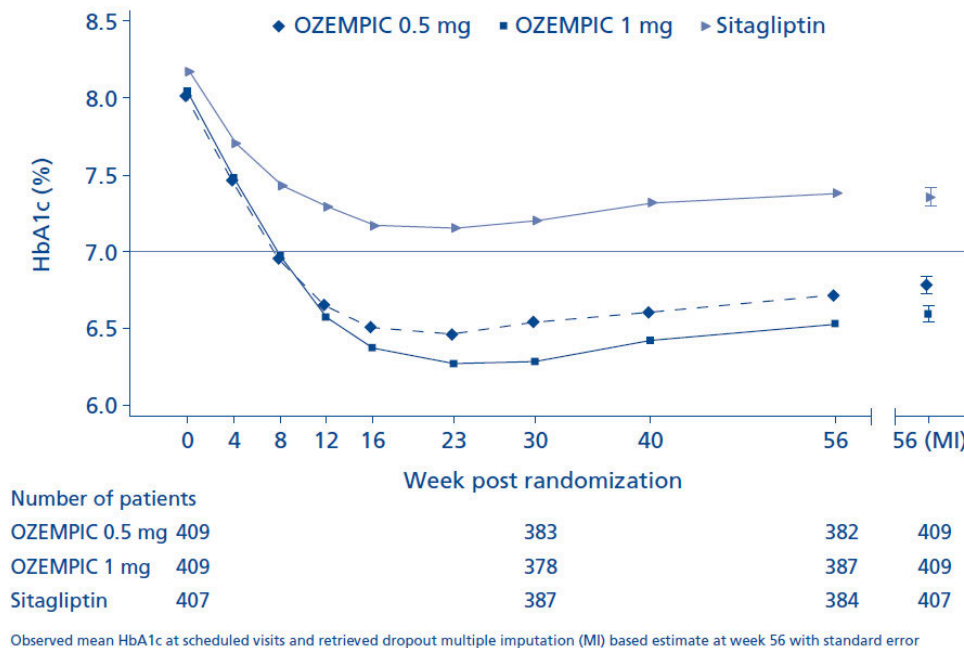
^a The intent-to-treat population includes all randomized and exposed patients. At week 56 the primary HbA_{1c} endpoint was missing for 7%, 5% and 6% of patients and during the trial rescue medication was initiated by 5%, 2% and 19% of patients randomized to OZEMPIC 0.5 mg, OZEMPIC 1 mg and sitagliptin, respectively. Missing data were imputed using multiple imputation based on retrieved dropouts.

^b Intent-to-treat analysis using ANCOVA adjusted for baseline value and country.

^c $p < 0.0001$ (2-sided) for superiority, adjusted for multiplicity.

The mean baseline body weight was 89.9 kg, 89.2 kg, 89.3 kg in the OZEMPIC 0.5 mg, OZEMPIC 1 mg, and sitagliptin arms, respectively. The mean changes from baseline to week 56 were -4.2 kg, -5.5 kg, and -1.7 kg for the OZEMPIC 0.5 mg, OZEMPIC 1 mg, and sitagliptin arms, respectively. The difference from sitagliptin (95% CI) for OZEMPIC 0.5 mg was -2.5 kg (-3.2, -1.8), and for OZEMPIC 1 mg was -3.8 kg (-4.5, -3.1).

Figure 5. Mean HbA_{1c} (%) Over Time - Baseline to Week 56



Combination with metformin or metformin with sulfonylurea

In a 56-week, open-label trial (NCT01885208), 813 patients with type 2 diabetes mellitus on metformin alone (49%), metformin with sulfonylurea (45%), or other (6%) were randomized to OZEMPIC 1 mg once weekly or exenatide 2 mg once weekly. Patients had a mean age of 57 years and 55% were men. The mean duration of type 2 diabetes was 9 years, and the mean BMI was 34 kg/m². Overall, 84% were White, 7% were Black or African American, and 2% were Asian; 24% identified as Hispanic or Latino ethnicity.

Treatment with OZEMPIC 1 mg once weekly for 56 weeks resulted in a statistically significant reduction in HbA_{1c} compared to exenatide 2 mg once weekly (see **Table 5**).

Table 5. Results at Week 56 in a Trial of OZEMPIC Compared to Exenatide 2 mg Once Weekly in Adult Patients with Type 2 Diabetes Mellitus in Combination with Metformin or Metformin with

Sulfonylurea

	OZEMPIC 1 mg	Exenatide ER 2 mg
Intent-to-Treat (ITT) Population (N) ^a	404	405
HbA _{1c} (%)		
Baseline (mean)	8.4	8.3
Change at week 56 ^b	-1.4	-0.9
Difference from exenatide ^b [95% CI]	-0.5 [-0.7, -0.3] ^c	
Patients (%) achieving HbA _{1c} <7%	62	40
FPG (mg/dL)		
Baseline (mean)	191	188
Change at week 56 ^b	-44	-34

^a The intent-to-treat population includes all randomized and exposed patients. At week 56 the primary HbA_{1c} endpoint was missing for 9% and 11% of patients and during the trial rescue medication was initiated by 5% and 10% of patients randomized to OZEMPIC 1 mg and exenatide ER 2 mg, respectively. Missing data were imputed using multiple imputation based on retrieved dropouts.

^b Intent-to-treat analysis using ANCOVA adjusted for baseline value and country.

^c $p < 0.0001$ (2-sided) for superiority, adjusted for multiplicity.

The mean baseline body weight was 96.2 kg and 95.4 kg in the OZEMPIC 1 mg and exenatide ER arms, respectively. The mean changes from baseline to week 56 were -4.8 kg and -2 kg in the OZEMPIC 1 mg and exenatide ER arms, respectively. The difference from exenatide ER (95% CI) for OZEMPIC 1 mg was -2.9 kg (-3.6, -2.1).

Combination with metformin or metformin with sulfonylurea

In a 30-week, open-label trial (NCT02128932), 1089 patients with type 2 diabetes mellitus were randomized to OZEMPIC 0.5 mg once weekly, OZEMPIC 1 mg once weekly, or insulin glargine once daily on a background of metformin (48%) or metformin and sulfonylurea (51%). Patients had a mean age of 57 years and 53% were men. The mean duration of type 2 diabetes was 8.6 years, and the mean BMI was 33 kg/m². Overall, 77% were White, 9% were Black or African American, and 11% were Asian; 20% identified as Hispanic or Latino ethnicity.

Patients assigned to insulin glargine had a baseline mean HbA_{1c} of 8.1% and were started on a dose of 10 U once daily. Insulin glargine dose adjustments occurred throughout the trial period based on self-measured fasting plasma glucose before breakfast, targeting 71 to <100 mg/dL. In addition, investigators could titrate insulin glargine at their discretion between study visits. Only 26% of patients had been titrated to goal by the primary endpoint at week 30, at which time the mean daily insulin dose was 29 U per day.

Treatment with OZEMPIC 0.5 mg and 1 mg once weekly for 30 weeks resulted in a statistically significant reduction in HbA_{1c} compared with the insulin glargine titration implemented in this study protocol (see **Table 6**).

Table 6. Results at Week 30 in a Trial of OZEMPIC Compared to Insulin Glargine in Adult Patients with Type 2 Diabetes Mellitus in Combination with Metformin or Metformin with Sulfonylurea

	OZEMPIC 0.5 mg	OZEMPIC 1 mg	Insulin Glargine
Intent-to-Treat (ITT) Population (N) ^a	362	360	360
HbA _{1c} (%)			

Baseline (mean)	8.1	8.2	8.1
Change at week 30 ^b	-1.2	-1.5	-0.9
Difference from insulin glargine ^b [95% CI]	-0.3 [-0.5, -0.1] ^c	-0.6 [-0.8, -0.4] ^c	
Patients (%) achieving HbA _{1c} <7%	55	66	40
FPG (mg/dL)			
Baseline (mean)	172	179	174
Change at week 30 ^b	-35	-46	-37

^a The intent-to-treat population includes all randomized and exposed patients. At week 30 the primary HbA_{1c} endpoint was missing for 8%, 6% and 6% of patients and during the trial rescue medication was initiated by 4%, 3% and 1% of patients randomized to OZEMPIC 0.5 mg, OZEMPIC 1 mg and insulin glargine, respectively. Missing data were imputed using multiple imputation based on retrieved dropouts.

^b Intent-to-treat analysis using ANCOVA adjusted for baseline value, country and stratification factors.

^c $p < 0.0001$ (2-sided) for superiority, adjusted for multiplicity.

The mean baseline body weight was 93.7 kg, 94 kg, 92.6 kg in the OZEMPIC 0.5 mg, OZEMPIC 1 mg, and insulin glargine arms, respectively. The mean changes from baseline to week 30 were -3.2 kg, -4.7 kg and 0.9 kg in the OZEMPIC 0.5 mg, OZEMPIC 1 mg, and insulin glargine arms, respectively. The difference from insulin glargine (95% CI) for OZEMPIC 0.5 mg was -4.1 kg (-4.9, -3.3) and for OZEMPIC 1 mg was -5.6 kg (-6.4, -4.8).

Combination with metformin or metformin with sulfonylurea

In a 40-week, double-blind trial (NCT03989232), 961 patients with type 2 diabetes currently treated with metformin with or without sulfonylurea treatment were randomized to OZEMPIC 2 mg or OZEMPIC 1 mg once weekly. Patients had a mean age of 58 years and 58.6% were men. The mean duration of type 2 diabetes was 9.5 years and the mean BMI was 34.6 kg/m². At randomization, 53.3% of patients were treated with sulfonylurea and metformin. Overall, 88.1% were White, 4.5% were Black or African American, and 7.2% were Asian; 11.6% identified as Hispanic or Latino ethnicity. Treatment with OZEMPIC 2 mg once weekly for 40 weeks resulted in a statistically significant reduction in HbA_{1c} compared with OZEMPIC 1 mg (see **Table 7**). Patients were stratified by region (Japan/outside Japan) at randomization.

Table 7. Results at Week 40 in a Trial of OZEMPIC 2 mg Compared to OZEMPIC 1 mg in Adult Patients with Type 2 Diabetes Mellitus in Combination With Metformin or Metformin with Sulfonylurea

	OZEMPIC 1 mg	OZEMPIC 2 mg
Intent-to-Treat (ITT) Population (N) ^a	481	480
HbA _{1c} (%)		
Baseline (mean)	8.8	8.9
Change at week 40 ^b	-1.9	-2.1
Difference from OZEMPIC 1 mg [95% CI]		-0.2 [-0.31 ; -0.04] ^c
Patients (%) achieving HbA _{1c} <7% ^a	56	64
FPG (mg/dL)		
Baseline (mean)	196	193
Change at week 40 ^b	-55	-59

^a The intent-to-treat population includes all randomized subjects. At week 40 the primary HbA_{1c} endpoint was missing for 3% and 5% of patients randomized to OZEMPIC 1 mg and OZEMPIC 2 mg, respectively. Missing data were imputed using multiple imputation based on retrieved dropouts. For calculation of proportions, imputed values are dichotomized and the denominator is the number of all randomized subjects.

^b Intent-to-treat analysis using ANCOVA adjusted for baseline value and stratification factor.

^c $p < 0.01$ (2-sided) for superiority, adjusted for multiplicity.

The mean baseline body weight was 98.6 kg and 100.1 kg in the OZEMPIC 1 mg and OZEMPIC 2 mg arms, respectively. The mean changes from baseline to week 40 were -5.6 kg and -6.4 kg in the OZEMPIC 1 mg and OZEMPIC 2 mg arms, respectively. The difference between treatment arms in body weight change from baseline at week 40 was not statistically significant.

Combination with basal insulin

In a 30-week, double-blind trial (NCT02305381), 397 patients with type 2 diabetes mellitus inadequately controlled with basal insulin, with or without metformin, were randomized to OZEMPIC 0.5 mg once weekly, OZEMPIC 1 mg once weekly, or placebo. Patients with HbA_{1c} ≤8.0% at screening reduced their insulin dose by 20% at start of the trial to reduce the risk of hypoglycemia. Patients had a mean age of 59 years and 56% were men. The mean duration of type 2 diabetes was 13 years, and the mean BMI was 32 kg/m². Overall, 78% were White, 5% were Black or African American, and 17% were Asian; 12% identified as Hispanic or Latino ethnicity.

Treatment with OZEMPIC resulted in a statistically significant reduction in HbA_{1c} after 30 weeks of treatment compared to placebo (see **Table 8**).

Table 8. Results at Week 30 in a Trial of OZEMPIC in Adult Patients with Type 2 Diabetes Mellitus in Combination with Basal Insulin with or without Metformin

	Placebo	OZEMPIC 0.5 mg	OZEMPIC 1 mg
Intent-to-Treat (ITT) Population (N) ^a	133	132	131
HbA _{1c} (%)			
Baseline (mean)	8.4	8.4	8.3
Change at week 30 ^b	-0.2	-1.3	-1.7
Difference from placebo ^b [95% CI]		-1.1 [-1.4, -0.8] ^c	-1.6 [-1.8, -1.3] ^c
Patients (%) achieving HbA _{1c} <7%	13	56	73
FPG (mg/dL)			
Baseline (mean)	154	161	153
Change at week 30 ^b	-8	-28	-39

^a The intent-to-treat population includes all randomized and exposed patients. At week 30 the primary HbA_{1c} endpoint was missing for 7%, 5% and 5% of patients and during the trial rescue medication was initiated by 14%, 2% and 1% of patients randomized to placebo, OZEMPIC 0.5 mg and OZEMPIC 1 mg, respectively. Missing data were imputed using multiple imputation based on retrieved dropouts.

^b Intent-to-treat analysis using ANCOVA adjusted for baseline value, country and stratification factors.

^c *p*<0.0001 (2-sided) for superiority, adjusted for multiplicity.

The mean baseline body weight was 89.9 kg, 92.7 kg, and 92.5 kg in the placebo, OZEMPIC 0.5 mg, and OZEMPIC 1 mg arms, respectively. The mean changes from baseline to week 30 were -1.2 kg, -3.5 kg, and -6 kg in the placebo, OZEMPIC 0.5 mg, and OZEMPIC 1 mg arms, respectively. The difference from placebo (95% CI) for OZEMPIC 0.5 mg was -2.2 kg (-3.4, -1.1), and for OZEMPIC 1 mg was -4.7 kg (-5.8, -3.6).

14.2 Cardiovascular Outcomes Trial of OZEMPIC in Adults with Type 2 Diabetes Mellitus and Cardiovascular Disease

SUSTAIN 6 (NCT01720446) was a multi-center, multi-national, placebo-controlled, double-blind cardiovascular outcomes trial. In this trial, 3,297 patients with inadequately controlled type 2 diabetes and atherosclerotic cardiovascular disease were randomized to OZEMPIC (0.5 mg or 1 mg) once weekly or placebo for a minimum observation time of 2 years. The trial compared the risk of Major Adverse Cardiovascular Event (MACE) between semaglutide and placebo when these were added to and used

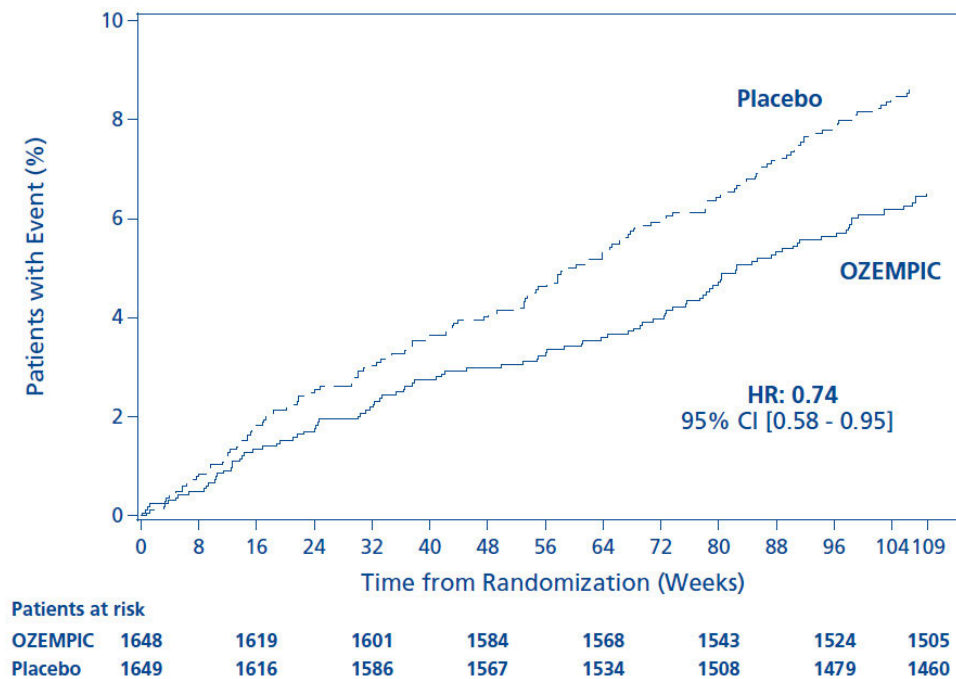
concomitantly with standard of care treatments for diabetes and cardiovascular disease. The primary endpoint, MACE, was the time to first occurrence of a three-part composite outcome which included cardiovascular death, non-fatal myocardial infarction and non-fatal stroke.

Patients eligible to enter the trial were; 50 years of age or older and had established, stable, cardiovascular, cerebrovascular, peripheral artery disease, chronic kidney disease or NYHA class II and III heart failure or were 60 years of age or older and had other specified risk factors for cardiovascular disease. In total, 1,940 patients (58.8%) had established cardiovascular disease without chronic kidney disease, 353 (10.7%) had chronic kidney disease only, and 442 (13.4%) had both cardiovascular disease and kidney disease; 562 patients (17%) had cardiovascular risk factors without established cardiovascular disease or chronic kidney disease. In the trial 453 patients (13.7%) had peripheral artery disease. The mean age at baseline was 65 years, and 61% were men. The mean duration of diabetes was 13.9 years, and mean BMI was 33 kg/m². Overall, 83% were White, 7% were Black or African American, and 8% were Asian; 16% identified as Hispanic or Latino ethnicity. Concomitant diseases of patients in this trial included, but were not limited to, heart failure (24%), hypertension (93%), history of ischemic stroke (12%) and history of a myocardial infarction (33%). In total, 98.0% of the patients completed the trial and the vital status was known at the end of the trial for 99.6%.

For the primary analysis, a Cox proportional hazards model was used to test for non-inferiority of OZEMPIC to placebo for time to first MACE using a risk margin of 1.3. The statistical analysis plan pre specified that the 0.5 mg and 1 mg doses would be combined. Type-1 error was controlled across multiple tests using a hierarchical testing strategy.

OZEMPIC significantly reduced the occurrence of MACE. The estimated hazard ratio for time to first MACE was 0.74 (95% CI: 0.58, 0.95). Refer to **Figure 6** and **Table 9**.

Figure 6. Kaplan-Meier: Time to First Occurrence of a MACE in the SUSTAIN 6 Trial



The treatment effect for the primary composite endpoint and its components in the SUSTAIN 6 trial is shown in **Table 9**.

Table 9. Treatment Effect for MACE and its Components, Median Study Observation Time of 2.1 Years

	Placebo N=1649 (%)	OZEMPIC N=1648 (%)	Hazard ratio vs Placebo (95% CI)^a
Composite of cardiovascular death, non-fatal myocardial infarction, non-fatal stroke (time to first occurrence)	146 (8.9)	108 (6.6)	0.74 (0.58, 0.95)
Non-fatal Myocardial Infarction	64 (3.9)	47 (2.9)	0.74 (0.51, 1.08)
Non-fatal Stroke	44 (2.7)	27 (1.6)	0.61 (0.38, 0.99)
Cardiovascular Death	46 (2.8)	44 (2.7)	0.98 (0.65, 1.48)
Fatal or Non-fatal Myocardial Infarction	67 (4.1)	54 (3.3)	0.81 (0.57, 1.16)
Fatal or Non-fatal Stroke	46 (2.8)	30 (1.8)	0.65 (0.41, 1.03)

^a Cox-proportional hazards models with treatment as factor and stratified by evidence of cardiovascular disease, insulin treatment and renal impairment.

14.3 Kidney Outcomes Trial of OZEMPIC in Adults with Type 2 Diabetes Mellitus and Chronic Kidney Disease

FLOW (NCT03819153) was a randomized, double-blind, placebo-controlled, event driven trial in adults with type 2 diabetes mellitus and chronic kidney disease (eGFR 25 to 75 mL/min/1.73 m² with urine albumin-to-creatinine ratio [UACR] >100 mg/g and <5000 mg/g). All patients needed to have an HbA_{1c} ≤10% at screening and be receiving standard of care background therapy, including a maximum tolerated labeled dose of a renin-angiotensin-aldosterone system (RAAS) blocking agent including an angiotensin converting enzyme (ACE) inhibitor or an angiotensin II receptor blocker (ARB), unless such treatment was contraindicated or not tolerated. The trial excluded patients with congenital or hereditary kidney diseases including polycystic kidney disease, autoimmune kidney diseases including glomerulonephritis or congenital urinary tract malformations.

A total of 3,533 patients were randomized to receive OZEMPIC 1 mg once weekly or placebo and were followed for a median of 41 months. The mean age of the study population was 67 years, and 70% of patients were male. Approximately 66% of the trial population was White, 24% Asian, and 5% Black or African American. At baseline, the mean eGFR was 47 mL/min/1.73m², with 11% of patients having an eGFR <30 mL/min/1.73m². Median baseline UACR was 568 mg/g with 69% of patients with a UACR >300 mg/g. At baseline, 95% of patients were treated with an ACE inhibitor or ARB, 16% were on sodium-glucose cotransporter 2 (SGLT2) inhibitors, 76% were on a statin, and 50% were on an antiplatelet agent.

OZEMPIC was superior to placebo in reducing the incidence of the primary composite endpoint of a sustained decline in eGFR of ≥50%, sustained eGFR <15 mL/min/1.73 m², chronic renal replacement therapy, renal death, CV death (HR 0.76 [95% CI 0.66, 0.88], p=0.0003) as shown in **Table 10** and **Figure 7**. The treatment effect reflected a reduction in a sustained decline in eGFR of ≥50%, progression to kidney failure and CV death. There were few renal deaths during the trial.

OZEMPIC also reduced the annual rate of change in eGFR (**Figure 9**), the incidence of a composite cardiovascular endpoint, consisting of non-fatal myocardial infarction (MI), non-fatal stroke, and cardiovascular death, and the incidence of all-cause death (**Table 10** and **Figure 8**).

The treatment effect on the primary composite endpoint was generally consistent across the pre-specified subgroups examined, including age, biological sex, eGFR and UACR. The treatment benefit on the primary composite endpoint was not evident in patients taking SGLT2 inhibitors at baseline, but there were few events in these patients.

Table 10: Analyses of the Primary and Secondary Endpoints and their Individual Components in

FLOW Trial

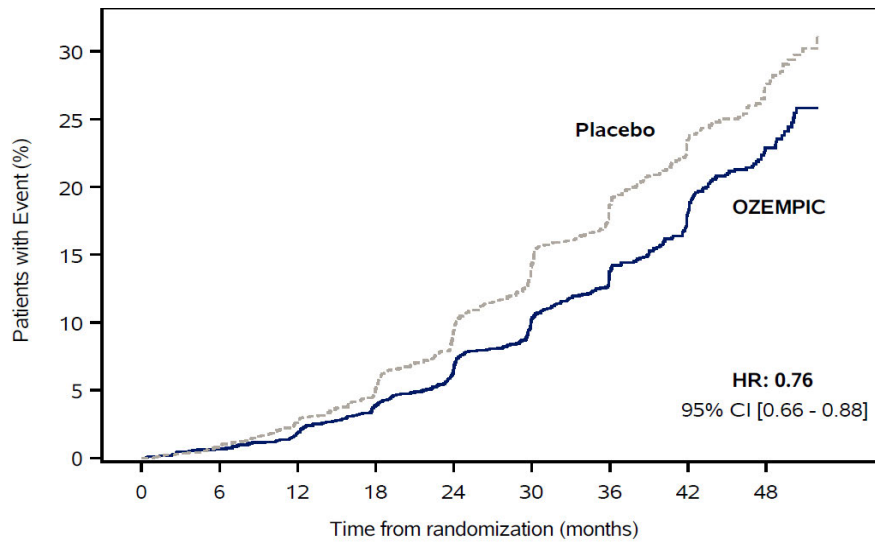
	Placebo N=1766 (%)	OZEMPIC 1 mg N=1767 (%)	Hazard ratio vs placebo (95% CI) ¹	p-value ²
	Number of Patients (%)			
Composite Endpoint ($\geq 50\%$ sustained eGFR decline, sustained eGFR < 15 mL/min/1.73 m ² , chronic renal replacement therapy, or renal or cardiovascular death (time to first occurrence) ³)	410 (23.2)	331 (18.7)	0.76 (0.66, 0.88)	0.0003
$\geq 50\%$ sustained eGFR decline ³	213 (12.1)	165 (9.3)	0.73 (0.59, 0.89)	
Sustained eGFR < 15 mL/min/1.73 m ² ³	110 (6.2)	92 (5.2)	0.8 (0.61, 1.06)	
Chronic renal replacement therapy	100 (5.7)	87 (4.9)	0.84 (0.63, 1.12)	
Renal death	5 (0.3)	5 (0.3)	0.97 (0.27, 3.49)	
Cardiovascular death	169 (9.6)	123 (7)	0.71 (0.56, 0.89)	
Composite of cardiovascular death, non-fatal myocardial infarction, non-fatal stroke (time to first occurrence)	254 (14.4)	212 (12)	0.82 (0.68, 0.98)	0.0289
All-cause death	279 (15.8)	227 (12.8)	0.8 (0.67, 0.95)	0.0104

¹ Cox proportional hazards model with treatment as factor and stratified by baseline use of SGLT2-inhibitor at baseline (yes or no).

² Two-sided p-value for the test of no difference. The significance level was 0.03224.

³ Sustained was defined as having 2 consecutive measurements ≥ 28 days apart fulfilling the criteria.

Figure 7. Cumulative Incidence: Time to First Occurrence of the Primary Composite Endpoint – Sustained Decline in eGFR $\geq 50\%$, Sustained eGFR < 15 mL/min/1.73m², Chronic Renal Replacement Therapy, Renal Death or CV Death



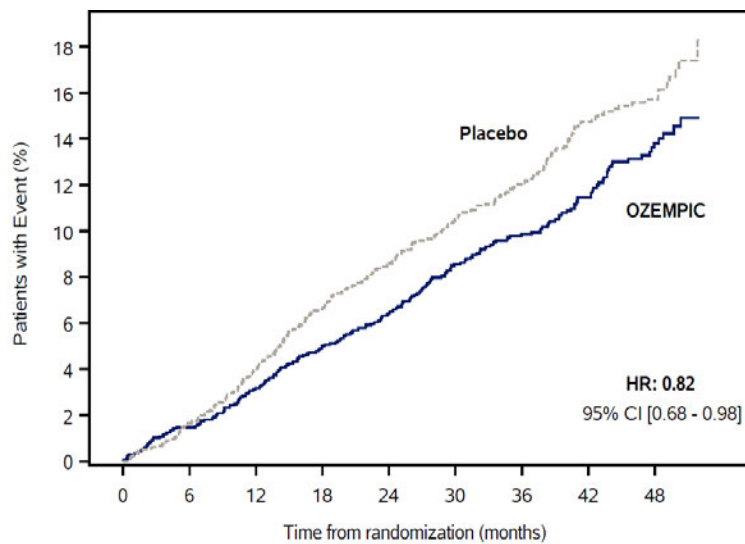
Patients at risk

OZEMPIC	1767	1738	1693	1640	1572	1489	1131	742	392
Placebo	1766	1736	1682	1605	1516	1408	1048	660	354

Cumulative incidence estimates are based on time from randomization to first composite renal event with non-CV and non-renal death modelled as competing risk. The x-axis is truncated at 52 months where approximately 5% of the population was in the trial.

Sustained was defined as having 2 consecutive measurements ≥ 28 days apart fulfilling the criteria.

Figure 8. Cumulative incidence: Time to First Occurrence of MACE in FLOW Trial

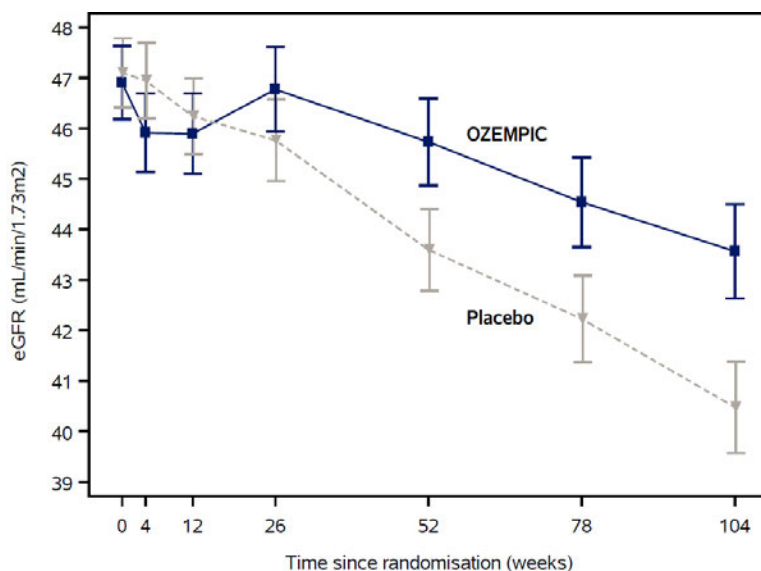


Patients at risk

OZEMPIC	1767	1725	1672	1622	1575	1515	1176	793	430
Placebo	1766	1721	1663	1583	1535	1478	1133	731	418

Cumulative incidence estimates are based on time from randomization to first EAC-confirmed MACE with non-CV death modelled as competing risk. The x-axis is truncated at 52 months where approximately 5% of the population was in the trial.

Figure 9. Observed Mean Plot: eGFR (mL/min/1.73m²) by Week in FLOW Trial



Number of patients	
OZEMPIC	1766 1591 1607 1522 1469
Placebo	1766 1573 1609 1490 1441

Observed data from the in-trial period until week 104. Error bars are +/- 1.96 *standard error of the mean eGFR, which was calculated using the CKD-EPI 2009 formula.

CKD-EPI: Chronic Kidney Disease Epidemiology Collaboration, eGFR: estimated glomerular filtration rate.

16 HOW SUPPLIED/STORAGE AND HANDLING

How Supplied

Injection: clear, colorless solution of 0.68 mg/mL, 1.34 mg/mL or 2.68 mg/mL of semaglutide available in prefilled, disposable, single-patient-use pens in the following packaging configurations:

Dose per Injection	Use For	Total Strength per Total Volume	Doses per Pen	Carton Contents	NDC
0.25 mg	Initiation	2 mg/3 mL	4 doses of 0.25 mg and 2 doses of 0.5 mg	1 pen 6 NovoFine® Plus needles	0169-4181-13
0.5 mg	Maintenance		4 doses of 0.5 mg		
1 mg	Maintenance	4 mg/3 mL	4 doses of 1 mg	1 pen 4 NovoFine® Plus needles	0169-4130-13
2 mg	Maintenance	8 mg/3 mL	4 doses of 2 mg	1 pen 4 NovoFine® Plus needles	0169-4772-12

The 2 mg/1.5 mL (1.34 mg/mL) strength (NDC 0169-4132-12) is not currently marketed by Novo Nordisk Inc.

Each OZEMPIC pen is for use by a single patient. An OZEMPIC pen must never be shared between patients, even if the needle is changed [see Warnings and Precautions (5.4)].

Recommended Storage

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.

Recommended Storage Conditions for the OZEMPIC Pen

Prior to first use	After first use	
Refrigerated 36°F to 46°F (2°C to 8°C)	Room Temperature 59°F to 86°F (15°C to 30°C)	Refrigerated 36°F to 46°F (2°C to 8°C)
Until expiration date	56 days	

17 PATIENT COUNSELING INFORMATION

Advise the patient to read the FDA-approved patient labeling (Medication Guide and Instructions for Use).

Risk of Thyroid C-cell Tumors

Inform patients that semaglutide causes thyroid C-cell tumors in rodents and that the human relevance of this finding has not been determined. Counsel patients to report symptoms of thyroid tumors (e.g., a lump in the neck, hoarseness, dysphagia, or dyspnea) to their physician [see *Boxed Warning, Warnings and Precautions (5.1)*].

Acute Pancreatitis

Inform patients of the potential risk for acute pancreatitis and its symptoms: severe abdominal pain that may radiate to the back, and which may or may not be accompanied by nausea or vomiting. Instruct patients to discontinue OZEMPIC promptly and contact their physician if pancreatitis is suspected [see *Warnings and Precautions (5.2)*].

Diabetic Retinopathy Complications

Inform patients to contact their physician if changes in vision are experienced during treatment with OZEMPIC [see *Warnings and Precautions (5.3)*].

Never Share an OZEMPIC Pen Between Patients

Advise patients that they must never share an OZEMPIC pen with another person, even if the needle is changed, because doing so carries a risk for transmission of blood-borne pathogens [see *Warnings and Precautions (5.4)*].

Hypoglycemia with Concomitant Use of Insulin Secretagogues or Insulin

Inform patients that the risk of hypoglycemia is increased when OZEMPIC is used with an insulin secretagogue (such as a sulfonylurea) or insulin. Educate patients on the signs and symptoms of hypoglycemia [see *Warnings and Precautions (5.5)*].

Acute Kidney Injury Due to Volume Depletion

Inform patients of the potential risk of acute kidney injury due to dehydration associated with gastrointestinal adverse reactions. Advise patients to take precautions to avoid fluid depletion. Inform patients of the signs and symptoms of acute kidney injury and instruct them to promptly report any of these signs or symptoms or persistent (or extended) nausea, vomiting, and diarrhea to their healthcare provider [see *Warnings and Precautions (5.6)*].

Severe Gastrointestinal Adverse Reactions

Inform patients of the potential risk of severe gastrointestinal adverse reactions. Instruct patients to contact their healthcare provider if they have severe or persistent gastrointestinal symptoms [see *Warnings and Precautions (5.7)*]

Hypersensitivity Reactions

Inform patients that serious hypersensitivity reactions have been reported during postmarketing use of OZEMPIC. Advise patients on the symptoms of hypersensitivity reactions and instruct them to stop taking OZEMPIC and seek medical advice promptly if such symptoms occur [see *Warnings and Precautions (5.8)*].

Acute Gallbladder Disease

Inform patients of the potential risk for cholelithiasis or cholecystitis. Instruct patients to contact their physician if cholelithiasis or cholecystitis is suspected for appropriate clinical follow-up [see *Warnings and Precautions (5.9)*].

Pulmonary Aspiration During General Anesthesia or Deep Sedation

Inform patients that OZEMPIC may cause their stomach to empty more slowly which may lead to complications with anesthesia or deep sedation during planned surgeries or procedures. Instruct patients to inform healthcare providers prior to any planned surgeries or procedures if they are taking OZEMPIC [see *Warnings and Precautions (5.10)*].

Pregnancy

Advise a pregnant woman of the potential risk to a fetus. Advise women to inform their healthcare provider if they are pregnant or intend to become pregnant [see *Use in Specific Populations (8.1, 8.3)*].

Missed doses

Inform patients if a dose is missed, it should be administered as soon as possible within 5 days after the missed dose. If more than 5 days have passed, the missed dose should be skipped and the next dose should be administered on the regularly scheduled day. In each case, inform patients to resume their regular once-weekly dosing schedule [see *Dosage and Administration (2.1)*].

Manufactured by:

Novo Nordisk A/S DK-2880 Bagsvaerd Denmark

For information about OZEMPIC contact:

Novo Nordisk Inc.

800 Scudders Mill Road Plainsboro, NJ 08536

1-888-693-6742

OZEMPIC[®] and NovoFine[®] are registered trademarks of Novo Nordisk A/S.

PATENT INFORMATION: <http://www.novonordisk-us.com/products/product-patents.html>

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Medication Guide
OZEMPIC® (oh-ZEM-pick)

(semaglutide)
injection, for subcutaneous use

Do not share your OZEMPIC pen with other people, even if the needle has been changed. You may give other people a serious infection, or get a serious infection from them.

Read this Medication Guide before you start using OZEMPIC and each time you get a refill. There may be new information. This information does not take the place of talking to your healthcare provider about your medical condition or your treatment.

What is the most important information I should know about OZEMPIC?

OZEMPIC may cause serious side effects, including:

- **Possible thyroid tumors, including cancer.** Tell your healthcare provider if you get a lump or swelling in your neck, hoarseness, trouble swallowing, or shortness of breath. These may be symptoms of thyroid cancer. In studies with rodents, OZEMPIC and medicines that work like OZEMPIC caused thyroid tumors, including thyroid cancer. It is not known if OZEMPIC will cause thyroid tumors or a type of thyroid cancer called medullary thyroid carcinoma (MTC) in people.
- Do not use OZEMPIC if you or any of your family have ever had a type of thyroid cancer called medullary thyroid carcinoma (MTC), or if you have an endocrine system condition called Multiple Endocrine Neoplasia syndrome type 2 (MEN 2).

What is OZEMPIC?

OZEMPIC is an injectable prescription medicine used:

- along with diet and exercise to improve blood sugar (glucose) in adults with type 2 diabetes mellitus.
- to reduce the risk of major cardiovascular events such as heart attack, stroke or death in adults with type 2 diabetes mellitus with known heart disease.
- to reduce the risk of kidney disease worsening, kidney failure (end-stage kidney disease), and death due to cardiovascular disease in adults with type 2 diabetes mellitus and chronic kidney disease.

It is not known if OZEMPIC is safe and effective for use in children.

Do not use OZEMPIC if:

- you or any of your family have ever had a type of thyroid cancer called medullary thyroid carcinoma (MTC) or if you have an endocrine system condition called Multiple Endocrine Neoplasia syndrome type 2 (MEN 2).
- you have had a serious allergic reaction to semaglutide or any of the ingredients in OZEMPIC. See the end of this Medication Guide for a complete list of ingredients in OZEMPIC. See **“What are the possible side effects of OZEMPIC?”** for symptoms of a serious allergic reaction.

Before using OZEMPIC, tell your healthcare provider if you have any other medical conditions, including if you:

- have or have had problems with your pancreas.
- have a history of diabetic retinopathy.
- have severe problems with your stomach, such as slowed emptying of your stomach (gastroparesis) or problems with digesting food.
- are scheduled to have surgery or other procedures that use anesthesia or deep sleepiness (deep sedation).
- are pregnant or plan to become pregnant. It is not known if OZEMPIC will harm your unborn baby. You should stop using OZEMPIC at least 2 months before you plan to become pregnant. Talk to your healthcare provider about the best way to control your blood sugar if you plan to become pregnant or while you are pregnant.
- are breastfeeding or plan to breastfeed. It is not known if OZEMPIC passes into your breast milk. You should talk with your healthcare provider about the best way to feed your baby while using OZEMPIC.

Tell your healthcare provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements. OZEMPIC may affect the way some medicines work and some medicines may affect the way OZEMPIC works.

Before using OZEMPIC, talk to your healthcare provider about low blood sugar and how to manage it. Tell your healthcare provider if you are taking other medicines to treat diabetes, including insulin or sulfonylureas.

Know the medicines you take. Keep a list of them to show your healthcare provider and pharmacist when you get a new medicine.

How should I use OZEMPIC?

- Read the **Instructions for Use** that comes with OZEMPIC.
- Use OZEMPIC exactly as your healthcare provider tells you to.
- **Your healthcare provider should show you how to use OZEMPIC before you use it for the first time.**

- OZEMPIC is injected under the skin (subcutaneously) of your stomach (abdomen), thigh, or upper arm. **Do not** inject OZEMPIC into a muscle (intramuscularly) or vein (intravenously).
- **Use OZEMPIC 1 time each week, on the same day each week, at any time of the day.**
- You may change the day of the week you use OZEMPIC as long as your last dose was given **2** or more days before.
- If you miss a dose of OZEMPIC, take the missed dose as soon as possible within **5** days after the missed dose. If more than **5** days have passed, skip the missed dose and take your next dose on the regularly scheduled day.
- OZEMPIC may be taken with or without food.
- **Do not** mix insulin and OZEMPIC together in the same injection.
- You may give an injection of OZEMPIC and insulin in the same body area (such as your stomach area), but not right next to each other.
- Change (rotate) your injection site with each injection. **Do not** use the same site for each injection.
- **Do not share your OZEMPIC pen with other people, even if the needle has been changed.** You may give other people a serious infection, or get a serious infection from them.
- If you take too much OZEMPIC, call your healthcare provider or Poison Help line at 1-800-222-1222 or go to the nearest hospital emergency room right away.

What are the possible side effects of OZEMPIC?

OZEMPIC may cause serious side effects, including:

- **See “What is the most important information I should know about OZEMPIC?”**
- **inflammation of your pancreas (pancreatitis).** Stop using OZEMPIC and call your healthcare provider right away if you have severe pain in your stomach area (abdomen) that will not go away, with or without vomiting. You may feel the pain from your abdomen to your back.
- **changes in vision.** Tell your healthcare provider if you have changes in vision during treatment with OZEMPIC.
- **low blood sugar (hypoglycemia).** Your risk for getting low blood sugar may be higher if you use OZEMPIC with another medicine that can cause low blood sugar, such as a sulfonylurea or insulin. **Signs and symptoms of low blood sugar may include:**
 - dizziness or light-headedness
 - sweating
 - confusion or drowsiness
 - headache
 - blurred vision
 - slurred speech
 - shakiness
 - fast heartbeat
 - anxiety, irritability, or mood changes
 - hunger
 - weakness
 - feeling jittery
- **Dehydration leading to kidney problems.** Diarrhea, nausea, and vomiting may cause a loss of fluids (dehydration) which may cause kidney problems. It is important for you to drink fluids to help reduce your chance of dehydration. Tell your healthcare provider right away if you have nausea, vomiting, or diarrhea that does not go away.
- **Severe stomach problems.** Stomach problems, sometimes severe, have been reported in people who use OZEMPIC. Tell your healthcare provider if you have stomach problems that are severe or will not go away.
- **serious allergic reactions.** Stop using OZEMPIC and get medical help right away, if you have any symptoms of a serious allergic reaction including:
 - swelling of your face, lips, tongue or throat
 - problems breathing or swallowing
 - severe rash or itching
 - fainting or feeling dizzy
 - very rapid heartbeat
- **gallbladder problems.** Gallbladder problems have happened in some people who take OZEMPIC. Tell your healthcare provider right away if you get symptoms of gallbladder problems which may include:
 - pain in your upper stomach (abdomen)
 - fever
 - yellowing of skin or eyes (jaundice)
 - clay-colored stools
- **food or liquid getting into the lungs during surgery or other procedures that use anesthesia or deep sleepiness (deep sedation).** OZEMPIC may increase the chance of food getting into your lungs during surgery or other procedures. Tell all your healthcare providers that you are taking OZEMPIC before you are scheduled to have surgery or other procedures.

The most common side effects of OZEMPIC may include nausea, vomiting, diarrhea, stomach (abdominal) pain, and constipation.

Talk to your healthcare provider about any side effect that bothers you or does not go away. These are not all the possible side effects of OZEMPIC.

Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

General information about the safe and effective use of OZEMPIC.

Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide. Do not use OZEMPIC for a condition for which it was not prescribed. Do not give OZEMPIC to other people, even if they have the same symptoms that you have. It may harm them.

You can ask your pharmacist or healthcare provider for information about OZEMPIC that is written for health professionals.

What are the ingredients in OZEMPIC?

Active Ingredient: semaglutide

Inactive Ingredients: disodium phosphate dihydrate, propylene glycol, phenol and water for injection. Hydrochloric acid or sodium hydroxide may be added to adjust pH.

Manufactured by: Novo Nordisk A/S, DK-2880 Bagsvaerd, Denmark

OZEMPIC® is a registered trademark of Novo Nordisk A/S.

PATENT Information: <http://novonordisk-us.com/products/product-patents.html>

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For more information, go to OZEMPIC.com or call 1-888-693-6742.

This Medication Guide has been approved by the U.S. Food and Drug Administration.

Revised: 01/2025

INSTRUCTIONS FOR USE
OZEMPIC® [oh-ZEM-pick]
(semaglutide)
injection, for subcutaneous use
0.25 mg or 0.5 mg doses
(pen delivers doses in 0.25 mg or 0.5 mg increments only)

- **Read these instructions carefully before using your OZEMPIC® pen.**
- **Do not use your pen without proper training from your healthcare provider.** Make sure that you know how to give yourself an injection with the pen before you start your treatment.
- **Do not share your OZEMPIC pen with other people, even if the needle has been changed. You may give other people a serious infection, or get a serious infection from them.**



If you are blind or have poor eyesight and cannot read the dose counter on the pen, do not use this pen without help. Get help from a person with good eyesight who is trained to use the OZEMPIC pen.

- **Start by checking your pen to make sure that it contains OZEMPIC, then look at the pictures below to get to know the different parts of your pen and needle.**
- **Your pen is a prefilled, single-patient-use, dial-a-dose pen.** It contains 2 mg of semaglutide, and you can select doses of 0.25 mg or 0.5 mg. Each prefilled pen contains 4 doses of 0.25 mg and 2 doses of 0.5 mg or contains 4 doses of 0.5 mg.
- Your pen is made to be used with **NovoFine® Plus** or **NovoFine®** disposable needles up to a length of 8 mm.
- NovoFine® Plus 32G 4 mm disposable needles are included with your OZEMPIC pen.
- **Always use a new needle for each injection.**

Supplies you will need to give your OZEMPIC injection:

- OZEMPIC pen
- a new NovoFine Plus or NovoFine needle
- 1 alcohol swab
- 1 gauze pad or cotton ball
- 1 sharps disposal container for throwing away used OZEMPIC pens and needles.

See “Disposing of used OZEMPIC pens and needles” at the end of these instructions.

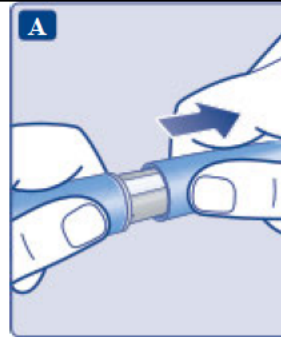
**OZEMPIC® pen and
NovoFine® Plus needle (example)**



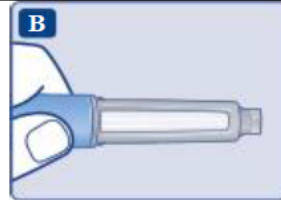
Step 1.

Prepare your pen with a new needle

- **Wash your hands** with soap and water.
- **Check the name and colored label** of your pen, to make sure that it contains OZEMPIC. This is especially important if you take more than 1 type of medicine.
- **Pull off the pen cap.**



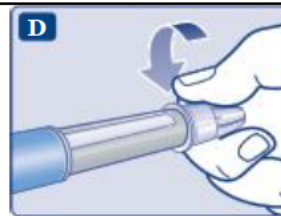
- **Check that the OZEMPIC medicine in your pen is clear and colorless.** Look through the pen window. If OZEMPIC looks cloudy or contains particles, do not use the pen.



- **Take a new needle**, and tear off the paper tab. **Do not attach a new needle** to your pen until you are ready to give your injection.



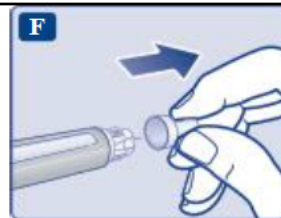
- **Push the needle straight onto the pen.** Turn until it is on tight.



- **The needle is covered by 2 caps. You must remove both caps.** If you forget to remove both caps, you will not inject any medicine.
- **Pull off the outer needle cap. Do not throw it away.**



- **Pull off the inner needle cap** and throw it away. A drop of OZEMPIC may appear at the needle tip. This is normal, but you must still check the OZEMPIC flow if you use a new pen for the first time.



Always use a new needle for each injection. This will reduce the risk of contamination, infection, leakage of OZEMPIC, and blocked needles leading to the wrong dose.

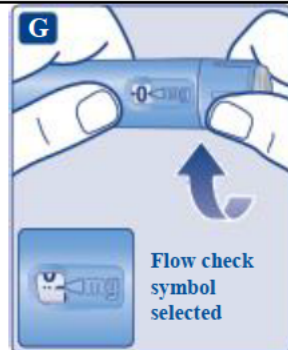
Do not reuse or share your needles with other people. You may give other people a serious infection, or get a serious infection from them.

Never use a bent or damaged needle.

Step 2.

First Time Use for Each New Pen: Check the OZEMPIC flow

- Check the OZEMPIC flow **before the first injection with each new pen only.**
If your OZEMPIC pen is already in use, go to Step 3 “Select your dose”.
- Turn the dose selector **until the dose counter shows the flow check symbol (--).**



- Hold the pen with the needle pointing up. **Press and hold in the dose button** until the dose counter shows 0. The 0 must line up with the dose pointer.
A drop of OZEMPIC will appear at the needle tip.
- **If no drop appears**, repeat Step 2 above as shown in Figure G and Figure H up to 6 times. If there is still no drop, change the needle and repeat Step 2 as shown in Figure G and Figure H 1 more time.

Do not use the pen if a drop of OZEMPIC still does not appear.
Contact Novo Nordisk at 1-888-693-6742.



Always make sure that a drop appears at the needle tip before you use a new pen for the first time. This makes sure that OZEMPIC flows.

If no drop appears, you will **not** inject any OZEMPIC, even though the dose counter may move.

This may mean that there is a blocked or damaged needle.

A small drop may remain at the needle tip, but it will not be injected.

Only check the OZEMPIC flow before your first injection with each new pen.

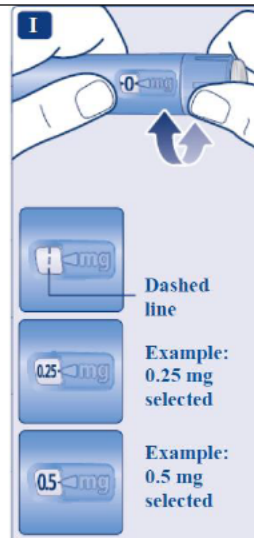
Step 3.

Select your dose

- Turn the dose selector until the dose counter stops and shows your dose (0.25 mg or 0.5 mg).

The dashed line in the dose counter (i) will guide you to your dose.

Make sure you know the dose of OZEMPIC you should use. If you select the wrong dose, you can turn the dose selector forward or backwards to the correct dose.





Always use the dose counter and the dose pointer to see how many mg you select. You will hear a “click” every time you turn the dose selector. **Do not set the dose by counting the number of clicks you hear.**

Only doses of 0.25 mg or 0.5 mg can be selected with the dose selector. The selected dose must line up exactly with the dose pointer to make sure that you get a correct dose.

The dose selector changes the dose. **Only the dose counter and dose pointer will show how many mg you select for each dose.**

You can select 0.25 mg or 0.5 mg for each dose. When your pen contains less than 0.5 or 0.25 mg, the dose counter stops before 0.5 mg or 0.25 mg is shown.

The dose selector clicks differently when turned forward or backward. Do not count the pen clicks.

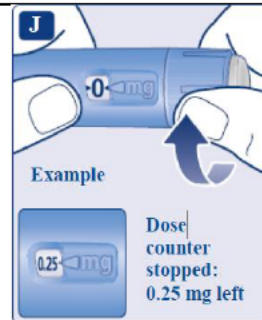
How much OZEMPIC is left?

- **To see how much OZEMPIC is left in your pen, use the dose counter:**

Turn the dose selector until the **dose counter stops**.

- If it shows 0.5, **at least 0.5 mg** is left in your pen. If the **dose counter stops before 0.5 mg**, there is not enough OZEMPIC left for a full dose of 0.5 mg.
- If it shows 0.25, **at least 0.25 mg** is left in your pen. If the **dose counter stops before 0.25 mg**, there is not enough OZEMPIC left for a full dose of 0.25 mg.

If there is not enough OZEMPIC left in your pen for a full dose, do not use it. Use a new OZEMPIC pen.



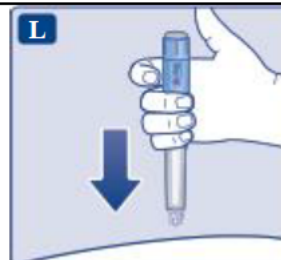
Step 4.

Inject your dose

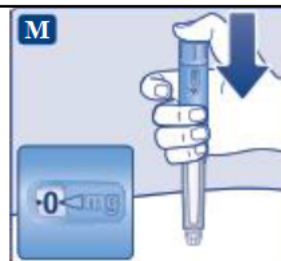
- Choose your injection site and wipe the skin with an alcohol swab. Let the injection site dry before you inject your dose (See Figure K).

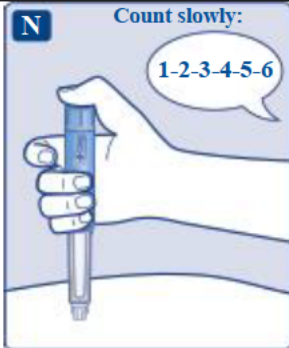
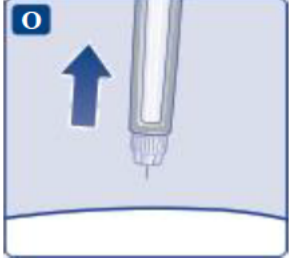





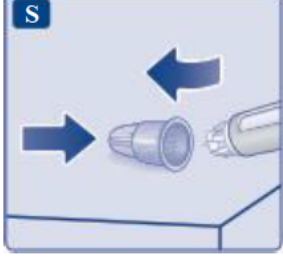
- **Insert the needle into your skin** as your healthcare provider has shown you.
- **Make sure you can see the dose counter.** Do not cover it with your fingers. This could stop the injection.



- **Press and hold down the dose button until the dose counter shows 0.** The 0 must line up with the dose pointer. You may then hear or feel a click. **Continue pressing the dose button while keeping the needle in your skin.**



<ul style="list-style-type: none"> • Count 6 seconds while keeping the dose button pressed. • If the needle is removed earlier, you may see a stream of OZEMPIC coming from the needle tip. If this happens, the full dose will not be delivered. 	
<ul style="list-style-type: none"> • Remove the needle from your skin. You can then release the dose button. If blood appears at the injection site, press lightly with a gauze pad or cotton ball. Do not rub the area. 	
<p>⚠ Always watch the dose counter to make sure you have injected your complete dose. Hold the dose button down until the dose counter shows 0.</p> <p>How to identify a blocked or damaged needle?</p> <ul style="list-style-type: none"> • If 0 does not appear in the dose counter after continuously pressing the dose button, you may have used a blocked or damaged needle. • If this happens you have not received any OZEMPIC even though the dose counter has moved from the original dose that you have set. <p>How to handle a blocked needle? Change the needle as described in Step 5, and repeat all steps starting with Step 1: “Prepare your pen with a new needle”.</p> <p>Never touch the dose counter when you inject. This can stop the injection.</p> <p>You may see a drop of OZEMPIC at the needle tip after injecting. This is normal and does not affect your dose.</p>	
<p>Step 5. After your injection</p>	
<ul style="list-style-type: none"> • Carefully remove the needle from the pen. Do not put the needle caps back on the needle to avoid needle sticks. 	
<ul style="list-style-type: none"> • Place the needle in a sharps disposal container right away to reduce the risk of needle sticks. See “Disposing of used OZEMPIC pens and needles” below for more information about how to dispose of used pens and needles the right way. 	

<ul style="list-style-type: none"> • Put the pen cap on your pen after each use to protect OZEMPIC from light. 	
<ul style="list-style-type: none"> • If you do not have a sharps disposal container, follow a 1-handed needle recapping method. Carefully slip the needle into the outer needle cap. Dispose of the needle in a sharps disposal container as soon as possible. 	
<p>⚠ Never try to put the inner needle cap back on the needle. You may stick yourself with the needle.</p> <p>Always remove the needle from your pen. This will reduce the risk of contamination, infection, leakage of OZEMPIC, and blocked needles leading to the wrong dose. If the needle is blocked, you will not inject any OZEMPIC.</p> <p>Always dispose of the needle after each injection.</p>	
<p>Disposing of used OZEMPIC pens and needles:</p> <ul style="list-style-type: none"> • Put your used OZEMPIC pen and needle in a FDA-cleared sharps disposal container right away after use. • If you do not have a FDA-cleared sharps disposal container, you may use a household container that is: <ul style="list-style-type: none"> ○ made of a heavy-duty plastic ○ can be closed with a tight-fitting, puncture-resistant lid, without sharps being able to come out ○ upright and stable during use ○ leak-resistant ○ properly labeled to warn of hazardous waste inside the container • When your sharps disposal container is almost full, you will need to follow your community guidelines for the right way to dispose of your sharps disposal container. There may be state or local laws about how you should throw away used needles and syringes. For more information about the safe sharps disposal, and for specific information about sharps disposal in the state that you live in, go to the FDA's website at: http://www.fda.gov/safesharpsdisposal • Do not dispose of your used sharps disposal container in your household trash unless your community guidelines permit this. Do not recycle your used sharps disposal container. • Safely dispose of OZEMPIC that is out of date or no longer needed. 	
<p>⚠ Important</p>	
<ul style="list-style-type: none"> • Caregivers must be very careful when handling used needles to prevent accidental needle stick injuries and prevent passing (transmission) of infection. • Never use a syringe to withdraw OZEMPIC from your pen. • Always carry an extra pen and new needles with you, in case of loss or damage. • Always keep your pen and needles out of reach of others, especially children. • Always keep your pen with you. Do not leave it in a car or other place where it can get too hot or too cold. 	
<p>Caring for your pen</p> <ul style="list-style-type: none"> • Do not drop your pen or knock it against hard surfaces. If you drop it or suspect a problem, attach a new needle and check the OZEMPIC flow before you inject. • Do not try to repair your pen or pull it apart. 	

- **Do not expose your pen to dust, dirt or liquid.**
- **Do not wash, soak, or lubricate your pen.** If necessary, clean it with mild detergent on a moistened cloth.

How should I store my OZEMPIC pen?

- Store your **new, unused** OZEMPIC pens in the refrigerator between 36°F to 46°F (2°C to 8°C).
- **Store your pen in use** for 56 days at room temperature between 59°F to 86°F (15°C to 30°C) or in a refrigerator between 36°F to 46°F (2°C to 8°C).
- The OZEMPIC pen you are using should be disposed of (thrown away) after 56 days, even if it still has OZEMPIC left in it. Write the disposal date on your calendar.
- **Do not freeze OZEMPIC. Do not use OZEMPIC if it has been frozen.**
- Unused OZEMPIC pens may be used until the expiration date (“EXP”) printed on the label, if kept in the refrigerator.
- When stored in the refrigerator, **do not** store OZEMPIC pens directly next to the cooling element.
- Keep OZEMPIC away from heat and out of the light.
- **Keep the pen cap on when not in use.**
- **Keep OZEMPIC and all medicines out of the reach of children.**



For more information go to www.OZEMPIC.com

Manufactured by:

Novo Nordisk A/S
DK-2880 Bagsvaerd
Denmark

For information about OZEMPIC contact:

Novo Nordisk Inc.
800 Scudders Mill Road
Plainsboro, NJ 08536
1-888-693-6742

Version: 2

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PATENT Information: <http://novonordisk-us.com/patients/products/product-patents.html>

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Revised: September/2023

COVER PAGE INFORMATION

OZEMPIC®

(semaglutide)

injection

2 mg/3 mL (0.68 mg/mL)

Prefilled pen

Pen delivers doses in 0.25 mg or 0.5 mg increments only



INSTRUCTIONS FOR USE
OZEMPIC® [oh-ZEM-pick]
(semaglutide)
injection, for subcutaneous use
2 mg dose
(pen delivers doses in 2 mg increments only)

- Read these instructions carefully before using your OZEMPIC® pen.
- Do not use your pen without proper training from your healthcare provider. Make sure that you know how to give yourself an injection with the pen before you start your treatment.
- Do not share your OZEMPIC pen with other people, even if the needle has been changed. You may give other people a serious infection, or get a serious infection from them.



If you are blind or have poor eyesight and cannot read the dose counter on the pen, do not use this pen without help. Get help from a person with good eyesight who is trained to use the OZEMPIC pen.

- Start by checking your pen to make sure that it contains OZEMPIC, then look at the pictures below to get to know the different parts of your pen and needle.
- Your pen is a prefilled, single-patient-use, dial-a-dose pen. It contains 8 mg of semaglutide, and you can only select doses of 2 mg. Each prefilled pen contains 4 doses of 2 mg.
- Your pen is made to be used with **NovoFine® Plus** or **NovoFine®** disposable needles up to a length of 8 mm.
- NovoFine® Plus 32G 4 mm disposable needles are included with your OZEMPIC pen.
- Always use a new needle for each injection.

Supplies you will need to give your OZEMPIC injection:

- OZEMPIC pen 2 mg dose
- a new NovoFine Plus or NovoFine needle
- 1 alcohol swab
- 1 gauze pad or cotton ball
- 1 sharps disposal container for throwing away used OZEMPIC pens and needles.

See “Disposing of used OZEMPIC pens and needles” at the end of these instructions.

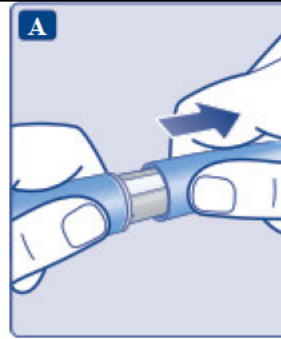
**OZEMPIC® pen and
NovoFine® Plus needle (example)**



Step 1.

Prepare your pen with a new needle

- **Wash your hands** with soap and water.
- **Check the name and colored label** of your pen, to make sure that it contains OZEMPIC. This is especially important if you take more than 1 type of medicine.
- **Pull off the pen cap.**



- **Check that the OZEMPIC medicine in your pen is clear and colorless.** Look through the pen window. If OZEMPIC looks cloudy or contains particles, do not use the pen.



- **Take a new needle**, and tear off the paper tab. **Do not attach a new needle to your pen until you are ready to give your injection.**



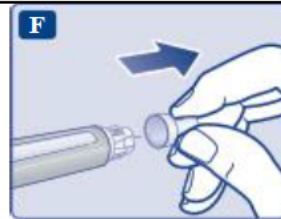
- **Push the needle straight onto the pen. Turn until it is on tight.**



- **The needle is covered by 2 caps. You must remove both caps.** If you forget to remove both caps, you will not inject any medicine.
- **Pull off the outer needle cap. Do not throw it away.**



- **Pull off the inner needle cap** and throw it away. A drop of OZEMPIC may appear at the needle tip. This is normal, but you must still check the OZEMPIC flow if you use a new pen for the first time.




Always use a new needle for each injection. This will reduce the risk of contamination, infection, leakage of OZEMPIC, and blocked needles leading to the wrong dose.

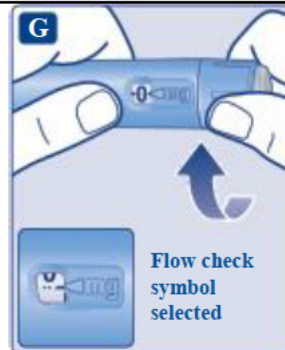
Do not reuse or share your needles with other people. You may give other people a serious infection, or get a serious infection from them.

Never use a bent or damaged needle.

Step 2.

First Time Use for Each New Pen: Check the OZEMPIC flow

- Check the OZEMPIC flow **before the first injection with each new pen only.** If your OZEMPIC pen is already in use, go to Step 3 “Select your dose”.
- Turn the dose selector until the dose counter shows the flow check symbol ().



- Hold the pen with the needle pointing up. **Press and hold in the dose button** until the dose counter shows 0. The 0 must line up with the dose pointer. A drop of OZEMPIC will appear at the needle tip.
- **If no drop appears**, repeat Step 2 above as shown in Figure G and Figure H up to 6 times. If there is still no drop, change the needle and repeat Step 2 as shown in Figure G and Figure H 1 more time.

Do not use the pen if a drop of OZEMPIC still does not appear.
Contact Novo Nordisk at 1-888-693-6742.



Always make sure that a drop appears at the needle tip before you use a new pen for the first time. This makes sure that OZEMPIC flows.

If no drop appears, you will **not** inject any OZEMPIC, even though the dose counter may move.

This may mean that there is a blocked or damaged needle.


A small drop may remain at the needle tip, but it will not be injected.

Only check the OZEMPIC flow before your first injection with each new pen.

Step 3.

Select your dose

- Turn the dose selector until the dose counter stops and shows your 2 mg dose.

The dashed line in the dose counter  will guide you to 2 mg.





Always use the dose counter and the dose pointer to see that 2 mg has been selected. You will hear a “click” every time you turn the dose selector. **Do not set the dose by counting the number of clicks you hear.**

Only doses of 2 mg can be selected with the dose selector. 2 mg must line up exactly with the dose pointer to make sure that you get a correct dose.

The dose selector changes the dose. **Only the dose counter and dose pointer will show that 2 mg has been selected.**

You can only select 2 mg for each dose. When your pen contains less than 2 mg, the dose counter stops before 2 mg is shown.

The dose selector clicks differently when turned forward or backward. Do not count the pen clicks.

How much OZEMPIC is left?

- To see how much OZEMPIC is left in your pen, use the dose counter:

Turn the dose selector until the dose counter stops.

- If it shows 2, at least 2 mg is left in your pen. If the dose counter stops before 2 mg, there is not enough OZEMPIC left for a full dose of 2 mg.

If there is not enough OZEMPIC left in your pen for a full dose, do not use it. Use a new OZEMPIC pen.



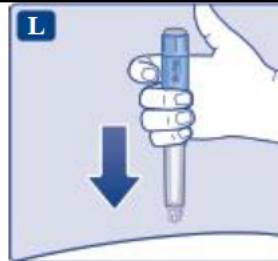
Step 4.

Inject your dose

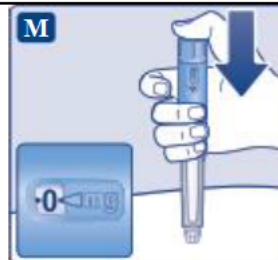
- Choose your injection site and wipe the skin with an alcohol swab. Let the injection site dry before you inject your dose (See Figure K).

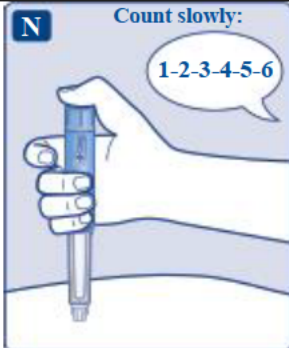
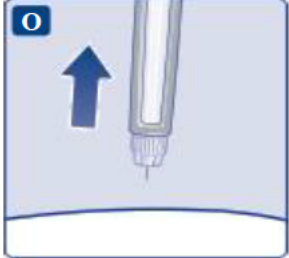





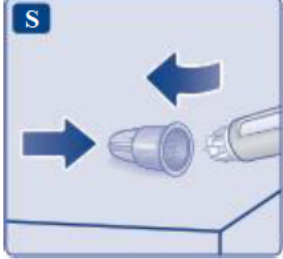
- **Insert the needle into your skin** as your healthcare provider has shown you.
- **Make sure you can see the dose counter.** Do not cover it with your fingers. This could stop the injection.



- **Press and hold down the dose button until the dose counter shows 0.** The 0 must line up with the dose pointer. You may then hear or feel a click. **Continue pressing the dose button while keeping the needle in your skin.**



<ul style="list-style-type: none"> • Count 6 seconds while keeping the dose button pressed. • If the needle is removed earlier, you may see a stream of OZEMPIC coming from the needle tip. If this happens, the full dose will not be delivered. 	
<ul style="list-style-type: none"> • Remove the needle from your skin. You can then release the dose button. If blood appears at the injection site, press lightly with a gauze pad or cotton ball. Do not rub the area. 	
<p>⚠ Always watch the dose counter to make sure you have injected your complete dose. Hold the dose button down until the dose counter shows 0.</p> <p>How to identify a blocked or damaged needle?</p> <ul style="list-style-type: none"> • If 0 does not appear in the dose counter after continuously pressing the dose button, you may have used a blocked or damaged needle. • If this happens you have not received any OZEMPIC even though the dose counter has moved from the original dose that you have set. <p>How to handle a blocked needle? Change the needle as described in Step 5, and repeat all steps starting with Step 1: “Prepare your pen with a new needle”.</p> <p>Never touch the dose counter when you inject. This can stop the injection.</p> <p>You may see a drop of OZEMPIC at the needle tip after injecting. This is normal and does not affect your dose.</p>	
<p>Step 5. After your injection</p>	
<ul style="list-style-type: none"> • Carefully remove the needle from the pen. Do not put the needle caps back on the needle to avoid needle sticks. 	
<ul style="list-style-type: none"> • Place the needle in a sharps disposal container right away to reduce the risk of needle sticks. See “Disposing of used OZEMPIC pens and needles” below for more information about how to dispose of used pens and needles the right way. 	

<ul style="list-style-type: none"> • Put the pen cap on your pen after each use to protect OZEMPIC from light. 	
<ul style="list-style-type: none"> • If you do not have a sharps disposal container, follow a 1-handed needle recapping method. Carefully slip the needle into the outer needle cap. Dispose of the needle in a sharps disposal container as soon as possible. 	
<p>⚠ Never try to put the inner needle cap back on the needle. You may stick yourself with the needle.</p> <p>Always remove the needle from your pen. This will reduce the risk of contamination, infection, leakage of OZEMPIC, and blocked needles leading to the wrong dose. If the needle is blocked, you will not inject any OZEMPIC.</p> <p>Always dispose of the needle after each injection.</p>	
<p>Disposing of used OZEMPIC pens and needles:</p> <ul style="list-style-type: none"> • Put your used OZEMPIC pen and needle in a FDA-cleared sharps disposal container right away after use. • If you do not have a FDA-cleared sharps disposal container, you may use a household container that is: <ul style="list-style-type: none"> ○ made of a heavy-duty plastic ○ can be closed with a tight-fitting, puncture-resistant lid, without sharps being able to come out ○ upright and stable during use ○ leak-resistant ○ properly labeled to warn of hazardous waste inside the container • When your sharps disposal container is almost full, you will need to follow your community guidelines for the right way to dispose of your sharps disposal container. There may be state or local laws about how you should throw away used needles and syringes. For more information about the safe sharps disposal, and for specific information about sharps disposal in the state that you live in, go to the FDA's website at: http://www.fda.gov/safesharpsdisposal • Do not dispose of your used sharps disposal container in your household trash unless your community guidelines permit this. Do not recycle your used sharps disposal container. • Safely dispose of OZEMPIC that is out of date or no longer needed. 	
<p>⚠ Important</p>	
<ul style="list-style-type: none"> • Caregivers must be very careful when handling used needles to prevent accidental needle stick injuries and prevent passing (transmission) of infection. • Never use a syringe to withdraw OZEMPIC from your pen. • Always carry an extra pen and new needles with you, in case of loss or damage. • Always keep your pen and needles out of reach of others, especially children. • Always keep your pen with you. Do not leave it in a car or other place where it can get too hot or too cold. 	
<p>Caring for your pen</p> <ul style="list-style-type: none"> • Do not drop your pen or knock it against hard surfaces. If you drop it or suspect a problem, attach a new needle and check the OZEMPIC flow before you inject. • Do not try to repair your pen or pull it apart. 	

- **Do not expose your pen to dust, dirt or liquid.**
- **Do not wash, soak, or lubricate your pen.** If necessary, clean it with mild detergent on a moistened cloth.

How should I store my OZEMPIC pen?

- Store your **new, unused** OZEMPIC pens in the refrigerator between 36°F to 46°F (2°C to 8°C).
- **Store your pen in use** for 56 days at room temperature between 59°F to 86°F (15°C to 30°C) or in a refrigerator between 36°F to 46°F (2°C to 8°C).
- The OZEMPIC pen you are using should be disposed of (thrown away) after 56 days, even if it still has OZEMPIC left in it. Write the disposal date on your calendar.
- **Do not freeze OZEMPIC. Do not use OZEMPIC if it has been frozen.**
- Unused OZEMPIC pens may be used until the expiration date (“EXP”) printed on the label, if kept in the refrigerator.
- When stored in the refrigerator, **do not** store OZEMPIC pens directly next to the cooling element.
- Keep OZEMPIC away from heat and out of the light.
- **Keep the pen cap on when not in use.**
- **Keep OZEMPIC and all medicines out of the reach of children.**



For more information go to www.OZEMPIC.com

Manufactured by:

Novo Nordisk A/S
DK-2880 Bagsvaerd
Denmark

For information about OZEMPIC contact:

Novo Nordisk Inc.
800 Scudders Mill Road
Plainsboro, NJ 08536
1-888-693-6742

Version: 2

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PATENT Information: <http://novonordisk-us.com/patients/products/product-patents.html>

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This Instructions for Use has been approved by the U.S. Food and Drug Administration.

Revised: September/2023

COVER PAGE INFORMATION

OZEMPIC®

(semaglutide)

injection

8 mg/3 mL (2.68 mg/mL)

Prefilled pen

Pen delivers doses in 2 mg increments only



INSTRUCTIONS FOR USE
OZEMPIC® [oh-ZEM-pick]
(semaglutide)
injection, for subcutaneous use
1 mg dose
(pen delivers doses in 1 mg increments only)

- Read these instructions carefully before using your OZEMPIC® pen.
- Do not use your pen without proper training from your healthcare provider. Make sure that you know how to give yourself an injection with the pen before you start your treatment.
- Do not share your OZEMPIC pen with other people, even if the needle has been changed. You may give other people a serious infection, or get a serious infection from them.



If you are blind or have poor eyesight and cannot read the dose counter on the pen, do not use this pen without help. Get help from a person with good eyesight who is trained to use the OZEMPIC pen.

- Start by checking your pen to make sure that it contains OZEMPIC, then look at the pictures below to get to know the different parts of your pen and needle.
- Your pen is a prefilled, single-patient-use, dial-a-dose pen. It contains 4 mg of semaglutide, and you can only select doses of 1 mg. Each prefilled pen contains 4 doses of 1 mg.
- Your pen is made to be used with **NovoFine® Plus** or **NovoFine®** disposable needles up to a length of 8 mm.
- NovoFine® Plus 32G 4 mm disposable needles are included with your OZEMPIC pen.
- Always use a new needle for each injection.

Supplies you will need to give your OZEMPIC injection:

- OZEMPIC pen 1 mg dose
- a new NovoFine Plus or NovoFine needle
- 1 alcohol swab
- 1 gauze pad or cotton ball
- 1 sharps disposal container for throwing away used OZEMPIC pens and needles.

See “Disposing of used OZEMPIC pens and needles” at the end of these instructions.

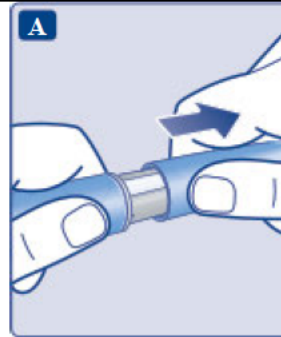
**OZEMPIC® pen and
NovoFine® Plus needle (example)**



Step 1.

Prepare your pen with a new needle

- **Wash your hands** with soap and water.
- **Check the name and colored label** of your pen, to make sure that it contains OZEMPIC. This is especially important if you take more than 1 type of medicine.
- **Pull off the pen cap.**



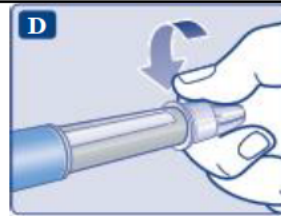
- **Check that the OZEMPIC medicine in your pen is clear and colorless.** Look through the pen window. If OZEMPIC looks cloudy or contains particles, do not use the pen.



- **Take a new needle**, and tear off the paper tab. **Do not attach a new needle** to your pen until you are ready to give your injection.



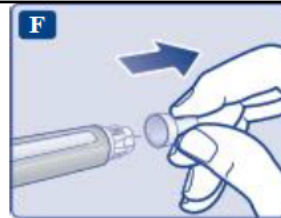
- **Push the needle straight onto the pen.** Turn until it is on tight.



- **The needle is covered by 2 caps. You must remove both caps.** If you forget to remove both caps, you will not inject any medicine.
- **Pull off the outer needle cap. Do not throw it away.**



- **Pull off the inner needle cap** and throw it away. A drop of OZEMPIC may appear at the needle tip. This is normal, but you must still check the OZEMPIC flow if you use a new pen for the first time.




Always use a new needle for each injection. This will reduce the risk of contamination, infection, leakage of OZEMPIC, and blocked needles leading to the wrong dose.

Do not reuse or share your needles with other people. You may give other people a serious infection, or get a serious infection from them.

Never use a bent or damaged needle.

Step 2.

First Time Use for Each New Pen: Check the OZEMPIC flow

- Check the OZEMPIC flow **before the first injection with each new pen only.**
If your OZEMPIC pen is already in use, go to Step 3 “Select your dose”.
- Turn the dose selector until the dose counter shows the flow check symbol ().



- Hold the pen with the needle pointing up. **Press and hold in the dose button** until the dose counter shows 0. The 0 must line up with the dose pointer.
A drop of OZEMPIC will appear at the needle tip.
- **If no drop appears**, repeat Step 2 above as shown in Figure G and Figure H up to 6 times. If there is still no drop, change the needle and repeat Step 2 as shown in Figure G and Figure H 1 more time.

Do not use the pen if a drop of OZEMPIC still does not appear.
Contact Novo Nordisk at 1-888-693-6742.



Always make sure that a drop appears at the needle tip before you use a new pen for the first time. This makes sure that OZEMPIC flows.

If no drop appears, you will **not** inject any OZEMPIC, even though the dose counter may move.

This may mean that there is a blocked or damaged needle.


A small drop may remain at the needle tip, but it will not be injected.

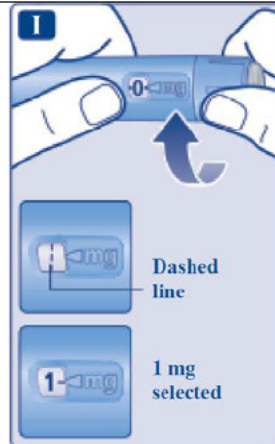
Only check the OZEMPIC flow before your first injection with each new pen.

Step 3.

Select your dose

- Turn the dose selector until the dose counter stops and shows your 1 mg dose.

The dashed line in the dose counter  will guide you to 1 mg.





Always use the dose counter and the dose pointer to see that 1 mg has been selected. You will hear a “click” every time you turn the dose selector. **Do not set the dose by counting the number of clicks you hear.**

Only doses of 1 mg can be selected with the dose selector. 1 mg must line up exactly with the dose pointer to make sure that you get a correct dose.

The dose selector changes the dose. **Only the dose counter and dose pointer will show that 1 mg has been selected.**

You can only select 1 mg for each dose. When your pen contains less than 1 mg, the dose counter stops before 1 mg is shown.

The dose selector clicks differently when turned forward or backward. Do not count the pen clicks.

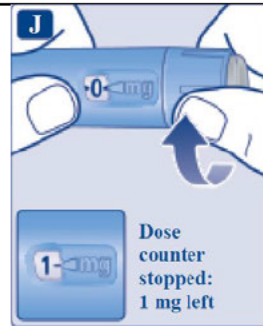
How much OZEMPIC is left?

- To see how much OZEMPIC is left in your pen, use the dose counter:

Turn the dose selector until the dose counter stops.

- If it shows 1, **at least 1 mg** is left in your pen. If the **dose counter stops before 1 mg**, there is not enough OZEMPIC left for a full dose of 1 mg.

If there is not enough OZEMPIC left in your pen for a full dose, do not use it. Use a new OZEMPIC pen.



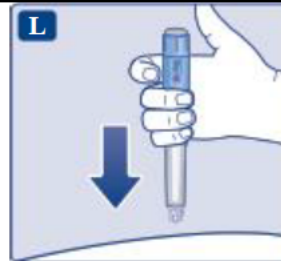
Step 4.

Inject your dose

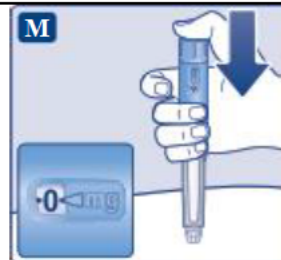
- Choose your injection site and wipe the skin with an alcohol swab. Let the injection site dry before you inject your dose (See Figure K).


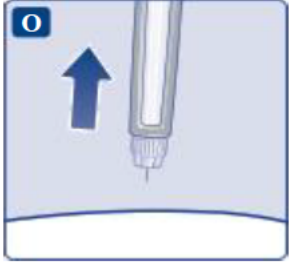





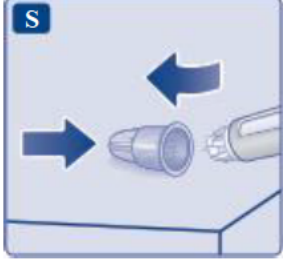
- **Insert the needle into your skin** as your healthcare provider has shown you.
- **Make sure you can see the dose counter.** Do not cover it with your fingers. This could stop the injection.



- **Press and hold down the dose button until the dose counter shows 0.** The 0 must line up with the dose pointer. You may then hear or feel a click. **Continue pressing the dose button while keeping the needle in your skin.**



<ul style="list-style-type: none"> • Count 6 seconds while keeping the dose button pressed. • If the needle is removed earlier, you may see a stream of OZEMPIC coming from the needle tip. If this happens, the full dose will not be delivered. 	
<ul style="list-style-type: none"> • Remove the needle from your skin. You can then release the dose button. If blood appears at the injection site, press lightly with a gauze pad or cotton ball. Do not rub the area. 	
<p>⚠ Always watch the dose counter to make sure you have injected your complete dose. Hold the dose button down until the dose counter shows 0.</p> <p>How to identify a blocked or damaged needle?</p> <ul style="list-style-type: none"> • If 0 does not appear in the dose counter after continuously pressing the dose button, you may have used a blocked or damaged needle. • If this happens you have not received any OZEMPIC even though the dose counter has moved from the original dose that you have set. <p>How to handle a blocked needle? Change the needle as described in Step 5, and repeat all steps starting with Step 1: “Prepare your pen with a new needle”.</p> <p>Never touch the dose counter when you inject. This can stop the injection.</p> <p>You may see a drop of OZEMPIC at the needle tip after injecting. This is normal and does not affect your dose.</p>	
<p>Step 5. After your injection</p>	
<ul style="list-style-type: none"> • Carefully remove the needle from the pen. Do not put the needle caps back on the needle to avoid needle sticks. 	
<ul style="list-style-type: none"> • Place the needle in a sharps disposal container right away to reduce the risk of needle sticks. See “Disposing of used OZEMPIC pens and needles” below for more information about how to dispose of used pens and needles the right way. 	

<ul style="list-style-type: none"> • Put the pen cap on your pen after each use to protect OZEMPIC from light. 	
<ul style="list-style-type: none"> • If you do not have a sharps disposal container, follow a 1-handed needle recapping method. Carefully slip the needle into the outer needle cap. Dispose of the needle in a sharps disposal container as soon as possible. 	
<p>⚠ Never try to put the inner needle cap back on the needle. You may stick yourself with the needle.</p> <p>Always remove the needle from your pen. This will reduce the risk of contamination, infection, leakage of OZEMPIC, and blocked needles leading to the wrong dose. If the needle is blocked, you will not inject any OZEMPIC.</p> <p>Always dispose of the needle after each injection.</p>	
<p>Disposing of used OZEMPIC pens and needles:</p> <ul style="list-style-type: none"> • Put your used OZEMPIC pen and needle in a FDA-cleared sharps disposal container right away after use. • If you do not have a FDA-cleared sharps disposal container, you may use a household container that is: <ul style="list-style-type: none"> ○ made of a heavy-duty plastic ○ can be closed with a tight-fitting, puncture-resistant lid, without sharps being able to come out ○ upright and stable during use ○ leak-resistant ○ properly labeled to warn of hazardous waste inside the container • When your sharps disposal container is almost full, you will need to follow your community guidelines for the right way to dispose of your sharps disposal container. There may be state or local laws about how you should throw away used needles and syringes. For more information about the safe sharps disposal, and for specific information about sharps disposal in the state that you live in, go to the FDA's website at: http://www.fda.gov/safesharpsdisposal • Do not dispose of your used sharps disposal container in your household trash unless your community guidelines permit this. Do not recycle your used sharps disposal container. • Safely dispose of OZEMPIC that is out of date or no longer needed. 	
<p>⚠ Important</p>	
<ul style="list-style-type: none"> • Caregivers must be very careful when handling used needles to prevent accidental needle stick injuries and prevent passing (transmission) of infection. • Never use a syringe to withdraw OZEMPIC from your pen. • Always carry an extra pen and new needles with you, in case of loss or damage. • Always keep your pen and needles out of reach of others, especially children. • Always keep your pen with you. Do not leave it in a car or other place where it can get too hot or too cold. 	
<p>Caring for your pen</p> <ul style="list-style-type: none"> • Do not drop your pen or knock it against hard surfaces. If you drop it or suspect a problem, attach a new needle and check the OZEMPIC flow before you inject. • Do not try to repair your pen or pull it apart. 	

- **Do not expose your pen to dust, dirt or liquid.**
- **Do not wash, soak, or lubricate your pen.** If necessary, clean it with mild detergent on a moistened cloth.

How should I store my OZEMPIC pen?

- Store your **new, unused** OZEMPIC pens in the refrigerator between 36°F to 46°F (2°C to 8°C).
- **Store your pen in use** for 56 days at room temperature between 59°F to 86°F (15°C to 30°C) or in a refrigerator between 36°F to 46°F (2°C to 8°C).
- The OZEMPIC pen you are using should be disposed of (thrown away) after 56 days, even if it still has OZEMPIC left in it. Write the disposal date on your calendar.
- **Do not freeze OZEMPIC. Do not use OZEMPIC if it has been frozen.**
- Unused OZEMPIC pens may be used until the expiration date (“EXP”) printed on the label, if kept in the refrigerator.
- When stored in the refrigerator, **do not** store OZEMPIC pens directly next to the cooling element.
- Keep OZEMPIC away from heat and out of the light.
- **Keep the pen cap on when not in use.**
- **Keep OZEMPIC and all medicines out of the reach of children.**



For more information go to www.OZEMPIC.com

Manufactured by:

Novo Nordisk A/S
DK-2880 Bagsvaerd
Denmark

For information about OZEMPIC contact:

Novo Nordisk Inc.
800 Scudders Mill Road
Plainsboro, NJ 08536
1-888-693-6742

Version: 4

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PATENT Information: <http://novonordisk-us.com/patients/products/product-patents.html>

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This Instructions for Use has been approved by the U.S. Food and Drug Administration.

Revised: September/2023

COVER PAGE INFORMATION

OZEMPIC®

(semaglutide)

injection

4 mg/3 mL (1.34 mg/mL)

Prefilled pen

Pen delivers doses in 1 mg increments only



**CENTER FOR DRUG EVALUATION AND
RESEARCH**

APPLICATION NUMBER:

209637Orig1s035

CLINICAL REVIEW(S)

**FDA Center for Drug Evaluation and Research
10903 NEW HAMPSHIRE AVENUE, BLDG 22, SILVER SPRING, MARYLAND 20993**

Division of Diabetes Lipids and Obesity (DDLO)

DDLO Medical Officer Review of Post-marketing Safety Signal of intestinal obstruction with glucagon like peptide-1 receptor agonists (GLP-1 RA)

Clinical Reviewer: Amy Rogstad, MD

Deputy Director, Safety: Monika Houstoun, PharmD

Applications: BLA 208471 Adlyxin (Lixisenatide); BLA 208673 Soliqua (Insulin Glargine and Lixisenatide); BLA 208583 Xultophy 100/3.6 (Insulin Degludec and Liraglutide); NDA 22341 Victoza (Liraglutide); NDA 206321 Saxenda (Liraglutide); NDA-21773 Byetta (Exenatide); NDA 22200 Bydureon (Exenatide); NDA 209210 Bydureon Bcise; NDA 209637 Ozempic (Semaglutide); NDA-213051 Rybelsus (semaglutide); NDA 215866 Mounjaro (Tirzepatide); NDA217806 Zepbound (Tirzepatide); NDA 215256 Wegovy (semaglutide); BLA 125469 Trulicity (Dulaglutide)

REGULATORY HISTORY:

(b) (4)
(b) (4) in ADVERSE REACTIONS, Postmarketing Experience, Section 6.2 of the United States Prescribing Information (USPI). DDLO consulted the Office of Surveillance and Epidemiology (OSE) to review the literature and postmarketing cases for the GLP-RA class on April 28, 2022 and NISS 1004823 was opened for the GLP-1 RA class and IO. The joint review by the Division of Pharmacovigilance-I (DPV-I) and the Division of Epidemiology (DEPI) (November 1, 2022) recommended updating the GLP1-RA class labeling with “ileus” in ADVERSE REACTIONS, Postmarketing, Section 6.2 given the paucity of details regarding the case series and the inability to differentiate between cases of ileus with actual cases of IO. The DDLO clinical and safety teams agreed with this recommendation (memo dated November 14, 2022). Following this, the term “ileus” was added to USPI Section 6.2 under post-marketing experience for the GLP-1 RA class of products.

On January 11, 2024, in connection with the Novo Nordisk final assessment report for the semaglutide Periodic Safety Update Report (PSUR) (period June 1, 2022, to May 31, 2023), the Pharmacovigilance Risk Assessment Committee (PRAC) of the European Medicines Agency (EMA) requested an update to include IO in the European Union Summary of Product Characteristics and Product License Number for Ozempic, Rybelsus, and Wegovy based on postmarketing reports.

In February 2024, the Novo Nordisk safety committees initiated a signal analysis related to IO with semaglutide and liraglutide. Per the Sponsor, the signal analysis included review of biological plausibility, clinical data, post-marketing data, and selected literature. Based on the totality of the data, Novo Nordisk concluded that a relationship between IO and marketed semaglutide and liraglutide products could not be ruled out. IO was therefore categorized by the Sponsor as an identified risk and added to the Company Core Data Sheets with frequency “not known”.

On March 21, 2025, Novo Nordisk submitted PASs proposing to add IO and (b) (4) to the ADVERSE REACTIONS, Postmarketing Experience, Section 6.2 of the USPI for all semaglutide products and on April 14, 2025, submitted PASs proposing the same addition for all liraglutide products.

On March 27, 2025, DDLO consulted DPV-I to update the previous review of IO associated with GLP-1 RAs, as well as to review cases of fecal impaction and severe constipation. (b) (4)

(b) (4)

BACKGROUND:

Intestinal Obstruction

Intestinal obstruction (IO) may result from both mechanical and functional causes. Mechanical intestinal obstruction occurs when a physical barrier to the passage of bowel contents develops in the gastrointestinal tract. Adhesions, hernias, and malignancies/tumors are some of the most common causes of mechanical IO.¹ Functional obstruction occurs when no physical barrier is present, but gastrointestinal transit is impaired due to conditions such as metabolic disturbance, neural inhibition, or inflammation. Both types of IO can cause similar pathophysiology including bowel wall edema, third spacing and fluid loss, bowel distention, and bacterial overgrowth. Prolonged IO may lead to bowel ischemia, necrosis, or perforation which can increase the risk for sepsis and multiorgan failure.²

GLP-1 and Intestinal Motility

Animal and human studies have shown that increased GLP-1 activity reduces intestinal motility.³ GLP-1 receptors are variably expressed in tissues throughout the gastrointestinal (GI) tract and within nerve fibers of the myenteric plexus at all levels of the GI tract. Modulation of GI motility through interaction with these receptors plays an important role in the metabolic effects of GLP-1. GLP-1 receptors are also expressed within the dorsal motor nucleus of the vagus nerve (DMV) and may play a role in the central modulation of GI motility.⁴

GLP-1 Receptor Agonists and GI Motility

Both constipation and diarrhea are well-known potential adverse effects of GLP-1 RAs. Delayed gastric emptying is a prominent and clinically significant effect of GLP-1 RAs, occurring through direct action on GLP-1 receptors in the gastric fundus and antrum. This delay in gastric transit contributes to early satiety and decreased appetite but may also lead to GI adverse effects. GLP-1 RAs also may contribute to reduced small intestinal motility via their interaction with vagal afferents, as well as direct action on the central nervous system. The impact of GLP-1 RAs on colorectal function is not fully understood with variable effects reported in literature.⁵

RELEVANT PRODUCT LABELING

Currently, there are six GLP-1 RAs approved by the FDA marketed under one or more tradenames. The table below, sourced from the September 18, 2025 DPV-I review, lists all currently marketed GLP-1 RA

¹ <https://www.ncbi.nlm.nih.gov/books/NBK448079/>

² <https://www.ncbi.nlm.nih.gov/books/NBK448079/>

³ <https://pubmed.ncbi.nlm.nih.gov/articles/PMC12270588/>

⁴ <https://pubmed.ncbi.nlm.nih.gov/40622491/>

⁵ <https://pubmed.ncbi.nlm.nih.gov/39568409/>

products, including single-ingredient products and fixed ratio drug-drug combinations, in the United States.

Currently Marketed Glucagon-like Peptide-1 Receptor Agonists in the United States				
Drug Name NDA/BLA Applicant	Active Ingredient(s) Formulation	Indication(s)*	Dosage Ranges	Approval Date
Victoza 022341 Novo Nordisk	Liraglutide recombinant SQ Inj	T2DM in adults, pediatric patients aged 10 yrs and older; reduce the risk of MACE in adults	0.6 mg titrated to 1.8 mg daily	1/25/2010
Saxenda 206321 Novo Nordisk	Liraglutide recombinant SQ Inj	Weight management in adults and pediatric patients aged 12 yrs and older	0.6 mg titrated to 3 mg daily	12/23/2014
Xultophy 100/3.6 208583 Novo Nordisk	Insulin degludec + liraglutide SQ Inj	T2DM in adults	10 units titrated to 50 units daily	11/21/2016
Trulicity 125469 Eli Lilly and Co.	Dulaglutide SQ Inj	T2DM in adults and pediatric patients 10 yrs of age and older; reduce the risk of MACE in adults	0.75 mg titrated to 4.5 mg weekly	9/18/2014
Adlyxin 208471 Sanofi-Aventis	Lixisenatide SQ Inj	T2DM in adults	10 mcg daily for 14 days; day 15, increase to 20 mcg daily	7/27/2016
Soliqua 100/33 208673 Sanofi-Aventis	Insulin glargine + lixisenatide SQ Inj	T2DM in adults	15 units titrated to 60 units daily	11/21/2016
Ozempic 209637 Novo Nordisk	Semaglutide SQ Inj	T2DM in adults; reduce the risk of MACE in adults, reduce the risk of sustained eGFR decline in end-stage kidney disease, and CV death in adults with T2DM and chronic kidney disease	0.25 mg titrated to 1 mg weekly	12/5/2017
Rybelsus 213051 Novo Nordisk	Semaglutide oral tablet	T2DM in adults	3 mg titrated to 14 mg daily	9/20/2019
Wegovy 215256 Novo Nordisk	Semaglutide SQ Inj	Weight management in adults and pediatric patients aged 12 yrs and older, reduce the risk of MACE in adults	0.25 mg titrated to 2.4 mg weekly	6/4/2021
Mounjaro 215866 Lily USA	Tirzepatide	T2DM in adults	2.5 mg titrated to 15 mg weekly	5/13/2022

Currently Marketed Glucagon-like Peptide-1 Receptor Agonists in the United States				
Zepbound 217806 Lily USA	Tirzepatide	Weight management in adults, sleep apnea in adults	2.5 mg titrated to 15 mg weekly	11/8/2023
Exenatide synthetic 206697† Amneal	Exenatide synthetic SQ Inj	T2DM in adults	5 mcg to 10 mcg twice daily	11/19/2024

* See [Drugs@FDA](#) for additional details.
† Per Orange Book, all exenatide products have a Marketing Status “discontinued” at this time, except for ANDA 206697, available at https://www.accessdata.fda.gov/scripts/cder/ob/search_product.cfm, accessed July 28, 2025.
Abbreviations: BLA=Biologics License Application, CV=cardiovascular, CVD=cardiovascular disease, Inj=injection, MACE=major adverse cardiovascular events, mcg=microgram, mg=milligram, NDA=New Drug Application, ANDA= Abbreviated NDA, SQ=subcutaneous, T2DM=type 2 diabetes mellitus, yrs=years

Table Source: September 18, 2025 DPV-I Review, page 8-9.

The current labeling for dulaglutide, liraglutide, lixisenatide, semaglutide, and tirzepatide contains ‘ileus’ in the ADVERSE REACTIONS, *Postmarketing Experience* subsection. The current labeling for all six GLP-1 RAs contains constipation in the ADVERSE REACTIONS, *Clinical Trials Experience* subsection. No marketed GLP-1 RAs are explicitly labeled for intestinal obstruction or severe constipation.

(b) (4)

REVIEW OF CLINICAL TRIAL RESULTS AND POST-MARKETING DATA FROM SPONSORS

Semaglutide Clinical Data

The Sponsor’s reported methodology for evaluating semaglutide clinical study data is as follows:

- Data Lock: 31 May 2024
- Search criteria: HLGT ‘Gastrointestinal stenosis and obstruction’ and PT ‘Ileus paralytic’
- Cumulative data were reviewed in the following development programs:
 - Wegovy: STEP3a pool and SELECT (Cardiovascular Outcomes Trial [CVOT])

- Ozempic: SUSTAIN3a pool and SUSTAIN 6 (CVOT) and FLOW (CVOT)
- Rybelsus: PIONEER3a pool and PIONEER 6 (CVOT)

The Sponsor reports the most frequently reported PTs from clinical study data were “Intestinal obstruction”, “Ileus” and “Small intestinal obstruction” (see Sponsor-generated Table 1 below).

Table 1: Overview of semaglutide SAEs from clinical trials within the HLGT “gastrointestinal stenosis and obstruction” + PT= “ileus paralytic

Cases and Events by Preferred Term (PT)

Preferred Term	Q	Event count, period	Event count, cumulative
Totals		0	54
Intestinal obstruction		0	19
Small intestinal obstruction		0	18
Ileus		0	4
Oesophageal stenosis		0	3
Large intestinal obstruction		0	2
Mechanical ileus		0	2
Volvulus		0	2
Acquired oesophageal web		0	1
Papilla of Vater stenosis		0	1
Subileus		0	1
Volvulus of small bowel		0	1
-		0	0
Abdomen crushing		0	0
Abdominal abscess		0	0
Abdominal adhesions		0	0
Abdominal cavity drainage		0	0
Abdominal compartment syndrome		0	0

Data reference: STEP 3a pool, SELECT, SUSTAIN phase 3a pool, SUSTAIN 6, PIONEER 3a pool, and PIONEER 6

Table Source: Novo Nordisk submission March 21, 2025, Clinical Overview, page 10.

Per the Sponsor, the clinical trial data showed that in the majority of programs/CVOTs, the HLGT=intestinal stenosis and obstruction, PT=intestinal obstruction and PT=ileus was reported slightly more frequently in the semaglutide arm compared with placebo (see Sponsor-generated Table 2 below).

Table 2 – Overview of AEs and SAEs from semaglutide clinical trials

	All AEs								SAEs							
	Semaglutide				Placebo/comparator				Semaglutide				Placebo/comparator			
	N	(%)	E	R	N	(%)	E	R	N	(%)	E	R	N	(%)	E	R
Total (all programmes by PYE*)	9	(0.08)	9	0.07	9	(0.13)	9	0.10	6	(0.05)	6	0.05	4	(0.06)	4	0.05
Total (all programmes by PYO#)									29	(0.24)	33	0.09	24	(0.20)	29	0.08
STEP phase 3a pool	Exposure: Semaglutide 2.4 mg: 2650 subjects with 3309.5 PYE; placebo: 1529 subjects with 1885.4 PYE															
HLGT GI stenosis and obstruction	4	(0.2)	4	0.1	4	(0.3)	4	0.2								
PT Intestinal obstruction	0				2	(0.1)	2	0.1	0				1	(<0.1)	1	<0.1
PT Small intestinal obstruction	1	(<0.1)	1	<0.1	1	(<0.1)	1	<0.1	1	(<0.1)	1	<0.1	1	(<0.1)	1	<0.1
PT Ileus	1	(<0.1)	1	<0.1	1	(<0.1)	1	<0.1	0				0			
SELECT CVOT (in trial)	Exposure: Semaglutide 2.4 mg: 8803 subjects with 28283 PYE; placebo: 8801 subjects with 29112 PYO															

	All AEs								SAEs							
	Semaglutide				Placebo/comparator				Semaglutide				Placebo/comparator			
	N	(%)	E	R	N	(%)	E	R	N	(%)	E	R	N	(%)	E	R
HLGT GI stenosis and obstruction									29	(0.33)	31	0.11	29	(0.33)	33	0.11
PT Intestinal obstruction									11	(0.12)	11	0.04	8	(0.09)	10	0.03
PT Small intestinal obstruction									10	(0.11)	10	0.03	10	(0.11)	12	0.04
PT Ileus									3	(0.03)	3	0.01	2	(0.02)	2	<0.01
SUSTAIN 3a pool	Exposure: Semaglutide 0.5 and 1.0 mg: 3150 subjects with 2712 PYE; placebo/comparator: 1657 subjects with 1467 PYE															
HLGT GI stenosis and obstruction	5	(0.1)	5	0.2	1	<0.1	1	<0.1	4	(0.1)	4	0.1	0			
PT Intestinal obstruction	3	<0.1	3	<0.1	0				3	<0.1	3	<0.1	0			
PT Small intestinal obstruction	0				0				0				0			
PT Ileus	0				0				0				0			
SUSTAIN 6 CVOT	Exposure: Semaglutide 0.5 and 1.0 mg: 1642 subjects with 2932 PYE; placebo: 1644 subjects with 3035 PYE															
HLGT GI stenosis and obstruction	5	(0.3)	5	0.2	4	(0.2)	4	0.1	2	(0.1)	2	0.1	2	(0.1)	2	0.1
PT Intestinal obstruction	2	(0.1)	2	0.1	0				1	(0.1)	1	<0.1	0			
PT Small intestinal obstruction	0				2	(0.1)	2	0.1	0				1	(0.1)	1	<0.1
PT Ileus	1	(0.1)	1	<0.1	0				0				0			
PIONEER 3a pool	Exposure: oral semaglutide: 4116 subjects with 4379 PYE; placebo/comparator: 2236 subjects with 2335 PYE															
HLGT GI stenosis and obstruction																
PT Intestinal obstruction*	0				1	(0.1)	1	0.1	0				0			
PT Small intestinal obstruction	1	<0.1	1	<0.1	0				1	<0.1	1	<0.1	0			
PT Ileus	0				2	<0.1	2	<0.1	0				1	<0.1	1	<0.1
PIONEER 6 CVOT	Exposure: oral semaglutide: 1591 subjects with 1932 PYO; placebo: 1592 subjects with 1987 PYO															
HLGT GI stenosis and obstruction																
PT Intestinal obstruction*									0				1	(0.06)	2	0.1
PT Small intestinal obstruction									0				0			
PT Ileus									0				0			
FLOW	Exposure: Semaglutide 1.0 mg: 1767 subjects with 5876 PYO; placebo: 1766 subjects with 5760 PYO															
HLGT GI stenosis and obstruction									9	(0.51)	12	0.20	4	(0.23)	4	0.07
PT Intestinal obstruction									2	(0.11)	2	0.03	1	(0.06)	1	0.02
PT Small intestinal obstruction									3	(0.17)	6	0.10	2	(0.11)	2	0.03
PT Ileus									1	(0.06)	1	0.02	0			

* All Phase3a trials & Sustain 6 CVOT on treatment, # Select CVOT, Pioneer 6 CVOT & Flow in trial, \$ Pioneer 3a data updated for PT Intestinal obstruction in study arm, +Pioneer 6 CVOT data updated in placebo arm.

Note: Sum of subject counts might vary as one subject can report multiple events.

Data reference: STEP 3a pool (on treatment): VV-CLIN-106410 table 7.2.2 SELECT (in trial): VV-CLIN-190000 table 14.3.1.3 and table 7.2.21 (SAEs: no HLGT). SUSTAIN phase 3a pool (on treatment): VV-CLIN-088474 table 7.3.46 and table 7.5.49. SUSTAIN 6 (on treatment): VV-CLIN-056620 table 15.3.1.11 and table 15.3.1.17. PIONEER 3a pool (HLGT missing): VVCLIN-017990: table 7.3.7 and table 7.2.53. PIONEER 6 (HLGT missing): VV-CLIN-067742: table 14.3.1.7. PIONEER program did not include HLGT in the CSRs. SELECT, PIONEER 6 and FLOW only collected SAEs systematically.

Table Source: Novo Nordisk submission April 23, 2025, Response to Information Request, page 3-4.

Across all programs, the Sponsor reports 54 SAEs in the semaglutide arm within the HLGT “gastrointestinal stenosis and obstruction” and 2 SAEs with the PT “ileus paralytic”. Of the 56 SAEs, 9 were adjudicated by the Sponsor as possibly/probably related to trial product. Of the top 3 reported PTs

in the clinical program, PT=intestinal obstruction and PT=small intestinal obstruction represented 6/9 possible/probable related SAEs. Per the Sponsor, most possible/probable related SAEs were confounded by medical history (6/9) (adhesions from previous bowel surgeries or long-term constipation with onset prior to study) but had plausible time to onset (6/9). The Sponsor states no clear causal relationship with semaglutide could be established.

Reviewer Comment: I agree with the Sponsor’s assessment that a causal relationship between semaglutide and intestinal obstruction cannot be established based on the presented clinical study data. In general, a retrospective search of the clinical database for identification of possible events related to intestinal obstruction or ileus has limited utility in reliably capturing a possible signal especially by utilizing search criteria that could capture any obstructive event. In addition, confounders such as concomitant medications or underlying diagnoses limit causality assessment.

Semaglutide Postmarketing Data

Per the Sponsor, the most frequently reported PTs for postmarketing cases were “intestinal obstruction”, “ileus”, and “small intestinal obstruction” as shown in Sponsor-generated Table 3 below:

Table 3 Overview of AEs and SAEs from semaglutide post-marketing events

PM Rybelsus, Ozempic and Wegovy						
HLGT "gastrointestinal stenosis and obstruction"						
Cases and Events by Preferred Term (PT)						
Preferred Term	Q	Event count, period	Event count, cumulative	Period Event Rate	Cumulative Event Rate	Perce
Totals		18	377	0.020	0.018	
Intestinal obstruction		13	187	0.015	0.009	
Ileus		1	62	0.001	0.003	
Small intestinal obstruction		1	56	0.001	0.003	
Volvulus		1	12	0.001	0.001	
Obstruction gastric		1	10	0.001	0.000	
Intussusception		1	6	0.001	0.000	
Gastrointestinal obstruction		0	9	0.000	0.000	
Large intestinal obstruction		0	6	0.000	0.000	
Oesophageal stenosis		0	5	0.000	0.000	
Subileus		0	4	0.000	0.000	
Gastrointestinal scarring		0	3	0.000	0.000	
Mechanical ileus		0	3	0.000	0.000	
Superior mesenteric artery syndrome		0	3	0.000	0.000	
Volvulus of small bowel		0	3	0.000	0.000	
Anal stenosis		0	1	0.000	0.000	

Cumulative until data cut off QLIK 6 MAY 2024
No event of PT = "ileus paralytic"

Table Source: Novo Nordisk submission March 21, 2025, Clinical Overview, page 13.

Sponsor’s reported methodology for evaluating postmarketing cases is as follows:

- Data Lock: 30-MAY-2023
- Data from post-marketing: all valid cases from post-marketing sources for Ozempic, Rybelsus, Wegovy
- Search criteria HLGT ‘Gastrointestinal stenosis and obstruction’ and PT ‘Ileus paralytic’.

Results:

The Sponsor reports a total of 152 cases (153 events) were reported from postmarketing sources with the following breakdown:

- Ozempic – 113 cases
- Rybelsus – 21 cases
- Wegovy – 18 cases

The Sponsor reports 2 fatal cases: one with Rybelsus and one with Wegovy.

- The Sponsor provides the following details regarding the fatal case for Rybelsus:
 - Ileus was suspected, not confirmed. One week after initiation of Rybelsus, the patient developed low grade fever. The patient reported abdominal distension and a one-week history of constipation. The patient stopped taking Rybelsus at their own discretion on 12 Feb 2022. The reporter suspected ileus. On (b) (6), the patient died (unknown cause of death).
- The Sponsor provides the following details regarding the fatal case for Wegovy:
 - There is limited information. The reporter stated that the hospital failed to treat the patient which led to death due to ileus.

Per the Sponsor, cases were primarily serious (n = 143, 95%), spontaneously reported (n = 111, 73%) and medically confirmed (n = 92, 61%). All cases had either limited information (n = 121) and/or relevant confounding factors (n = 60), such as constipation, adhesions, hernias, cancer, abdominal surgery, scar tissue, inflammatory bowel disease or concomitant medication. Per the Sponsor, approximately 50% of the cases had a medical history of diabetes mellitus as a possible confounder due to its association with an increased risk of abnormal gastrointestinal motility.

Dechallenge and Rechallenge information from the Sponsor:

Dechallenge:

- Positive: 39
- Negative: 3

Rechallenge:

- Positive: 1
 - Case 730379: increasing severity of constipation leading to intestinal obstruction as well as a positive rechallenge and need for discontinuing study product. Time of onset latency suggests a temporal relationship (first months of starting Ozempic).
- Negative: 3

The Sponsor performed a second analysis of postmarketing cases to extend the data lock period.

Methodology:

- Date Lock: 30-MAY-2024
- Search term: HLGT “gastrointestinal obstruction and stenosis” + PT “ileus paralytic”
- Wegovy, Rybelsus and Ozempic
- Medically confirmed cases and with a positive de-challenge or re-challenge (or both)

Results:

The Sponsor reports 31 cases were identified via the above parameters. All cases were serious, and most of the cases had limited data. The Sponsor states that based on analysis of narratives, there were 4 cases of mechanical intestinal obstruction, 8 cases of functional obstruction, and the rest did not have sufficient information to regard them as either functional or true intestinal obstruction. The Sponsor further states that no clear causal relationship with semaglutide could be established for these cases.

Reviewer Comment: Postmarketing reports rely on spontaneous reporting and often lack adequate information to establish causality. Though the postmarketing data presented by the Sponsor does not appear to establish a causal relationship between semaglutide and IO, an association between these cannot be ruled out.

Liraglutide Clinical Data

The Sponsor’s reported methodology for evaluating liraglutide clinical study data is as follows:

- Search terms: HLGT ‘Gastrointestinal stenosis and obstruction’ and PT ‘Ileus paralytic’
- Data Lock: 31 Mar 2024
- Clinical studies: data from completed studies with Liraglutide

Victoza:

Per the Sponsor, in the safety analysis set for all long-term studies, there were no reported cases of “ileus” or “intestinal obstruction” for subjects treated with liraglutide. One case of each preferred term was reported in the active comparator group, with an event rate of 1.4 per 1000 subject years of exposure. No cases were reported in the Placebo group. (See Sponsor-generated Table 4 below.)

Table 4 Victoza clinical trial cases

Preferred term	Total Liraglutide				Placebo				Active Comparator				Total Comparator			
	N	(%)	E	R	N	(%)	E	R	N	(%)	E	R	N	(%)	E	R
Ileus	0	0	0	0	0	0	0	0	1	0.1	1	1.4	1	0.1	1	1.0
Intestinal Obstruction	0	0	0	0	0	0	0	0	1	0.1	1	1.4	1	0.1	1	1.0

N: Number of Subjects with adverse events; %: Proportion of subjects in analysis set having adverse events; E: Number of adverse events; R: Number of events divided by Subject years of exposure multiplied by 1000.

Table Source: Novo Nordisk submission March 21, 2025, Clinical Overview, page 14.

Saxenda:

Per the Sponsor, in the safety analysis set, a single event of “intestinal obstruction” was reported in subjects administered liraglutide 3.0 mg, comprising <0.1% of the total number of subjects. The Sponsor reports this event rate equates to <0.1 occurrences per 100 patient-years of exposure. The same event rate was reported for the total liraglutide group and for the placebo group. (See Sponsor-generated Table 5 below.) There were no reported cases of ileus.

Table 5 Saxenda clinical trial cases

Preferred term	Liraglutide 3.0 mg				Total Liraglutide				Placebo			
	N	(%)	E	R	N	(%)	E	R	N	(%)	E	R
Intestinal Obstruction	1	<0.1	1	<0.1	1	<0.1	1	<0.1	1	<0.1	1	<0.1

N: Number of subjects; %: Percentages are based on total N; E: Number of events; R: Event rate per 100 years of exposure.

Table Source: Novo Nordisk submission March 21, 2025, Clinical Overview, page 15.

Xultophy:

Per the Sponsor, in the safety analysis set for all clinical trials, there were no reported cases of “ileus paralytic” for subjects treated with Xultophy. Under the HLGT “gastrointestinal stenosis and obstruction,” the Sponsor reports two cases of Preferred Term “small intestinal obstruction” were observed in IDegLira group. (See Sponsor-generated Table 6 below.)

Table 6 Xultophy clinical trial cases

Preferred term	IDegLira				Comparator			
	N	(%)	E	R	N	(%)	E	R
Small Intestinal Obstruction	2	0.1	2	0.3	0	0	0	0

N: Number of Subjects with adverse events; %: Percentages are based on total; E: Number of adverse events; R: Number of events divided by Subject years of exposure multiplied by 1000

Table Source: Novo Nordisk submission March 21, 2025, Clinical Overview, page 15.

Reviewer Comment: I agree with the Sponsor’s assessment that a causal relationship between liraglutide and intestinal obstruction cannot be established based on the presented clinical study data. The same limitations discussed above with respect to the semaglutide clinical study data apply to the data presented from the liraglutide clinical development program.

Liraglutide Postmarketing Data

The Sponsor’s reported methodology for evaluating liraglutide clinical study data is as follows:

- Search terms: HLGT ‘Gastrointestinal stenosis and obstruction’ and PT ‘Ileus paralytic’
- Data Lock: 31 Mar 2024
- All valid cases from post-marketing sources for Saxenda®, Xultophy® and Victoza®.

Victoza:

HLGT Gastrointestinal stenosis and obstruction

Cumulatively, there were 108 adverse events (AEs; RR = 0.01); out of which:

- About 89% of the events were serious. One resulted in fatal outcome. A detailed examination of the fatal case revealed a history of multiple underlying medical conditions, such as coronary atherosclerotic heart disease, hypertension, and diabetes mellitus with possible complications including numbness in the lower limbs and a reduction in eyesight in both eyes, and hepatic cyst. However, the lack of autopsy results limited a comprehensive medical evaluation of the case.
- About 70% of the events were medically confirmed.
- Approximately 60% of the events were reported from the United States followed by Japan (~13%) and France (~6%); this is in line with the exposure distribution within these countries.

- De-challenge was reported as positive in ~53% of the events.

PT Ileus paralytic

Cumulatively, there were 15 AEs (RR = 0.001); out of which:

- Majority of events were serious (88%) and none of the serious events had a fatal outcome. In 3 cases, patients had confounding medical history such as appendicitis, abdominal hernia, duodenitis and gall bladder disorder.
- Around 80% of the events were medically confirmed.
- The events were predominantly from Japan (~67%), followed by the United States (20%) and France (7%); which is in line with the exposure distribution within these countries.

Saxenda:

HLGT Gastrointestinal stenosis and obstruction

Cumulatively, there were 67 AEs (RR 0.03); of which:

- Around 90% of the events were serious and none of the serious events had a fatal outcome. About 37% of the total events had a positive de-challenge.
- Around 57% of these events were medically confirmed.
- The events were predominantly reported from the United States (~29%), Brazil (~10%), Canada, Colombia, and Israel (~7% each); which is line with the exposure distribution.

PT Ileus paralytic

Cumulatively, there were 12 AEs (RR = 0.01); out of which:

- Around 42% (n=5) were medically confirmed.
- Most of the events were serious (~92%) and none of the serious events had a fatal outcome. In 6 cases, patient had confounding medical history such as uterine cancer, Crohn's disease, obesity, and history of abdominal operation.
- The events were predominantly reported from the Brazil (~33%), followed by Canada, Chile, and Mexico (~17% each).

Xultophy:

Cumulatively, there were 10 AEs (RR 0.01):

- Half of these events (50%) were medically confirmed.
- Most of these events were serious (80%) and none of the serious events had a fatal outcome.
- The outcome was reported as recovered/recovering in majority of the events (~70%) of which Xultophy® was discontinued in 4 cases.

Reviewer Comment: The postmarketing data presented by the Sponsor does not appear to establish a causal relationship between liraglutide and IO. However, similar to semaglutide, an association between liraglutide and IO cannot be ruled out.

Sponsor's Information Request (IR) Response

On April 2, 2025 FDA sent an IR letter to the Sponsor requesting narrative summaries for all AEs and SAEs of "intestinal obstruction", "small intestinal obstruction", and "ileus" across all clinical development programs for semaglutide and liraglutide. Review of the submitted narratives confirms the Sponsor's

assessment that evaluation of causality is limited by confounding factors including past/concurrent medical history and concomitant medications. The submitted narratives appear to describe cases consistent with ileus, extrinsic mechanical obstruction (i.e. hernia, adhesions, masses), and fecal impaction, among others.

DPV-1 Signal Assessment

DPV-I and DEPI-I performed a joint review to provide an updated evaluation of the relationship between GLP-1 RAs and intestinal obstruction (IO) and/or severe constipation from the FDA Adverse Event Reporting System (FAERS) database, and the medical literature. Their findings are outlined below. Refer to the DPV-I/DEPI-I review dated September 18, 2025 for additional details.

Intestinal Obstruction (IO) Case Series

The IO case series included 20 FAERS cases deemed possibly associated with the use of dulaglutide (n=1), liraglutide (n=1), semaglutide (n=13), and tirzepatide (n=5).

Among the IO FAERS cases, the median time to onset (TTO) of IO from GLP-1 RA initiation was 120 days and the median age of patients in the IO case series was 60 years (with 1 case occurring in a 27-year-old with no reported confounders). The DPV-1 review reports 2 fatalities occurred (one dulaglutide case and one semaglutide case) and 5 cases (2 semaglutide cases, 3 tirzepatide cases) had life-threatening serious outcomes. Reported complications of IO included the need for intestinal surgery (n=17), intestinal perforation (n=3), intussusception (n=2), volvulus (n=2), anal fissure (n=1), and renal insufficiency (n=1).

Severe Constipation (SC) Case Series

The severe constipation (SC) case series included 88 FAERS cases deemed possibly associated with the use of dulaglutide (n=15), exenatide (n=4), liraglutide (n=14), semaglutide (n=38), and tirzepatide (n=17). The median TTO of SC from GLP-1 RA initiation was 49 days.

The median age of patients in the SC case series was 62 years, with 4 cases occurring in patients less than 40 years of age, including a fatal case in a 39-year-old patient. With the exception of the fatal case, the remaining patients less than 40 years old had no reported confounders. Two cases (liraglutide, n=1; semaglutide, n=1) had life-threatening serious outcomes. Reported SC complications included the need for intestinal surgery (n=12), intestinal perforation/rupture (n=3), anal fissure (n=3), anal abscess (n=2), volvulus (n=2), anal tear (n=1), fistula (n=1), intussusception (n=1), uterine prolapse (n=1), and renal insufficiency (n=1).

Seven cases fulfilled the case definition for both the IO case series and the SC series and were included in both case series.

Reviewer Comment: Overall, the postmarketing cases identified by DPV for both case series were confounded and/or lacked information; however, it is biologically plausible that GLP-1 RA use may have contributed to the events. The events had serious outcomes and required intervention and, in some cases, IO and SC appeared to overlap such that SC led to fecal impaction and then to obstruction.

Literature Review

DEPI-I reviewed two newly identified published cohort studies by Ueda et al. (2024)⁶ and Gmehlin et al. (2025)⁷ and concluded these studies are insufficient to inform the relationship between GLP-1 RA use and IO in patients with T2DM due to limitations such as outcome misclassification, imbalance in baseline medical conditions including obesity and severity of diabetes, differential labeling on serious GI complications, differential risk mitigation, and potential detection bias.

DISCUSSION AND CONCLUSIONS

The GLP-1 RA product labels currently include “ileus” in the postmarketing section, which describes a specific type of functional intestinal obstruction. Based on the available data outlined above, updating the *Postmarketing Experience* section of GLP-1 RA labeling with the additional terms “intestinal obstruction” and “severe constipation” appears reasonable. Though a causal relationship cannot be confirmed by the available data, an association between IO/SC and the GLP-1 RA class may be biologically plausible and cannot be ruled out.

In addition to ileus, we note IO cases reported from clinical studies and postmarketing that appear consistent with fecal impaction. In consultation with the Division of Gastroenterology (DG), DDLO determined that “fecal impaction” seemed reasonable to include in labeling as a specific manifestation of severe constipation.

The following language is recommended for Section 6.2 of the GLP-1 RA class to provide additional details to prescribers and help inform them of these potential risks:

Gastrointestinal: ileus, intestinal obstruction, severe constipation including fecal impaction

⁶ <https://pubmed.ncbi.nlm.nih.gov/37716613/>

⁷ <https://pubmed.ncbi.nlm.nih.gov/40366278/>

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/s/

MARISA PETRUCCELLI
09/30/2025 12:47:53 PM

AMY S ROGSTAD
09/30/2025 12:52:08 PM

MONIKA A HOUSTOUN
09/30/2025 07:21:11 PM

**CENTER FOR DRUG EVALUATION AND
RESEARCH**

APPLICATION NUMBER:

209637Orig1s035

OTHER REVIEW(S)

Division of Diabetes, Lipid Disorders, and Obesity (DDLO)

Labeling Review

Application Type	Prior Approval Supplement (PAS)
Applicant	Novo Nordisk
DDLO Safety Regulatory Project Manager (SRPM)	Marisa Petruccelli, SRPM, DDLO
DRO-CHEN RPM Supervisory Concurrence	Callie Cappel-Lynch, PharmD, RAC, Supervisory Consumer Safety Officer, DRO-CHEN Elizabeth Solomon, MSHS, RAC-Drugs, Supervisory Regulatory Health Project Manager, DRO-CHEN

Application Number	Name	Date of Receipt
BLA 208583/S26	Xultophy 100/3.6 (insulin degludec and liraglutide) injection	April 14, 2025
NDA 22341/S46	Victoza (liraglutide) injection	April 14, 2025
NDA 206321/S22	Saxenda (liraglutide) injection	April 14, 2025
NDA 215256/S26	Wegovy (semaglutide) injection	March 21, 2025
NDA 213051/S28	Rybelsus (semaglutide) tablet	March 21, 2025
NDA 209637/S35	Ozempic (semaglutide) injection	March 21, 2025
NDA 213051/S29	Rybelsus (semaglutide) tablet	June 20, 2025
NDA 209637/S037	Ozempic (semaglutide) injection	June 20, 2025

Labeling Reviewed

Regulatory History of Applications

Novo Nordisk has six approved glucagon-like peptide 1 receptor agonist (GLP-1 RA) products:

Wegovy (semaglutide) injection was originally approved on June 4, 2021, indicated as an adjunct to a reduced calorie diet and increased physical activity for chronic weight management in adults with an initial body mass index (BMI) of:

- 30 kg/m² or greater (obesity) or
- 27 kg/m² or greater (overweight) in the presence of at least one weight-related comorbid condition (e.g., hypertension, type 2 diabetes mellitus (T2DM), or dyslipidemia)

On March 8, 2024, S-011 was approved for Wegovy which provided for addition of the following indication:

Wegovy is indicated in combination with a reduced calorie diet and increased physical activity to reduce the risk of major adverse cardiovascular events (cardiovascular death, non-fatal myocardial infarction, or non-fatal stroke) in adults with established cardiovascular disease and either obesity or overweight.

Rybelsus (semaglutide) tablet is a long-acting GLP-1 analogue that is approved as an adjunct to diet and exercise to improve glycemic control in patients with T2DM. It was originally approved under NDA 213051 on September 20, 2019.

Ozempic (semaglutide) injection is a long-acting GLP-1 analogue that was approved on December 5, 2017, under NDA 209637 as an adjunct to diet and exercise to improve glycemic control in adults with T2DM and approved on January 16, 2020, to reduce the risk of major adverse cardiovascular events in adults with T2DM and established cardiovascular disease and approved on January 28, 2025, to reduce the risk of sustained eGFR decline, end-stage kidney disease, and cardiovascular death in adults with type 2 diabetes mellitus and chronic kidney disease.

Victoza (liraglutide) injection, is a long-acting GLP-1 RA, that was approved on January 25, 2010. Victoza is indicated as an adjunct to diet and exercise to improve glycemic control in patients 10 years and older with T2DM, and to reduce the risk of major adverse cardiovascular events (cardiovascular death, non-fatal myocardial infarction, or non-fatal stroke) in adults with T2DM and established cardiovascular disease.

Saxenda (liraglutide) injection, is a long-acting GLP-1 RA, that was approved on December 23, 2014, as an adjunct to a reduced-calorie diet and increased physical activity for chronic weight management in adult patients with an initial BMI of 30 kg/m² or greater (obese), or 27 kg/m² or greater (overweight) in the presence of at least one weight-related comorbid condition (e.g., hypertension, T2DM, or dyslipidemia). It is currently also approved for pediatric patients 12 years and older with body weight above 60 kg and obesity.

Xultophy 100/3.6 (insulin degludec and liraglutide) injection is a combination product of insulin (degludec) and a GLP-1 RA (liraglutide). It was approved under NDA 208583 on November 21, 2016, as an adjunct to diet and exercise to improve glycemic control in adults with T2DM. On March 23, 2020, NDA 208583 was deemed to be an approved biologics license application (BLA) under section 351(a) of the Public Health Service Act (PHS Act) and is now referred to as BLA 208583.

Background

On March 21, 2025, Novo Nordisk submitted a PAS for its three semaglutide products (Wegovy, Rybelsus, Ozempic) to add 'intestinal obstruction' to section 6.2 Postmarketing Experience of the Prescribing Information (PI).

On April 14, 2025, Novo Nordisk submitted the same PAS to their three liraglutide products (Xultophy 100/3.6, Victoza, Saxenda) per our March 28, 2025, email request. (b) (4)

(b) (4)

(b) (4)

DPV was consulted to update their November 8, 2022, review (DARRTS Reference ID: 5070612) regarding GLP-1 RAs and intestinal obstruction and to include cases of fecal impaction/severe constipation in their FAERS search. This new safety signal was first evaluated under SSID 1004823 (b) (4)

(b) (4)

On June 20, 2025, Novo Nordisk submitted a PAS for Ozempic (S37) and Rybelsus (S29) to add 'headache' to section 6.2 Postmarketing Experience. We have merged the labeling supplements for Ozempic and will take action on Ozempic S35 and S37 with one label. We have also merged Rybelsus S28 and S29 together and will take action on these supplements with one label along with S24 for Rybelsus. See separate labeling review for Rybelsus S24 for further details regarding that supplement.

Review

DDLO medical officer, Amy Rogstad, reviewed the applicant's justification for the labeling change in the original March 21, 2025, submission and their April 28, 2025, response to our April 2, 2025, information request in a review dated September 30, 2025 (DARRTS Reference ID 5668954). The DPV review filed on September 18, 2025 (DARRTS Reference ID 5661280) provided labeling recommendations regarding the proposed 'intestinal obstruction' addition. DDLO informally requested feedback from DG DDS Joyce Korvick and DG team on preferred labeling language to best describe the safety signal. Monika Houston filed a review on October 14, 2025 (DARRTS Reference ID 5676425) to address these supplements as well as the safety signal for the whole GLP-1 RA class.

DDLO clinical reviewer Dolly Misra and team leader Justin Penzenstadler reviewed and confirmed the 'headache' addition for Rybelsus S29 and Ozempic S37 was acceptable in a review filed on September 25, 2025 (DARRTS Reference ID 5665787).

Additional minor revisions were made to align with class labeling.

The final agreed labeling received on October 1, 2025, (Xultophy on October 3, 2025) was compared to the currently approved PI. See attached labeling for specific revisions. There were no updates to the Medication Guides or Instructions for Use for these products. The previously approved versions will be attached to the approval letters.

Regulatory Recommendations

The labeling was reviewed and found acceptable. These supplements are ready for approval. The Agency should issue an approval letter for these supplements.

Attachments:

PI comparison documents.

See appended electronic signature page.

180 Page(s) of Draft Labeling have been Withheld in Full as b4 (CCI/TS) immediately following this page

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/s/

MARISA PETRUCCELLI
10/14/2025 11:58:23 AM

**CENTER FOR DRUG EVALUATION AND
RESEARCH**

APPLICATION NUMBER:

209637Orig1s035

ADMINISTRATIVE and CORRESPONDENCE
DOCUMENTS

From: Petruccelli, Marisa
Sent: Fri 26 Sep 2025 10:14:53 AM -0400 UTC
To: CIVT (Christina Talley); DJCH (Devraj Chakravarty); KKJF (Kamilla Kjær Frederiksen); JGKV (Jigisha Varia); PTRB (Pat Robson); BNOI (Briana Norris)
Cc: Kelly, Lindsey; White, Martin; Dosanjh, Supendeeep; Kouv, Kalyann
Subject: FDA R2 labeling comments for 'intestinal obstruction' supplements
Attachments: Saxenda PI 9-26-25 FDA R2 Comments.docx

Good morning,

Please find attached the Prescribing Information with our comments for Saxenda NDA 206321/S22.

The document you return should include the following:

1. Accepted edits from FDA with which you agree. This document should not include previous tracked changes from FDA's edits if you agree.
2. If you disagree with FDA's edits, present your new proposal in tracked changes as well as add a comment bubble, that begins with "Applicant response to FDA change" or "Applicant comment," that includes a summary of your rationale.
3. For additional edits not reflected in the previous round of negotiations, present any new edits in tracked changes and add a comment bubble, that begins with "Applicant response to FDA change" or "Applicant comment," that includes a summary of your rationale.
4. Ensure that all formatting [especially HIGHLIGHTS and TABLE of CONTENTS (TOC)] is correct. A sample is available [here](#).
5. Ensure that all sections and subsections in the TOC are numbered correctly and correspond correctly with all cross references throughout the Full Prescribing Information.
6. Ensure that all spelling is correct.
7. Ensure that all table and figure numbers are ordered and labeled correctly.
8. Ensure consistent font type, font size, and spacing throughout the labeling.
9. Complete a final Selected Requirements for Prescribing Information (SRPI) checklist of important format elements of the Prescribing Information (PI) based on regulations (21 CFR 201.56 and 201.57) and guidances. The SRPI checklist can be found [here](#). Additional labeling resources are available on the [Prescribing Information Resources](#) website.

We ask that you provide the revised labeling by **the morning of 10/1/25**. The labeling can be sent to me via email if you have additional edits; if you accept all changes and have no additional edits the labeling can be submitted to the application.

For the following supplements, please submit final labeling to the application with an October 2025 revision date.

- Xultophy BLA 208583/S26
- Victoza NDA 22341/S46
- Wegovy NDA 215256/S26
- Ozempic NDA 209637/S35
- Rybelsus NDA 213051/S28

For Rybelsus NDA 213051/S28, please add the edits from the label you emailed on 9/17/25 to your next round of labeling for S24 such that the S24 label includes our agreed edits for S28 and S29.

We remind you that these edits do not reflect the final regulatory decision for these applications.

Please confirm receipt of this email and let me know if you have any questions.

Thank you,
Marisa

Marisa Petruccelli

Safety Regulatory Project Manager- Division of Diabetes, Lipid Disorders, and Obesity (DDLO)

**Center for Drug Evaluation and Research (CDER) / Office of New Drugs (OND)
Office of Cardiology, Hematology, Endocrinology, and Nephrology (OCHEN)
U.S. Food and Drug Administration**

Tel: 240-402-6147

Marisa.Petruccelli@fda.hhs.gov



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/s/

MARISA PETRUCCELLI
09/26/2025 10:27:38 AM

From: Petruccelli, Marisa
Sent: Fri 12 Sep 2025 11:32:36 AM -0400 UTC
To: CIVT (Christina Talley); JGKV (Jigisha Varia); DJCH (Devraj Chakravarty); PTRB (Pat Robson); BNOI (Briana Norris)
Cc: Kelly, Lindsey; Dosanjh, Supendeeep; Kuv, Kalyann; White, Martin
Subject: FDA labeling comments for 'intestinal obstruction' supplements
Attachments: Ozempic PI FDA Comments 9_12.docx, NDA 206321 S-022 PI FDA Comments 9_12.docx

Good morning,

Please find attached the Prescribing Information with our comments for Ozempic NDA 209637/S35 and Saxenda NDA 206321/S22. Please apply the comments and edits regarding 'intestinal obstruction' to the following supplements as well:

- Xultophy BLA 208583/S26
- Victoza NDA 22341/S46
- Wegovy NDA 215256/S26
- Rybelsus NDA 213051/S28

The documents you return should include the following:

1. Accepted edits from FDA with which you agree. This document should not include previous tracked changes from FDA's edits if you agree.
2. If you disagree with FDA's edits, present your new proposal in tracked changes as well as add a comment bubble, that begins with "Applicant response to FDA change" or "Applicant comment," that includes a summary of your rationale.
3. For additional edits not reflected in the previous round of negotiations, present any new edits in tracked changes and add a comment bubble, that begins with "Applicant response to FDA change" or "Applicant comment," that includes a summary of your rationale.
4. Ensure that all formatting [especially HIGHLIGHTS and TABLE OF CONTENTS (TOC)] is correct. A sample is available [here](#).
5. Ensure that all sections and subsections in the TOC are numbered correctly and correspond correctly with all cross references throughout the Full Prescribing Information.
6. Ensure that all spelling is correct.
7. Ensure that all table and figure numbers are ordered and labeled correctly.
8. Ensure consistent font type, font size, and spacing throughout the labeling.
9. Complete a final Selected Requirements for Prescribing Information (SRPI) checklist of important format elements of the Prescribing Information (PI) based on regulations (21 CFR 201.56 and 201.57) and guidances. The SRPI checklist can be found [here](#). Additional labeling resources are available on the [Prescribing Information Resources](#) website.

We ask that you provide the revised labeling by **the morning of 9/17/25**. The labeling can be sent to me via email and does not need to be submitted to the application until we have agreed-upon labeling.

We remind you that these edits do not reflect the final regulatory decision for this application.

Please confirm receipt of this email and let me know if you have any questions.

Marisa Petruccelli

Safety Regulatory Project Manager- Division of Diabetes, Lipid Disorders, and Obesity (DDLO)

**Center for Drug Evaluation and Research (CDER) / Office of New Drugs (OND)
Office of Cardiology, Hematology, Endocrinology, and Nephrology (OCHEN)
U.S. Food and Drug Administration**

Tel: 240-402-6147

Marisa.Petruccelli@fda.hhs.gov



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/s/

MARISA PETRUCCELLI
09/12/2025 11:52:24 AM

From: Petruccelli, Marisa
Sent: Mon 28 Apr 2025 02:07:46 PM -0400 UTC
To: PTRB (Pat Robson); CIVT (Christina Talley)
Cc: Kauv, Kalyann; Kelly, Lindsey
Subject: Supplement Amendment Request

Good afternoon,

Please refer to Saxenda sNDA 206321/S22 submitted on April 14, 2025 and Ozempic sNDA 209637/S35 submitted on March 21, 2025.

We request that you submit an amendment to each of these supplements with revised labeling for the Instructions for Use and Carton and Container that remove statements that suggest or imply that the

(b) (4)

Please confirm receipt of this request and let me know of any questions.

Marisa

Marisa Petruccelli

Safety Regulatory Project Manager- Division of Diabetes, Lipid Disorders, and Obesity (DDLO)

Center for Drug Evaluation and Research (CDER) / Office of New Drugs (OND)
Office of Cardiology, Hematology, Endocrinology, and Nephrology (OCHEN)
U.S. Food and Drug Administration

Tel: 240-402-6147

Marisa.Petruccelli@fda.hhs.gov



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MARISA PETRUCCELLI
04/28/2025 02:15:22 PM

From: Petruccelli, Marisa
Sent: Wed 02 Apr 2025 11:35:31 AM -0400 UTC
To: DJCH (Devraj Chakravarty); JGKV (Jigisha Varia); CIVT (Christina Talley)
Cc: White, Martin; Kelly, Lindsey; Dosanjh, Supendeeep; Kouv, Kalyann; BNOI (Briana Norris); PTRB (Pat Robson)
Subject: Information Request Regarding 3/21/25 PAS - Response Requested by 4/16/25

Good morning,

We refer to your prior approval supplement submissions dated March 21, 2025, to your semaglutide products, specifically the document titled 2.5 Clinical overview addendum.

We note Table 2 on page 11 of your submission presents adverse event (AE) and serious adverse event (SAE) data for semaglutide and includes a row titled "Total (all programmes)". However, there is no data for total AEs and SAEs presented in this row. Submit the missing data for our review, along with narrative summaries for all AEs and SAEs of "intestinal obstruction", [REDACTED] (b) (4) and "ileus" across all clinical development programs for semaglutide and liraglutide.

Please provide this response as a submission to the liraglutide and semaglutide NDAs and BLA within 2 weeks.

Please confirm receipt and let me know of any questions,
Marisa

Marisa Petruccelli

Safety Regulatory Project Manager- Division of Diabetes, Lipid Disorders, and Obesity (DDLLO)

Center for Drug Evaluation and Research (CDER) / Office of New Drugs (OND)
Office of Cardiology, Hematology, Endocrinology, and Nephrology (OCHEN)
U.S. Food and Drug Administration

Tel: 240-402-6147

Marisa.Petruccelli@fda.hhs.gov



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