Ozempic Subcutaneous Injection for Treatment of Diabetes – Drug Shortage

OZEMPIC (SEMAGLUTIDE) PRE-FILLED PENS MARKETED IN CANADA

DIN	Dose Delivered	Manufacturer
02471477	0.25 mg, 0.5 mg	Novo Nordisk Canada Inc.
02471469	1 mg	

Health Canada–approved indications of Ozempic[1]:

- Once-weekly treatment of adult patients with type 2 diabetes mellitus (T2DM) to improve glycemic control as adjunct to diet and exercise.

Management Options

- Patients are encouraged to limit refill prescriptions to a 30-day supply and contact their pharmacy or health-care provider ahead of running out of their current supply.
- The information presented here is generalized, and patients should be evaluated on an individual basis with close clinical monitoring. T2DM is a complex medical condition that requires attention to factors other than pharmacotherapy, which are not addressed here.
- The inclusion of products in this document should not be considered an endorsement, but simply a review of available options. Consult local drug benefits lists for coverage.

Pharmaceutical Alternatives

- Semaglutide is available as pre-filled pens that deliver subcutaneous doses of 0.25 mg, 0.5 mg or 1 mg (Ozempic) and as an oral tablet (Rybelsus). Supply constraints may occur with these products due to delays in delivery and/or increased demand; inventory may be limited and sporadic.

Switching from Ozempic 1 mg dose pen to Ozempic 0.25 mg and 0.5 mg dose pen

- Use the same total weekly dose. Inject two 0.5 mg doses at the same time at different sites to achieve 1 mg dose. Rotate injection sites. This may not be a feasible option due to quantity limits imposed by third-party insurers.

Switching from subcutaneous semaglutide to oral semaglutide

- Oral semaglutide is taken daily on an empty stomach upon waking, with only minimal water and no other food, drink or medications for at least 30 minutes.
- There is no equivalent oral dose provided in the manufacturer's labelling for the 1 mg once-weekly SC dose; some experts convert to 14 mg orally once daily, beginning within 7 days of the last injection.[2]

Alternative Glucagon-Like Peptide-1 Receptor Agonists[3]

- GLP-1 RAs (dulaglutide, liraglutide SC formulations) can decrease HbA_{1c} by approximately 1–1.5%.
- Injectable GLP-1 RAs are administered either daily (liraglutide) or weekly (dulaglutide) without regard to meals.
- GLP-1 RAs:
  - are contraindicated in pregnancy and in those with a personal or family history of medullary thyroid carcinoma or multiple endocrine neoplasia syndrome type 2
  - need to be used with caution in patients with heart rhythm disturbances and severe renal impairment
  - are associated with nausea, vomiting, diarrhea, weight loss and acute pancreatitis (rare) as well as injection site reactions (subcutaneous products)
  - may reduce the rate of absorption of some oral medications

Drug Class: Glucagon-Like Peptide-1 (GLP-1) Receptor Agonists		
Drug	**Dosage**	**Cost***
semaglutide Ozempic	Initial: 0.25 mg weekly SC for 4 wk Increase to 0.5 mg weekly SC from week 5 onward May increase to 1 mg weekly SC after a further 4 wk	~$230
semaglutide Rybelsus	Initial: 3 mg once daily PO Increase to 7 mg once daily PO after 30 days May increase to 14 mg daily PO after a further 30 days	~$230
dulaglutide Trulicity	Initial: 0.75 mg weekly SC Typically increased to 1.5 mg weekly SC thereafter	~$230
liraglutide Victoza	Initial: 0.6 mg once daily SC Increase to 1.2–1.8 mg once daily SC	~$220
Drug Class: Glucose-Dependent Insulinotropic Polypeptide and Glucagon-Like Peptide-1 Receptor Agonists[5]		
tirzepatide Mounjaro	Initial: 2.5 mg weekly SC Increase to 5 mg weekly SC after 4 wk Increase as needed up to 15 mg weekly SC in 2.5 mg/wk increments at intervals no shorter than 4 wk	~$320
*Cost of 30-day supply unless otherwise specified; includes drug cost only.		

Switching from SC once-weekly semaglutide to other GLP-1 RAs

- There are no direct conversions or dose equivalents between different GLP-1 RAs.
- Administer first dose of new GLP-1 RA 7 days after last dose of Ozempic.[4]
- Monitor for:
  - adverse effects such as nausea, vomiting, diarrhea and injection site reactions
  - variation in glycemic control

Glucose-Dependent Insulinotropic Polypeptide and Glucagon-Like Peptide-1 Receptor Agonists (GIP-GLP-1RA)

- Tirzepatide (Mounjaro) is the first agent in this novel class of antihyperglycemic agents that has activity at both the GIP and GLP-1 receptors.
- Contraindications include pregnancy, breastfeeding, and patients with a personal or family history of medullary thyroid carcinoma or multiple endocrine neoplasia syndrome type 2.[5]
- Use with caution in patients with heart rhythm disturbances.[5]
- Adverse events are similar to those of GLP-1 RAs (GI, injection site reactions, pancreatitis, weight loss).[5]

No specific guidance is available when switching from semaglutide, but using the usual starting dose and titrating according to manufacturer label is prudent.

References:

1. Health Canada; Novo Nordisk Canada Inc. *Ozempic* [product monograph]. Available from: https://health-products.canada.ca/dpd-bdpp/info?lang=eng&code=96058. Accessed August 18, 2023.
2. Lexicomp Online. *Semaglutide*. Waltham MA: UpToDate, Inc. Available from: https://online.lexi.com. Accessed August 18, 2023.
3. Mansell K, Arnason T. *Diabetes mellitus* [online]. June 2, 2023. Available from: https://cps.pharmacists.ca. Subscription required. Accessed August 18, 2023.
4. Almandoz JP, Lingvay I, Morales J et al. Switching between glucagon-like peptide-1 receptor agonists: rationale and practical guidance. *Clin Diabetes* 2020;38(4):390-402.
5. Eli Lilly Canada Inc. *Mounjaro* [product monograph]. Available from: https://pdf.hres.ca/dpd_pm/00072280.PDF. Accessed November 2, 2023.