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Patient Care + Research + Clinical Trials

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updated 2025-Oct-04

GLP-1s in Type 1 diabetes

GLP-1 receptor agonists (GLP-1s) are increasingly prescribed in Type 1 diabetes (T1D).

In Canada, members of the GLP-1 class include liraglutide ("Victoza"), dulaglutide ("Trulicity"), semaglutide ("Ozempic" and "Wegovy") and tirzepatide ("Mounjaro" and "Zepbound"). Investigational, ever more powerful GLP-1s such as retatrutide, amycretin & orforglipron will likely come to market in 2026-2028. The potential benefits of GLP-1s in T1D are listed below. The purpose of this article is not just to educate clients, diabetes professionals and physicians, but also to inform insurers such as BC Pharmacare, other Canadian provincial government bodies and private extended medical insurance companies of these benefits.

Improvement in glycemic control and reduction in insulin dose
In an RCT of obese individuals (BMI >30) with T1D using automated insulin delivery (average TIR 56%), Shah and colleagues showed in June 2025 that semaglutide resulted in a Time in Range (TIR) >70% in 36% of those on semaglutide and 0% of those randomized to placebo. Total daily dose (TDD) of insulin fell by 30% in the semaglutide group and was unchanged in the placebo group. Weight fell by 9% in the semaglutide group and 0% in the placebo group. These RCT results have been borne out in clinical practice at BCDiabetes. Reductions in TDD of up to 50% are not unusual. See this 2024 BCDiabetes publication showing such a reduction using its AID clamp technology in a Looper (see this poster from our waiting area). Insulin costs 5-7 cents per unit. A reduction of 50 units per day represents savings of $2.50-3.00 per day. At low GLP-1 doses, achieved by counting the clicks, the daily cost of a GLP-1 is the same $2.50-3.00 per day. For more on this microdosing concept click here.

Preservation of beta cells in Type 1 diabetes
A large body of evidence, outlined in this review article, supports the hypothesis that GLP-1s provide rest and protection to beta cells, the body's cells that secrete insulin into the bloodstream. The cause of T1D is destruction of beta cells, leading to a lifetime of insulin injections. When given within days of diagnosis of full-blown T1D, a complete remission of insulin requirement may last for years. BCDiabetes hopes to collaborate with Dr. Paresh Dandona in future randomized clinical trials of GLP-1s in newly diagnosed T1D.
Dr. Elliott is willing to consider prescribing GLP-1s off-label in newly diagnosed T1D (including children on minute doses) on an individually considered basis. Even in long-established T1D,

there is evidence to suggest that beta cells, previously considered to have been destroyed, may lie dormant, potentially to be awakened by GPL1s.

Weight loss

Overweight and obesity are associated with increased morbidity and mortality, and affect not just 30% of the Canadian general population but also 30% of individuals living with T1D. GLP-1s are routinely prescribed for weight loss in Type 2 diabetes (T2D) and covered by BC Pharmacare as well as all private insurers. GLP-1s are routinely prescribed for obesity and covered by most private insurers. In the interests of fairness to overweight and obese individuals living with T1D, I hereby plead with insurers to cover GLP-1s for this indication.

Diabetes-associated heart disease, kidney disease, hypertension and lipid abnormalities

GLP-1s are associated with undisputed benefits/reduction in mortality and morbidity in these conditions when associated with Type 2 diabetes. By inference and profound biological plausibility, GLP-1s should be considered indicated and covered for individuals living with T1D with the same comorbidities/complications..

Other indications

GLP-1s have been shown to be beneficial in the following conditions affecting the general population. These conditions are frequent comorbidities in individuals living with T1D.

- Alzheimer Disease (consistent association with lower dementia incidence - a meta-analysis is cited)
- NAFLD/NASH improvement (weight loss + reduced hepatic fat; being evaluated in phase 3 trials like REGENERATE)
- Heart failure with preserved ejection fraction (HFpEF) (weight loss, improved exercise tolerance; ongoing studies like STEP-HFpEF)
- Polycystic ovary syndrome (PCOS) (weight loss, improved insulin sensitivity and ovulation)
- Obstructive sleep apnea (secondary benefit via weight reduction)
- Depression and anxiety (animal models, small human studies, mostly exploratory)
- Cancer risk modification (colorectal cancer risk)
- Addiction treatment (small trials suggest blunted drug-seeking behavior)

Short URL = https://bit.ly/GLP1T1D