

Bariatric Surgery for Adults With Class I Obesity and Difficult-to- Manage Type 2 Diabetes

Recommendation

DECEMBER 2023

Final Recommendation

Ontario Health, based on guidance from the Ontario Health Technology Advisory Committee, recommends publicly funding bariatric surgery in adults with class I obesity and difficult-to-manage type 2 diabetes.

Rationale for the Recommendation

The Ontario Health Technology Advisory Committee made this recommendation after considering the clinical, economic, and patient preferences and values evidence reported in the health technology assessment.¹

The committee concluded the clinical evidence showed that bariatric surgery may improve important health-related outcomes by increasing and sustaining diabetes remission rates, decreasing body mass index (BMI), reducing the need for medications used to manage type 2 diabetes, improving quality of life, and reducing obesity-related comorbidities (e.g., hypertension, early-stage chronic kidney disease) when compared with medical management in people with class I obesity (BMI 30–34.9 kg/m²) and difficult-to-manage type 2 diabetes. We described *difficult-to-manage type 2 diabetes* in this health technology assessment as when a person's HbA1c level exceeds the recommended target level (7%) despite optimal medical management (including medication and lifestyle changes).

Additionally, the committee concluded the economic evidence showed that bariatric surgery can be considered a cost-effective treatment, in the long term, if diabetes remission and lower BMI are realized. The committee also recognized that, while publicly funding bariatric surgery for people with class I obesity and difficult-to-manage type 2 diabetes would lead to an estimated total budget increase of \$7.63 million in 5 years for Ontario, there would also be an estimated \$1.1 million reduction in diabetes care-related costs in 5 years, owing to the clinical benefits of bariatric surgery.

The Ontario Health Technology Advisory Committee also considered the lived experience of people with obesity and type 2 diabetes, who described the positive impacts of bariatric surgery on their physical health, mental health, and quality of life.

The committee acknowledged evidence that obesity-related health risks may vary depending on age, race, and ethnicity and are not perfectly defined by standard BMI ranges – some people with BMI less than 30 kg/m² may have similar levels of health risks as people with higher BMIs. The committee supports taking this evidence into account to achieve more equitable access to bariatric surgery and its outcomes, for example, by considering indices based on other valid measures of risk, such as central adiposity (accumulation of fat around the abdomen).

The committee recognizes that given Ontario's current limited surgical capacity, the bariatric program should continue to prioritize people on the waitlist who would benefit most from bariatric surgery, within expanded eligibility criteria that would include people with class I obesity and difficult-to-manage type 2 diabetes.

Decision Determinants for Bariatric Surgery for Adults With Class I Obesity and Difficult-to-Manage Type 2 Diabetes

Overall Clinical Benefit

Effectiveness

How effective is the health technology/intervention likely to be (taking into account any variability)?

Compared with medical management, bariatric surgery may result in higher diabetes remission rates, lower BMI (Grading of Recommendations, Assessment, Development and Evaluations [GRADE]: Low to Very low), reduced medication use (GRADE: Low), better quality of life (GRADE: Low), and higher rates of remission for obesity-related comorbidities (GRADE: Low).

Safety

How safe is the health technology/intervention likely to be?

Postsurgical complications can occur as a result of bariatric surgery. Complication rates for people with class I obesity and type 2 diabetes seem to be similar to those for people with class II and III obesity who have undergone bariatric surgery.

Burden of Illness

What is the likely size of the burden of illness pertaining to this health technology/intervention?

The prevalence of class I obesity in Canada increased from 5% in 1985 to 14% in 2016,² and approximately 60% reported having 1 or more obesity-related comorbidities (including type 2 diabetes).³ However, the prevalence of class I obesity with difficult-to-manage type 2 diabetes in Canada and Ontario is unknown.

Need

How large is the need for this health technology/intervention?

Bariatric surgery may provide a treatment option for people with class I obesity and difficult-to-manage type 2 diabetes despite optimal medical management.

Patient Preferences and Privacy

Patient Preferences and Values

Do patients have specific preferences, values, or needs related to the health condition, health technology/intervention, or life impact that are relevant to this assessment?

People with class I obesity and difficult-to-manage type 2 diabetes would value access to publicly funded bariatric surgery, based on the experiences of participants with obesity and type 2 diabetes who described how undergoing bariatric surgery led to weight loss and remission of their diabetes. Participants also shared details about the positive impacts that bariatric surgery had on their quality of life and mental health. All participants viewed bariatric surgery as their “last option,” due to the invasiveness of the treatment, considering it only after having exhausted all other options available to them in their attempts to lose weight.

Autonomy, Privacy, Confidentiality, and/or Other Relevant Ethical Principles as Applicable

Are there concerns regarding accepted ethical or legal standards related to patient autonomy, privacy, confidentiality, or other ethical principles that are relevant to this assessment?

Patients value the ability to choose the best treatment, with advice and guidance from their physician and other clinical experts, for themselves, since only they have experienced the effects of living with the management and the risks of obesity and type 2 diabetes firsthand.

Equity and Patient Care

Equity of Access or Outcomes

Are there disadvantaged populations or populations in need whose access to care or health outcomes might be improved or worsened that are relevant to this assessment?

There are limitations to using BMI to assess obesity-related health risks, and considering the use of other indices based on valid measures of health risk such as central adiposity may make access to bariatric surgery more equitable.

People with difficult-to-manage type 2 diabetes and class I obesity, who may have greater health risks than their BMI classification suggest, currently do not have access to bariatric surgery as a treatment option in the public health care system. Participants with whom we spoke described their inability to afford bariatric surgery through private clinics. Bariatric surgery is offered in large urban centres, which requires travel and additional out-of-pocket costs for people living in rural or remote areas of Ontario to access this treatment.

Patient Care

Are there challenges in the coordination of care for patients or other system-level aspects of patient care (e.g., timeliness of care, care setting) that might be improved or worsened that are relevant to this assessment?

Bariatric surgery is offered through the Ontario Bariatric Network, which is made up of 11 bariatric centres that are primarily located in large urban areas across the province. In 2019, estimated wait times for bariatric surgery in Ontario ranged from 1 to 2 years from point of referral until initial consultation, and 6 to 12 months from consultation until surgery.⁴

Participants spoke about the importance and necessity of short-term and long-term support to sustain the outcomes achieved with surgery.

Cost-Effectiveness

Economic Evaluation

How efficient is the health technology/intervention likely to be?

For people with class I obesity and difficult-to-manage type 2 diabetes, bariatric surgery may be more costly but may also be more effective compared with usual care (incremental cost: \$8,151 per person; incremental quality-adjusted life-years [QALYs]: 0.339 per person) over a lifetime horizon. The incremental cost-effectiveness ratio was estimated as \$24,023 per QALY, and the cost-effectiveness of bariatric surgery depended on assumptions about the long-term benefits.

Feasibility of Adoption Into Health System

Economic Feasibility

How economically feasible is the health technology/intervention?

Publicly funding bariatric surgery in Ontario for people with class I obesity and difficult-to-manage type 2 diabetes would lead to budget increases of \$0.55 million in year 1 (50 surgeries funded) to \$2.45 million in year 5 (250 surgeries funded), for a total increase of \$7.63 million over 5 years. The additional cost required to provide bariatric surgery is estimated to be \$8.73 million over 5 years, and there would potentially be an estimated \$1.1 million reduction in diabetes care-related costs, owing to the clinical benefits of bariatric surgery (yielding a total increase of \$7.63 million).

Organizational Feasibility

How organizationally feasible is it to implement the health technology/intervention?

If eligibility criteria for bariatric surgery included people with class I obesity and difficult-to-manage type 2 diabetes, the bariatric program would need to prioritize people on the waitlist who would benefit most from bariatric surgery, given current surgical capacity limitations.

References

- 1) Ontario Health. Bariatric surgery for adults with class i obesity and difficult-to-manage type 2 diabetes: a health technology assessment. Ont Health Technol Assess Ser [Internet]. 2023 Dec;23(8):1–151. Available from: [hqontario.ca/evidence-to-improve-care/health-technology-assessment/reviews-and-recommendations/bariatric-surgery-for-adults-with-class-i-obesity-and-difficult-to-manage-type-2-diabetes](https://www.hqontario.ca/evidence-to-improve-care/health-technology-assessment/reviews-and-recommendations/bariatric-surgery-for-adults-with-class-i-obesity-and-difficult-to-manage-type-2-diabetes)
- 2) Twells L, Janssen I, Kuk J. Canadian adult obesity clinical practice guidelines: epidemiology of adult obesity. Obesity Canada; 2020.
- 3) Canadian Institute for Health Information. Bariatric surgery in Canada. Ottawa (ON): CIHI; 2014.
- 4) Report card on access to obesity treatment for adults in Canada 2019. Edmonton (AB): Obesity Canada; 2019.

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