

Deprescribing diabetes medications for older adults living with frailty

Iliana C. Lega MD MSc, Wade Thompson PharmD PhD, Lisa M. McCarthy PharmD MSc

■ Cite as: *CMAJ* 2024 April 29;196:E562. doi: 10.1503/cmaj.231411

1 Aggressive treatment of type 2 diabetes is harmful for frail older adults

Treating to intensive glycemic targets (glycosylated hemoglobin [A_{1c}] < 7%) increases the risk of adverse events and is unlikely to provide benefit given the reduced life expectancy of these patients.¹ Guidelines recommend individualized glycemic targets (i.e., A_{1c} < 8.5%) in older adults with frailty, defined by a score greater than 5 on the Clinical Frailty Scale, or in older adults with moderate to severe cognitive impairment.^{2,3}

2 Deprescribing is a planned and supervised process of dose reduction or discontinuation of medications

The aim is to reduce treatment burden and adverse events from overtreatment. It is a collaborative effort between people living with diabetes, their caregivers, and health care providers.⁴

3 Medications at highest risk of adverse effects or minimal benefit should be the first classes of drugs re-evaluated

Insulin and sulfonylureas substantially increase the risk of hypoglycemia, are among the classes of drugs most likely to be associated with admission to hospital for an adverse drug reaction among older patients, and should be reconsidered first.⁵ If insulin and sulfonylureas must be used, choose long-acting insulin analogues and newer-generation sulfonylureas with a shorter duration of action. For the remaining classes of diabetes medication, prioritize based on potential benefits, safety, cost, and patient preference.

4 Deprescribing should be supported with capillary blood glucose monitoring

Monitor for hyperglycemia, especially in the presence of symptoms (i.e., polyuria, polydipsia, dry mouth, blurred vision, or confusion). If random capillary blood glucose measurements are consistently higher than 10 mmol/L in the presence of symptoms, resuming a diabetes medication (or returning to the previous dose) may be considered. In asymptomatic, frail older adults, blood glucose levels as high as 14 mmol/L may be acceptable.²

5 Targets and care should be individualized

Guidelines and deprescribing tools can provide guidance on individualized glycemic targets and deprescribing plans.^{2,4} A repeat A_{1c} test 3 months after medication changes can be considered. In frail older adults at end of life, A_{1c} measurement is not recommended.

References

1. Action to Control Cardiovascular Risk in Diabetes Study Group; Gerstein HC, Miller ME, Byington RP, et al. Effects of intensive glucose lowering in type 2 diabetes. *N Engl J Med* 2008;358:2545-59.
2. ElSayed NA, Aleppo G, Aroda VR, et al.; American Diabetes Association. 13. Older adults: standards of care in diabetes — 2023. *Diabetes Care* 2023;46(Suppl 1):S216-29.
3. Diabetes Canada Clinical Practice Guidelines Expert Committee; Meneilly GS, Knip A, Miller DB, et al. Diabetes in older people. *Can J Diabetes* 2018;42(Suppl 1):S283-95.
4. Farrell B, Black C, Thompson W, et al. Deprescribing antihyperglycemic agents in older persons: evidence-based clinical practice guideline. *Can Fam Physician* 2017;63:832-43.

5. Budnitz DS, Lovegrove MC, Shehab N, et al. Emergency hospitalizations for adverse drug events in older Americans. *N Engl J Med* 2011;365:2002-12.

Competing interests: Lisa McCarthy reports receiving grants from Trillium Health Partners, University of Toronto, Health Canada, and additional funding support from the Ontario Centres for Learning, Research and Innovation in Long-Term Care at Bruyère; and travel expenses from the International Geriatric Diabetes Society Deprescribing Consensus Initiative, all outside the submitted work. Dr. McCarthy serves on the Executive Committee, Canadian Medication Appropriateness and Deprescribing Network Steering Committee, Choosing Wisely LTC Working Group. In support of the current manuscript, Iliana Lega and Lisa McCarthy report receiving grant no. PJT 186203 from the Canadian Institutes of Health Research (CIHR). Wade Thompson reports receiving grants from Michael Smith Health Research BC, National Institute on Aging, and Health Canada, and has received payment from *Pharmacy Practice Plus* magazine for an article on deprescribing, all outside the submitted work. Iliana Lega reports receiving grant PJT159472 from CIHR, paid to the Women's College Research Institute. Dr. Lega has also received travel support from Diabetes Canada.

This article has been peer reviewed.

Affiliations: Women's College Hospital and University of Toronto (Lega, McCarthy), Toronto, Ont.; University of British Columbia (Thompson), Vancouver, BC; Trillium Health Partners (McCarthy), Institute for Better Health, Toronto, Ont.

Content licence: This is an Open Access article distributed in accordance with the terms of the Creative Commons Attribution (CC BY-NC-ND 4.0) licence, which permits use, distribution and reproduction in any medium, provided that the original publication is properly cited, the use is noncommercial (i.e., research or educational use), and no modifications or adaptations are made. See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>

Correspondence to: Iliana Lega, iliana.lega@wchospital.ca