

CADTH Reference List

Sliding-Scale Insulin Dosing for Long-Term Care Residents With Diabetes

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Key Message

- One evidence-based guideline regarding sliding-scale insulin dosing for long-term care residents with diabetes was identified.

Research Question

1. What are the evidence-based guidelines regarding sliding-scale insulin dosing for long-term care residents with diabetes?

Methods

Literature Search Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE, the Cochrane Database of Systematic Reviews, the international HTA database, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were sliding-scale insulin and long-term care homes. CADTH-developed search filters were applied to limit retrieval to guidelines. The search was also limited to English-language documents published between January 1, 2016 and May 31, 2021. Internet links were provided, where available.

Selection Criteria and Summary Methods

One reviewer screened literature search results (titles and abstracts) and selected publications according to the inclusion criteria presented in Table 1. Full texts of study publications were not reviewed. The Overall Summary of Findings was based on information available in the abstracts of selected publications. Open-access, full-text versions of evidence-based guidelines were reviewed when abstracts were not available and relevant recommendations were summarized.

Results

One evidence-based guideline regarding sliding-scale insulin (SSI) dosing for long-term care (LTC) residents with diabetes was identified.¹

Additional references of potential interest that did not meet the inclusion criteria are provided in Appendix 1.

Table 1: Selection Criteria

Criteria	Description
Population	Long-term care residents or nursing home residents with any form of diabetes (e.g., type 1 or type 2) at any age
Intervention	Sliding-scale insulin dosing either alone or in combination with basal insulin dosing
Comparator	Not applicable
Outcomes	Recommendations regarding management of sliding-scale insulin dosing
Study designs	Evidence-based guidelines

Overall Summary of Findings

One evidence-based guideline from Diabetes Canada was identified regarding SSI dosing for LTC residents with diabetes.¹ Diabetes Canada recommends avoiding SSI protocols in elderly LTC residents with diabetes to prevent glycemic control from worsening.¹

References

Guidelines and Recommendations

1. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada: Diabetes in Older People. *Can J Diabetes* 2018;42(Suppl 1). <https://guidelines.diabetes.ca/cpg/chapter37#sec6> Accessed 2021 Jun 1
See: Diabetes in Long-Term Care – Recommendations – #13, page S289

Appendix 1: References of Potential Interest

Previous CADTH Reports

2. Basal-Bolus Versus Sliding-Scale Insulin Therapy in the Acute Care Hospital Setting: A Review of Comparative Clinical Effectiveness and Cost-Effectiveness. Ottawa: CADTH; 2017. <https://www.cadth.ca/basal-bolus-versus-sliding-scale-insulin-therapy-acute-care-hospital-setting-review-comparative-0> Accessed 2021 Jun 1

Guidelines and Recommendations

Alternative Methodology – Expert Consensus

3. Choosing Wisely: Don't use sliding scale insulin (SSI) for long-term diabetes management for individuals residing in the nursing home; 2017. <https://www.aafp.org/afp/recommendations/viewRecommendation.htm?recommendationId=95> Accessed 2021 Jun 1

Unclear Methodology

4. Munshi MN, Florez H, Huang ES, et al. Management of Diabetes in Long-term Care and Skilled Nursing Facilities: A Position Statement of the American Diabetes Association. *Diabetes Care.* 2016 Feb;39(2):308-318. [PubMed](#)

Alternative Population – Not Specific to Long-Term Care Residents

5. American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults. *J Am Geriatr Soc.* 2019 Apr;67(4):674-694. Accessed 2021 Jun 1
See: Table 2 - Insulin, sliding scale (p.681)

Alternative Intervention – Not Specific to Sliding-Scale Insulin Dosing

6. American Diabetes Association Standards of Medical Care in diabetes—2020. *Diabetes Care.* 2020 Jan;43(Suppl 1):S1-S212. [Standards_of_Care_2020.pdf \(diabetesjournals.org\)](#) Accessed 2021 Jun 1 [PubMed](#)
See: Treatment in Skilled Nursing Facilities and Nursing Homes (p.S159)