



Title: Insulin Lispro for Diabetes: Clinical Effectiveness

Date: 18 March 2008

Research question:

What is the clinical effectiveness for insulin lispro 25 or insulin lispro 50 compared to other insulins or hypoglycemic drugs for improving morbidity and mortality for diabetic patients?

Methods:

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 1, 2008), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI, EuroScan, international HTA agencies, and a keyword Internet search. Results include systematic review and random clinical trial study articles published between 1989 and to the present. Internet links are provided, where available.

Results:

Seven randomized controlled trials were identified from the literature search results. No health technology assessments or systematic reviews were identified. Additional relevant information is located in the Appendix.

Health technology assessments

No literature identified

Systematic reviews and meta-analyses

No literature identified

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Randomized controlled trials

1. Schwartz S, Zagar AJ, Althouse SK, Pinaire JA, Holcombe JH. A single-center, randomized, double-blind, three-way crossover study examining postchallenge glucose responses to human insulin 70/30 and insulin lispro fixed mixtures 75/25 and 50/50 in patients with type 2 diabetes mellitus. *Clin Ther* 2006;28(10):1649-57. [PubMed: PM17157120](#)
2. Plank J, Wutte A, Brunner G, Siebenhofer A, Semlitsch B, Sommer R, et al. A direct comparison of insulin aspart and insulin lispro in patients with type 1 diabetes. *Diabetes Care* 2002;25(11):2053-7. [PubMed: PM12401756](#)
3. Gale EA. A randomized, controlled trial comparing insulin lispro with human soluble insulin in patients with Type 1 diabetes on intensified insulin therapy. The UK Trial Group. *Diabet Med* 2000;17(3):209-14. [PubMed: PM10784225](#)
4. Mohn A, Matyka KA, Harris DA, Ross KM, Edge JA, Dunger DB. Lispro or regular insulin for multiple injection therapy in adolescence. Differences in free insulin and glucose levels overnight. *Diabetes Care* 1999;22(1):27-32. [PubMed: PM10333899](#)
5. Koivisto VA, Tuominen JA, Ebeling P. Lispro Mix25 insulin as premeal therapy in type 2 diabetic patients. *Diabetes Care* 1999;22(3):459-62. [PubMed: PM10097929](#)
6. Tsui EY, Chiasson JL, Tildesley H, Barnie A, Simkins S, Strack T, et al. Counterregulatory hormone responses after long-term continuous subcutaneous insulin infusion with lispro insulin. *Diabetes Care* 1998;21(1):93-6. [PubMed: PM9538976](#)
7. Janssen MM, Casteleijn S, Deville W, Popp-Snijders C, Roach P, Heine RJ. Nighttime insulin kinetics and glycemic control in type 1 diabetes patients following administration of an intermediate-acting lispro preparation. *Diabetes Care* 1997;20(12):1870-3. [PubMed: PM8964871](#)

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Appendix – Unspecified blinding methods:

Health technology assessments

1. Banerjee S, Tran K, Li H, Cimon K, Daneman D, Simpson S, et al. Short-acting insulin analogues for diabetes mellitus: meta-analysis of clinical outcomes and assessment of cost-effectiveness. In: *HTA Technology Report* [database online]: CADTH; 2007. Technology Report no 87. Available: http://cadth.ca/media/pdf/341A_Insulin_tr_e.pdf /
2. Siebenhofer A, Plank J, Berghold A, Jeitler K, Horvath K, Narath M, et al. Short acting insulin analogues versus regular human insulin in patients with diabetes mellitus. *Cochrane Database Syst Rev* 2006;(2):CD003287. [PubMed: PM16625575](#)

Systematic reviews

1. Colquitt J, Royle P, Waugh N. Are analogue insulins better than soluble in continuous subcutaneous insulin infusion? Results of a meta-analysis. *Diabet Med* 2003;20(10):863-6. [PubMed: PM14510870](#)
2. Campbell RK, Campbell LK, White JR. Insulin lispro: its role in the treatment of diabetes mellitus. *Ann Pharmacother* 1996;30(11):1263-71. [PubMed: PM8913409](#)