TITLE: Insulin Pumps for Pediatric Patients: Clinical and Cost-Effectiveness

DATE: 17 September 2008

RESEARCH QUESTIONS:

1. What is the clinical effectiveness of insulin pumps for pediatric patients with type I diabetes?

2. What is the cost-effectiveness of insulin pumps for pediatric patients with type I diabetes?

METHODS:

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 3, 2008), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI, EuroScan, international health technology agencies, and a focused Internet search. This report is an update to a previous HTIS report (Project # I2140; completed in April 2008) on the effectiveness of insulin pumps in adults and pediatrics. The previous HTIS report included articles published between 2003 and March 2008 and was limited to information from health technology assessments and systematic reviews in both the adult and pediatric population (randomized controlled trials and observational studies were not included). The current HTIS report includes randomized controlled trials (RCTs) and observational studies published since April 2008. Additional RCTs and observational studies published prior to April 2008 have been included in the Appendix.

RESULTS:

HTIS reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by economic evaluations, randomized controlled trials, observational studies, and evidence-based guidelines.

Disclaimer: The Health Technology Inquiry Service (HTIS) is an information service for those involved in planning and providing health care in Canada. HTIS responses are based on a limited literature search and are not comprehensive, systematic reviews. The intent is to provide a list of sources of the best evidence on the topic that CADTH could identify using all reasonable efforts within the time allowed. HTIS responses should be considered along with other types of information and health care considerations. The information included in this response is not intended to replace professional medical advice, nor should it be construed as a recommendation for or against the use of a particular health technology. Readers are also cautioned that a lack of good quality evidence does not necessarily mean a lack of effectiveness particularly in the case of new and emerging health technologies, for which little information can be found, but which may in future prove to be effective. While CADTH has taken care in the preparation of the report to ensure that its contents are accurate, complete and up to date, CADTH does not make any guarantee to that effect. CADTH is not liable for any loss or damages resulting from use of the information in the report.

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Three systematic reviews, two RCTs, two observational studies, and one guideline were identified on the effectiveness of insulin pumps for pediatric patients. No health technology assessments or economic studies were identified.

Health technology assessments
No literature identified

Systematic reviews and meta-analyses


Economic analyses and cost information
No literature identified

Randomized controlled trials


Observational studies


Guidelines and recommendations

APPENDIX – FURTHER INFORMATION:

Randomized controlled trials (prior to April 2008)


Observational studies (prior to 2008)


Review articles


Additional references


