Continuous subcutaneous insulin infusion for the treatment of diabetes mellitus (review of technology appraisal guidance 57)

Guidance

1. Continuous subcutaneous insulin infusion (CSII or ‘insulin pump’) therapy is recommended as a treatment option for adults and children 12 years and older with type 1 diabetes mellitus provided that:
   - attempts to achieve target haemoglobin A1c (HbA1c) levels with multiple daily injections (MDIs) result in the person experiencing disabling hypoglycaemia. For the purpose of this guidance, disabling hypoglycaemia is defined as the repeated and unpredictable occurrence of hypoglycaemia that results in persistent anxiety about recurrence and is associated with a significant adverse effect on quality of life.
   - HbA1c levels have remained high (that is, at 8.5% or above) on MDI therapy (including, if appropriate, the use of long-acting insulin analogues) despite a high level of care.

2. CSII therapy is recommended as a treatment option for children younger than 12 years with type 1 diabetes mellitus provided that:
   - MDI therapy is considered to be impractical or inappropriate, and
   - children on insulin pumps would be expected to undergo a trial of MDI therapy between the ages of 12 and 18 years.

3. It is recommended that CSII therapy be initiated only by a trained specialist team, which should normally comprise a physician with a specialist interest in insulin pump therapy, a diabetes specialist nurse and a dietitian. Specialist teams should provide structured education programmes and advice on diet, lifestyle and exercise appropriate for people using CSII.

4. Following initiation in adults and children 12 years and older, CSII therapy should only be continued if it results in a sustained improvement in glycaemic control, evidenced by a fall in HbA1c levels, or a sustained decrease in the rate of hypoglycaemic episodes. Appropriate targets for such improvements should be set by the responsible physician, in discussion with the person receiving the treatment or their carer.

5. CSII therapy is not recommended for the treatment of people with type 2 diabetes mellitus.

NOTE: This guidance replaces ‘NICE technology appraisal guidance 57’ issued in February 2003. The Institute reviews each piece of guidance it issues.

The review and re-appraisal of the use of continuous subcutaneous insulin infusion for the treatment of diabetes mellitus has resulted in a change in the guidance. Specifically there has been a change to the recommendation on the use of continuous subcutaneous insulin infusion in children younger than 12 years with type 1 diabetes mellitus.
Implementation tools

NICE has developed tools to help organisations implement this guidance (listed below). These are available on our website (www.nice.org.uk/TA151).

- Slides highlighting key messages for local discussion.
- Local costing template incorporating a costing report to estimate the savings and costs associated with implementation.
- Audit support for monitoring local practice.

Further information

Ordering information

You can download the following documents from www.nice.org.uk/TA151

- A quick reference guide (this document) – a summary of recommendations for healthcare professionals.
- ‘Understanding NICE guidance’ – information for patients and carers.
- The full guidance.
- Details of all the evidence that was looked at and other background information.

For printed copies of the quick reference guide or ‘Understanding NICE guidance’, phone NICE publications on 0845 003 7783 or email publications@nice.org.uk and quote:

- N1634 (quick reference guide)
- N1635 (‘Understanding NICE guidance’).

Related NICE guidance

For information about NICE guidance that has been issued or is in development, see the website (www.nice.org.uk).

Published


Updating the appraisal

This technology appraisal will be considered for review in February 2011. Information about the progress of a review will be posted on the NICE website (www.nice.org.uk/TA151).