

**Quick reference guide**

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

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.

## 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
- or
- 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.

## NICE technology appraisal guidance 151

The guidance was developed using the NICE multiple technology appraisal process.

NICE technology appraisal guidance is about the use of new and existing medicines and treatments in the NHS in England and Wales.

## 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](http://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](http://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](mailto: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](http://www.nice.org.uk)).

## Published

- Inhaled insulin for the treatment of diabetes (types 1 and 2). NICE technology appraisal guidance 113 (2006). Available from: [www.nice.org.uk/TA113](http://www.nice.org.uk/TA113)
- Guidance on the use of patient-education models for diabetes. NICE technology appraisal guidance 60 (2003). Available from: [www.nice.org.uk/TA060](http://www.nice.org.uk/TA060)

- Guidance on the use of long-acting insulin analogues for the treatment of diabetes – insulin glargine. NICE technology appraisal guidance 53 (2002). Available from: [www.nice.org.uk/TA053](http://www.nice.org.uk/TA053)
- Type 2 diabetes: the management of type 2 diabetes (update). NICE clinical guideline 66 (2008). Available from: [www.nice.org.uk/CG066](http://www.nice.org.uk/CG066)
- Diabetes in pregnancy: management of diabetes and its complications from pre-conception to the postnatal period. NICE clinical guideline 63 (2008). Available from: [www.nice.org.uk/CG063](http://www.nice.org.uk/CG063)
- Type 1 diabetes: diagnosis and management of type 1 diabetes in children, young people and adults. NICE clinical guideline 15 (2004). Available from: [www.nice.org.uk/CG015](http://www.nice.org.uk/CG015)
- Type 2 diabetes: prevention and management of foot problems. NICE clinical guideline 10 (2004). Available from: [www.nice.org.uk/CG010](http://www.nice.org.uk/CG010)
- Pancreatic islet cell transplantation. NICE interventional procedure guidance 13 (2003). Available from: [www.nice.org.uk/IPG013](http://www.nice.org.uk/IPG013)

## 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](http://www.nice.org.uk/TA151)).

This guidance represents the view of the Institute, which was arrived at after careful consideration of the available evidence. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. This guidance does not, however, override the individual responsibility of healthcare professionals to make appropriate decisions in the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way which would be inconsistent with compliance with those duties.

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