

Issue date: 2008

## **Audit support**

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

NICE technology appraisal guidance 151



# Audit support for continuous subcutaneous insulin infusion for the treatment of diabetes mellitus

## Objective of the audit

The objective of this audit is to measure current practice in continuous subcutaneous insulin infusion for the treatment of diabetes mellitus (review of technology appraisal guidance 57) against the recommendations in the technology appraisal. The audit criteria and data collection tool are intended to be used as part of a local audit project, by either using the whole tool or cutting and pasting the relevant parts into a local audit template.

## Audit criteria and standards

This document provides audit criteria based on the technology appraisal guidance for use in clinical audit. Users can cut and paste these criteria into their own programmes. The standards given are typically 100% or 0%. If these are not achievable in the short term, a more appropriate standard should be set based on discussions with local clinicians. However, the standards remain the ultimate objective.

## Data collection tool

A tool is provided that can be used or adapted by the Trust, service or practice for the data collection part of the clinical audit cycle. Suggestions on where you might find relevant information are included, although this may be different in your organisation.

## Patient groups and sample

Adults and children with diabetes mellitus. An appropriate sample should be selected in line with your local clinical audit strategy.

## Data sources

The audit criteria may require data to be collected from a range of sources, including policy documents and patient records. Suggestions are indicated on the tools.

## Re-audit

Whether or not the audit findings meet the standard, re-auditing is a key part of the audit cycle. If the first data collection and analysis shows room for improvement, an action plan should be developed and the audit re-run once changes to the service have had time to make an impact. Depending on the nature of the changes, this could take weeks or months. This process should be continued until the results of the audit meet the standards.

## Links with other national priorities

It is suggested that the audit based on this technology appraisal is considered in conjunction with other national priorities such as the National Service Framework for Diabetes and the National Diabetes Audit.

## Further guidance

Click here for [further guidance](#) and generic templates to support the reporting and monitoring of the audit of NICE guidance in your organisation.

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

<b>Criterion 1</b>	<p>Percentage of patients offered evidence-based written information about:</p> <ul style="list-style-type: none"> <li>• their illness or condition</li> <li>• the treatment and care they should be offered, including being made aware of the '<a href="#">Understanding NICE guidance</a>' booklet</li> <li>• the service providing their treatment and care.</li> </ul>
<b>Exceptions</b>	None
<b>Settings</b>	All
<b>Standard</b>	100%
<b>Definitions</b>	Patients should be offered written information to help them make informed decisions about their healthcare. This should cover the condition, treatments and the health service providing care. Information should be available in formats appropriate to the individual, taking into account language, age, and physical, sensory or learning disabilities.
<b>Criterion 2</b>	<b>The percentage of adults and children 12 years and older with type 1 diabetes mellitus who have been offered continuous subcutaneous insulin infusion (CSII or 'insulin pump') therapy as a treatment option.</b>
<b>Exceptions</b>	Adults and children 12 years and older who do not meet the criteria in section 1.1 of the guidance. (See definitions below).
<b>Settings</b>	Acute trusts, PCTs, GP practices
<b>Standard</b>	100%
<b>Definitions</b>	<p>Continuous subcutaneous insulin infusion (CSII or 'insulin pump') therapy is recommended as a treatment option provided that:</p> <ul style="list-style-type: none"> <li>• attempts to achieve target 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 ) <b>or</b></li> <li>• 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.</li> </ul>

## Clinical criteria for continuous subcutaneous insulin infusion for the treatment of diabetes mellitus

<b>Criterion 3</b>	<b>The percentage of children younger than 12 years with type 1 diabetes mellitus, for whom MDI therapy is considered to be impractical or inappropriate, who have been offered continuous subcutaneous insulin infusion (CSII or 'insulin pump') therapy as a treatment option.</b>
<b>Exceptions</b>	None
<b>Settings</b>	Acute trusts, PCTs, GP practices
<b>Standard</b>	100%
<b>Definitions</b>	Continuous subcutaneous insulin infusion (CSII or 'insulin pump') therapy is recommended as a treatment option provided that: <ul style="list-style-type: none"> <li>• MDI therapy is considered to be impractical or inappropriate, and</li> <li>• children on insulin pumps would be expected to undergo a trial of MDI therapy between the ages of 12 and 18 years.</li> </ul>
<b>Criterion 4</b>	<b>The percentage of children, started on insulin pumps before the age of 12, who undergo a trial of MDI therapy between the ages of 12 and 18 years.</b>
<b>Exceptions</b>	None
<b>Settings</b>	Acute trusts, PCTs, GP practices
<b>Standard</b>	100%
<b>Definitions</b>	Continuous subcutaneous insulin infusion (CSII or 'insulin pump') therapy is recommended as a treatment option provided that: <ul style="list-style-type: none"> <li>• MDI therapy is considered to be impractical or inappropriate, and</li> <li>• children on insulin pumps would be expected to undergo a trial of MDI therapy between the ages of 12 and 18 years.</li> </ul>
<b>Criterion 5</b>	<b>The percentage of patients in whom CSII therapy was initiated by a trained specialist team.</b>
<b>Exceptions</b>	None
<b>Settings</b>	Acute trusts as providers; PCTs and GP practices should ensure appropriate referral.
<b>Standard</b>	100%
<b>Definitions</b>	The trained specialist team should normally comprise a physician with a specialist interest in insulin pump therapy, a diabetes specialist nurse and a dietician.

## Clinical criteria for continuous subcutaneous insulin infusion for the treatment of diabetes mellitus

<b>Criterion 6</b>	<b>The percentage of patients who received a structured education programme and advice on diet, lifestyle and exercise appropriate for people using CSII, provided by a specialist team (as described in criterion 5).</b>
<b>Exceptions</b>	None
<b>Settings</b>	Acute trusts, PCTs, GP practices
<b>Standard</b>	100%
<b>Definitions</b>	None
<b>Criterion 7</b>	<b>The percentage of adults and children 12 years and older in whom CSII therapy was discontinued when it did not result in a sustained improvement in glycaemic control.</b>
<b>Exceptions</b>	None
<b>Settings</b>	Acute trusts, PCTs, GP practices
<b>Standard</b>	100%
<b>Definitions</b>	<p>Sustained improvement in glycaemic control is evidenced by a fall in HbA1c levels, or a sustained decrease in the rate of hypoglycaemic episodes.</p> <p>Appropriate targets for such improvements should be set by the responsible physician, in discussion with the person receiving the treatment or their carer.</p>
<b>Criterion 8</b>	<b>The percentage of people with type 2 diabetes mellitus who have been offered continuous subcutaneous insulin infusion (CSII or 'insulin pump') therapy as a treatment option.</b>
<b>Exceptions</b>	None
<b>Settings</b>	Acute trusts, PCTs, GP practices
<b>Standard</b>	0%
<b>Definitions</b>	CSII therapy is not recommended for the treatment of people with type 2 diabetes mellitus.

## Clinical criteria for continuous subcutaneous insulin infusion for the treatment of diabetes mellitus

Number of criterion replaced:	Local alternatives to above criteria (to be used where other data addressing the same issue are more readily available)
Exceptions	
Settings	
Standard	
Definitions	

# Data collection tool for continuous subcutaneous insulin infusion for the treatment of diabetes mellitus

*Complete one form for each patient. For definitions of the standards, please refer to the audit criteria and/or NICE technology appraisal.*

Patient identifier:	Sex: M / F	Age:	Ethnicity:
---------------------	------------	------	------------

Data Item No.	Criterion	Yes	No	NA/ Exceptions	NICE guideline ref.
<b>Diagnosis</b>					
1.1	Patient offered evidence-based written information about: <ul style="list-style-type: none"> <li>• their illness or condition</li> <li>• the treatment and care they should be offered</li> <li>– including being made aware of the 'Understanding NICE guidance' booklet</li> <li>• the service providing their treatment and care.</li> </ul> (Data source: patient records)	<input type="checkbox"/>	<input type="checkbox"/>		Person-centred care
1.2		<input type="checkbox"/>	<input type="checkbox"/>		
1.3		<input type="checkbox"/>	<input type="checkbox"/>		
1.4		<input type="checkbox"/>	<input type="checkbox"/>		
2.1	Has the patient been diagnosed with: <ul style="list-style-type: none"> <li>• Type 1 diabetes mellitus? (Read Code V3 X40J4)</li> <li>• Type 2 diabetes mellitus? (Read Code V3 X40J5)</li> </ul> (Data source: patient records)	<input type="checkbox"/>	<input type="checkbox"/>		1.1 and 1.2
2.2		<input type="checkbox"/>	<input type="checkbox"/>		1.5
3.1	Have attempts to achieve target HbA1c levels with multiple daily injections (MDIs) resulted in the person experiencing disabling hypoglycaemia?  (Data source: patient records)	<input type="checkbox"/>	<input type="checkbox"/>		1.1
4.1	Have HbA1c levels 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?  (Data source: patient records)	<input type="checkbox"/>	<input type="checkbox"/>		1.1
5.1	Was MDI therapy considered to be impractical or inappropriate?  (Data source: patient records)	<input type="checkbox"/>	<input type="checkbox"/>		1.2

## Data collection tool for continuous subcutaneous insulin infusion for the treatment of diabetes mellitus

Treatment						
2 to 8	6.1	Has the patient been offered continuous subcutaneous insulin infusion (CSII or 'insulin pump') therapy as a treatment option?  (Data source: patient records)	<input type="checkbox"/>	<input type="checkbox"/>		1.1 & 1.2
4	7.1	Is the patient aged under 18? If 'No', go to criterion 5.	<input type="checkbox"/>	<input type="checkbox"/>		1.2
	7.2	Did the patient start on insulin pumps before the age of 12?	<input type="checkbox"/>	<input type="checkbox"/>		1.2
	7.3	Has the patient undergone a trial of MDI therapy?	<input type="checkbox"/>	<input type="checkbox"/>		1.2
	7.4	Did the trial take place: - before the patient was aged 12	<input type="checkbox"/>	<input type="checkbox"/>		1.2
	7.5	- since the patient's 12 <sup>th</sup> birthday?  (Data source: patient records)	<input type="checkbox"/>	<input type="checkbox"/>		1.2
5	8.1	Was CSII therapy initiated by a trained specialist team?  Did the specialist team include:	<input type="checkbox"/>	<input type="checkbox"/>		1.3
	8.2	• a physician with a specialist interest in insulin pump therapy	<input type="checkbox"/>	<input type="checkbox"/>		1.3
	8.3	• a diabetes specialist nurse	<input type="checkbox"/>	<input type="checkbox"/>		1.3
	8.4	• a dietician  (Data source: patient records)	<input type="checkbox"/>	<input type="checkbox"/>		1.3
6		Was the following provided for the patient by the specialist team:				
	9.1	• a structured education programme?	<input type="checkbox"/>	<input type="checkbox"/>		1.3
	9.2	• advice on diet, lifestyle and exercise appropriate for people using CSII?  (Data source: patient records)	<input type="checkbox"/>	<input type="checkbox"/>		1.3
7	10.1	Has therapy resulted in a sustained improvement in glycaemic control i.e. evidenced by a fall in HbA1c levels?	<input type="checkbox"/>	<input type="checkbox"/>		1.4
	10.2	Has therapy resulted in a sustained decrease in the rate of hypoglycaemic episodes?	<input type="checkbox"/>	<input type="checkbox"/>		1.4
	10.3	Has CSII therapy been discontinued?  (Data source: patient records)	<input type="checkbox"/>	<input type="checkbox"/>		1.4

**Data collection completed**