

NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

SCOPE

1 Guideline title

Type 1 diabetes: diagnosis and management of type 1 diabetes in adults

1.1 Short title

Type 1 diabetes in adults

2 The remit

This is an update of 'Type 1 diabetes' (NICE clinical guideline 15). See section 4.3.1 for details of which sections will be updated. We will also carry out an editorial review of all recommendations to ensure that they comply with NICE's duties under equalities legislation.

This update is being undertaken as part of the guideline review cycle.

3 Clinical need for the guideline

3.1 Epidemiology

- a) Type 1 diabetes is a long-term hormonal deficiency disorder. In the short term, people with type 1 diabetes may face significant challenges to daily living, for example, acute illness (hyper- and hypo-glycaemia), frequent self glucose monitoring, planning food. Over the long term, type 1 diabetes is associated with major complications and reduced life expectancy. The condition is treated with insulin replacement therapy.
- b) Diabetes is estimated to affect 4.45% of adults in the UK. More than 2.62 million people are diagnosed with diabetes in England and Wales, and it is thought that a similar number of people may have diabetes that is currently undiagnosed. Type 1 diabetes

accounts for approximately 10% of diabetes cases, both world-wide and nationally.

- c) Life expectancy for people with type 1 diabetes has increased. In one study from the USA, life expectancy among people diagnosed with type 1 diabetes between 1965 and 1980 improved by 15 years compared with people diagnosed between 1950 and 1964. Nevertheless, type 1 diabetes typically reduces life expectancy in the UK by 20 years. People with type 1 diabetes in England are 2.6 times more likely to die than people without diabetes of the same age.
- d) Control of blood glucose, lipids and blood pressure within recommended target levels is known to prevent or delay long-term complications of type 1 diabetes, and to be associated with increased life expectancy among people with type 1 diabetes.
- e) Early detection and effective management of type 1 diabetes and its complications are important to prevent or limit disability in people with type 1 diabetes.

3.2 *Current practice*

- a) People with type 1 diabetes manage several aspects of their own care, including administering insulin by injection or infusion, monitoring their blood glucose level, and adjusting insulin doses accordingly. Glucose levels should be assessed regularly to ensure they remain within target levels known to minimise risk of complications, while avoiding problems such as hypoglycaemia or ketosis. People with type 1 diabetes also need to receive regular monitoring for complications of diabetes. Where these occur, active management is needed.
- b) People with type 1 diabetes need education and support from healthcare professionals with expertise in insulin physiology and therapeutics in order to manage their diabetes effectively. However,

only 31.9% of people with type 1 diabetes in England and Wales receive all 9 of the care processes recommended by NICE., More than 30% of people with type 1 diabetes miss their annual eye and foot checks for early complications and almost one half miss screening appointments for kidney complications.

- c) Fewer than one third of people with type 1 diabetes achieve the NICE–recommended target for blood glucose control, which is haemoglobin A1c (HbA1c) of 59 mmol/mol or lower, or below 7.5%. In the last 4 audit cycles, there has been no significant improvement in the proportion of people who meet this target.
- d) Two thirds of people with type 1 diabetes achieve the NICE-recommended target for blood pressure control. Among people who are morbidly obese this figure is 45%. Approximately one third of people with type 1 diabetes achieve the current stringent target for total cholesterol, which is below 4 mmol/l.
- e) Rates of diabetic ketoacidosis appear to be increasing in the UK. treatment for end-stage kidney disease among people with type 1 diabetes.
- f) Mortality is high among people with type 1 diabetes relative to the general UK population.
- g) People with type 1 diabetes have traditionally received care primarily from specialist services. However, 15–20% of adults with type 1 diabetes have little or no contact with secondary care services, or are offered only infrequent appointments focussed on annual review.

4 The guideline

The guideline development process is described in detail on the NICE website (see section 6, 'Further information').

This scope defines what the guideline will (and will not) examine, and what the guideline developers will consider. The scope is based on the referral from the Department of Health.

The areas that will be addressed by the guideline are described in the following sections.

4.1 *Population*

4.1.1 Groups that will be covered

- a) Adults aged 18 years and older with a diagnosis of type 1 diabetes.

4.1.2 Groups that will not be covered

- a) Type 1 diabetes in children and young people (this will be addressed in a separate guideline).
- b) Type 2 diabetes in adults (this will be addressed in a separate guideline).
- c) Diabetes in pregnancy or gestational diabetes (this will be addressed in a separate guideline).

4.2 *Healthcare setting*

- a) All settings in which NHS healthcare is received or commissioned.

4.3 *Clinical management*

4.3.1 Key clinical issues that will be covered

Areas from the original guideline that will be updated

- a) Diagnosis of type 1 diabetes:
 - differentiation from type 2 diabetes
 - preferred approaches to testing for diagnosis.
- b) Education programmes and self-care:
 - structured educational programmes

- self-monitoring of glucose.
- c) Clinical monitoring of glucose, including continuous glucose monitoring and HbA1C.
- d) Insulin regimens, particularly rapid-acting insulins and new background insulins (see also 4.3.1.k).
- e) Oral non-insulin pharmacological agents in combination with insulin (for example, metformin and SGLT2 inhibitors).
- f) Insulin delivery, including needle length and injection site.
- g) Aspirin in the primary prevention of cardiovascular disease.
- h) Prevention and management of diabetic ketoacidosis.
- i) Treatment of specific late-stage complications, namely insulin-induced neuritis, gastroparesis and erectile dysfunction.
- j) Monitoring for thyroid disease.
- k) Inpatient management in relation to self-medication and insulin replacement.

Areas not in the original guideline that will be included in the update

- l) New insulin formulations, including insulin degludec, insulin degludec/aspart and insulin detemir.
- m) Identification of hypoglycaemia.
- n) Blood ketone monitoring.
- o) Carbohydrate counting.

4.3.2 Clinical issues that will not be covered

- a) Pre-conception care in women with type 1 diabetes.
- b) Contraceptive advice in women with type 1 diabetes.

Areas from the original guideline that will not be updated

- a) The care process and support, such as multidisciplinary support, individual care plans, use of technology, and support groups.
- b) Dietary management except for carbohydrate counting.
- c) Physical activity.
- d) Cultural and individual lifestyle.
- e) Monitoring for retinopathy.
- f) Management of late complications:
 - diabetic eye disease
 - diabetic nerve damage, other than erectile dysfunction and autonomic neuropathy.

The following NICE guidance will be cross referred to

- a) Identification of arterial risk, interventions to reduce risk (with the exception of aspirin), and blood pressure management.
 - [Hypertension](#). NICE clinical guideline 127 (2011).
 - [Lipid modification](#). NICE clinical guideline 67 (2007).
 - [Statins for the prevention of cardiovascular events](#). NICE technology appraisal 94 (2006).
- b) Painful neuropathy
 - [Neuropathic pain](#). NICE clinical guideline 96 (2010).
- c) Diabetic kidney disease
 - [Chronic kidney disease](#) (update). NICE clinical guideline 73 (2008).
- d) Diabetic foot problems

- [Diabetic foot problems](#). NICE clinical guideline 119 (2011).
 - [Type 2 diabetes](#). NICE clinical guideline 10 (2004).
- e) Monitoring and management of special situations including eating disorders, depression, or other psychological problems.
- [Depression with a chronic physical health problem](#). NICE clinical guideline 91 (2009).
 - [Depression in adults](#) (update). NICE clinical guideline 90 (2009).
 - [Eating disorders](#). NICE clinical guideline 9 (2004).
 - [Nutrition support in adults](#). NICE clinical guideline 32 (2006).

Areas from the original guideline that will be removed

- a) Fructosamine to assess glucose control, as HbA1C is now the standard assessment.
- b) Cisapride for the management of gastroparesis because it is no longer in use.

4.4 Main outcomes

- a) Quality of life
- b) Adverse events and complications
- c) Mortality
- d) Glycaemic control
- e) Hypoglycaemia

4.5 Economic aspects

Developers will take into account both clinical and cost effectiveness when making recommendations involving a choice between alternative interventions. A review of the economic evidence will be conducted and analyses will be carried out as appropriate. The preferred unit of effectiveness

is the quality-adjusted life year (QALY), and the costs considered will usually be only from an NHS and personal social services (PSS) perspective. Further detail on the methods can be found in 'The guidelines manual' (see 'Further information').

4.6 Status

4.6.1 Scope

This is the consultation draft of the scope. The consultation dates are 4 July to 29 August 2012.

4.6.2 Timing

The development of the guideline recommendations will begin in October 2012.

5 Related NICE guidance

5.1 Published guidance

5.1.1 NICE guidance to be updated

Depending on the evidence, this guideline might update and replace parts of the following NICE guidance:

- Type 1 diabetes. NICE clinical guideline 15 (2004).
- Guidance on the use of long-acting insulin analogues for the treatment of diabetes – insulin glargine NICE technology appraisal guidance 53 (2002).
- [Guidance on the use of patient-education models for diabetes](#). NICE technology appraisal guidance 60 (2003)

5.1.2 Other related NICE guidance

- [Patient experience in adult NHS services](#). NICE clinical guideline 138 (2012).
- [Preventing type 2 diabetes: population and community-level interventions](#). NICE public health guidance 35 (2011).

- [Hyperglycaemia in acute coronary syndromes](#). NICE clinical guideline 130 (2011).
- [Hypertension](#). NICE clinical guideline 127 (2011).
- [Ranibizumab for the treatment of diabetic macular oedema](#). NICE technology appraisal 237 (2011).
- [Dexamethasone intravitreal implant for the treatment of macular oedema secondary to retinal vein occlusion](#). NICE technology appraisal 229 (2011).
- [Clopidogrel and modified-release dipyridamole for the prevention of occlusive vascular events](#). NICE technology appraisal guidance 210 (2010).
- [Depression with a chronic physical health problem](#). NICE clinical guideline 91 (2009).
- Depression in adults. NICE clinical guideline 90 (2009).
- [Medicines adherence](#). NICE clinical guideline 76 (2009).
- [Continuous subcutaneous insulin infusion for the treatment of diabetes mellitus](#). NICE technology appraisal 151 (2008).
- [Inhaled insulin for the treatment of type 1 and type 2 diabetes](#). NICE technology appraisal 113 (2006).
- [Smoking cessation services](#). NICE public health guidance 1 (2006).
- [Obesity](#). NICE clinical guideline 43 (2006).
- [Nutrition support in adults](#). NICE clinical guideline 32 (2006).
- [Four commonly used methods to increase physical activity](#). NICE public health guidance 2 (2006).
- [Statins for the prevention of cardiovascular events](#). NICE technology appraisal 94 (2006).

5.2 Guidance under development

NICE is currently developing the following related guidance (details available from the NICE website):

- [Preventing type 2 diabetes – risk identification and interventions for individuals at high risk](#). NICE public health guidance. Publication expected July 2012.

- [Lower limb peripheral arterial disease](#). NICE clinical guideline. Publication expected August 2012.
- [Diabetic macular oedema - fluocinolone acetonide intravitreal implant](#). NICE technology appraisal. Publication expected November 2012.
- [Type 2 diabetes \(update\)](#). NICE clinical guideline. Publication date to be confirmed.
- [Diabetes in children \(update\)](#). NICE clinical guideline. Publication date to be confirmed.
- [Diabetes in pregnancy](#). NICE clinical guideline. Publication date to be confirmed.
- [Diabetes - buccal insulin](#). NICE technology appraisal. Publication date to be confirmed.
- [Macular oedema \(diabetic\) - pegaptanib sodium](#). NICE technology appraisal. Publication date to be confirmed.
- [Macular oedema \(diabetic\) ranibizumab](#). NICE technology appraisal. Publication date to be confirmed.
- [Lipid modification \(update\)](#). NICE clinical guideline. Publication date to be confirmed.
- [Chronic kidney disease \(update\)](#). NICE clinical guideline. Publication date to be confirmed.

6 Further information

Information on the guideline development process is provided in the following documents, available from the NICE website:

- [‘How NICE clinical guidelines are developed: an overview for stakeholders the public and the NHS’](#)
- [‘The guidelines manual’](#).

Information on the progress of the guideline will also be available from the [NICE website](#).