1 **NATIONAL INSTITUTE FOR HEALTH AND CARE**
2 **EXCELLENCE**

3 # Guideline

4 # Type 1 diabetes in adults: diagnosis and
5 # management

6 ## Draft for consultation, March 2022

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This is an update to NICE guideline NG17 (published August 2015). We have:

- reviewed the evidence on periodontal treatment
- made new recommendations.

Who is it for?

- Healthcare professionals who care for adults with type 1 diabetes, including those working in dental services
- Commissioners and providers
- Adults with type 1 diabetes and their families and carers

It may also be relevant for non-NHS healthcare providers of dental services.

What does it include?

- the new recommendations
- rationale and impact sections that explain why the committee made the recommendations and how they might affect practice
- the guideline context.

Information about how the guideline was developed is on the guideline's page on the NICE website. This includes the evidence reviews, the scope, details of the committee and any declarations of interest.

Commenting on this update

We have reviewed the evidence on periodontal disease. You are invited to comment on the new recommendations.

Sections of the guideline that have had no changes at all have been temporarily removed for this consultation and will be re-instated when the final guideline is published. See the current version of the guideline.

See update information for a full explanation of what is being updated.

Full details of the evidence and the committee's discussion on the 2022 recommendations are in the evidence review.

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2 # Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in NICE's information on making decisions about your care.

Making decisions using NICE guidelines explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

3 ## 1.15 Managing complications

4 ### Periodontal disease

5 1.15.1 Advise adults with type 1 diabetes at their annual review of
6 self-care and needs that:

7 - they are at higher risk of periodontal disease
8 - if they get periodontal disease, treating it can improve their blood
9 glucose management and can reduce their risk of
10 hyperglycaemia and hypoglycaemia (abnormalities in blood
11 glucose levels), and their risk of insulin resistance. **[2022]**

12 1.15.2 Advise all adults with type 1 diabetes to have regular oral health
13 reviews (their dental team will tell them how often, in line with the
14 NICE guideline on dental checks). **[2022]**

15 1.15.3 For guidance for dental teams on how to provide oral health advice,
16 see the NICE guidance on oral health promotion. **[2022]**

17 1.15.4 For adults with type 1 diabetes who have been diagnosed with
18 periodontal disease by a dental team, offer frequent dental
19 appointments to manage and treat their periodontal disease. **[2022]**

For a short explanation of why the committee made these recommendations see the rationale and impact section on periodontal disease.

Full details of the evidence and the committee's discussion are in evidence review D: periodontal treatment to improve diabetic control.

Rationale and impact

These sections briefly explain why the committee made the recommendations and how they might affect practice.

Periodontal disease

Recommendations 1.15.1 to 1.15.4

Why the committee made the recommendations

The evidence showed that people with diabetes are at increased risk of periodontal disease, and that periodontal treatment improves diabetic control. Although most of the research was focused on type 2 diabetes, the committee thought that that the evidence on the bidirectional link between increased HbA1c and periodontitis is also applicable to people with type 1 diabetes.

In the committee's experience people with diabetes are often unaware of their increased risk of periodontal disease, and may not be having regular dental check-ups. To address this, the committee recommended making discussions about the risk of periodontal disease a routine part of annual reviews, alongside eye disease and foot problems.

The evidence also showed that periodontal treatment is cost effective for people with type 1 diabetes, assuming improvements in HbA1c are maintained. This was tested with health economic modelling in a range of different scenarios. The only situation in which treatment would not be cost effective is if the analysis only considered up to the first 10 years of the person's treatment. However, the committee did not think this was realistic, as

this excludes the benefits from reducing diabetic complications that often happen later in life.

How the recommendations might affect practice

For dental professionals, the recommendations should not lead to a significant long-term increase in the number of oral health reviews, as they specify that people should follow existing guidance (the NICE guideline on dental checks). There may be a short-term increase, if the guideline increases awareness of periodontal disease. Any increase in the number of oral health reviews will potentially impact on the service, as NHS dental services already have capacity issues. Dental teams will need clear advice on what they need to do for people with diabetes, and clear care pathways to improve quality of care and service delivery.

For diabetes professionals, the recommendations should not lead to an increase in costs, as they are about raising awareness and including new information in existing reviews.

Return to recommendations

Context

Type 1 diabetes affects over 370,000 adults in the UK. It results from destruction of the cells that normally make insulin. Loss of insulin secretion results in high blood glucose and other metabolic and haematological abnormalities, which have both short-term and long-term adverse effects on health.

Over years, type 1 diabetes causes tissue damage which, if not detected and managed early, can result in disability: blindness, kidney failure, periodontal disease and foot ulceration leading to amputation, as well as premature heart disease, stroke and death. The risk of all of these complications is greatly reduced by treatment that keeps circulating glucose levels to as near normal as possible, reducing tissue damage. Disability from complications that are not avoided can often be prevented by early detection and active management.

Type 1 diabetes is treated by insulin replacement and supported by active management of other cardiovascular risk factors, such as hypertension and high circulating lipids. Modern insulin replacement therapy aims to recreate normal fluctuations in circulating insulin concentrations. This supports a flexible lifestyle with minimal restrictions and, properly done, can improve blood glucose levels, reducing the risk of both structural complications and episodes of hypoglycaemia.

Flexible insulin therapy usually involves self-injecting multiple daily doses of insulin, with doses adjusted based on taken or planned exercise, intended food intake and other factors, including current blood glucose, which the insulin user needs to test on a regular basis. This self-management needs the insulin user to have the skills and confidence to manage the regimen.

One of the most important roles of healthcare professionals providing diabetes care to adults with type 1 diabetes is to ensure that systems are in place to provide informed expert support, education and training for insulin users, as well as a range of other more conventional biomedical services and interventions.

Although type 1 diabetes in adults is not rare, it is not common enough that all healthcare professionals who deal with it are able to acquire and maintain all the necessary skills for its management. The aim of this guideline is to provide evidence-based, practical advice on supporting adults with type 1 diabetes to live full, largely unrestricted, lives and to avoid the short-term and long-term complications of both the disease and of its treatment.

Finding more information and committee details

To find NICE guidance on related topics, including guidance in development, see the NICE webpage on diabetes.

For details of the guideline committee see the committee member list.

Update information

This guideline is an update of NICE guideline NG17 (published August 2015). We have reviewed the evidence on periodontal disease for adults with type 1 diabetes.

Recommendations are marked **[2022]** if the evidence has been reviewed.

ISBN: 978-1-4731-1389-3