

Related guidance

We are also producing a separate update of the type 2 diabetes guideline, looking at drug treatment for type 2 diabetes. See the [guideline update page](#) for more details.

We are developing a [technology appraisal on canagliflozin for treating chronic kidney disease in people with type 2 diabetes](#).

Commenting on this update

You are invited to comment on the new recommendations.

See [update information](#) for a full explanation of what is being updated.

For more information, see the:

- [2021 evidence review](#), for the evidence for the 2021 recommendations
- [chronic kidney disease guideline](#), for the 2021 recommendation we are updating (recommendation 1.6.7)
- existing [short version of the type 2 diabetes guideline](#), for all the 2015 recommendations
- [full version of the type 2 diabetes guideline](#), for the evidence for the 2015 recommendations.

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1 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.

2 **1.1 SGLT2 inhibitors for adults with type 2 diabetes and** 3 **chronic kidney disease**

4 1.1.1 Before starting SGLT2 inhibitors in adults with type 2 diabetes and chronic
5 kidney disease (CKD), see the recommendations on angiotensin-receptor
6 blockers (ARBs) and angiotensin-converting enzyme (ACE) inhibitors in
7 the [NICE guideline on chronic kidney disease](#).

8 1.1.2 For adults with type 2 diabetes and CKD, offer an SGLT2 inhibitor, in
9 addition to an ARB or an ACE inhibitor (titrated to the highest dose that
10 they can tolerate), if:

- 11 • ACR is over 30 mg/mmol **and**
- 12 • they meet the criteria in the marketing authorisation (including relevant
13 eGFR thresholds).

14 Monitor for volume depletion and estimated glomerular filtration rate
15 (eGFR) decline.

16 In September 2021, not all SGLT2 inhibitors were licensed for this
17 indication. See [NICE's information on prescribing medicines](#).

18 1.1.3 For adults with type 2 diabetes and CKD, consider an SGLT2 inhibitor, in
19 addition to an ARB or an ACE inhibitor (titrated to the highest dose that
20 they can tolerate), if:

- 1 • ACR is between 3 and 30 mg/mmol **and**
2 • they meet the criteria in the marketing authorisation (including relevant
3 eGFR thresholds).

4 Monitor for volume depletion and eGFR decline.

5 In September 2021, not all SGLT2 inhibitors were licensed for this
6 indication. See [NICE's information on prescribing medicines](#).

For a short explanation of why the committee made these recommendations see the [rationale and impact section on SGLT2 inhibitors for adults with type 2 diabetes and chronic kidney disease](#).

Full details of the evidence and the committee's discussion are in the [evidence review for SGLT2 inhibitors for people with chronic kidney disease and type 2 diabetes](#).

7 **Recommendations for research**

8 The 2021 guideline committee has made the following recommendations for
9 research.

10 **1 Effectiveness of SGLT2 inhibitors for different ethnic groups**

11 What is the clinical and cost effectiveness of SGLT2 inhibitors in adults with type 2
12 diabetes and chronic kidney disease, stratified across different ethnic groups?

For a short explanation of why the committee made this recommendation see the [rationale and impact section on SGLT2 inhibitors for adults with type 2 diabetes and chronic kidney disease](#).

Full details of the evidence and the committee's discussion are in the [evidence review for SGLT2 inhibitors for people with chronic kidney disease and type 2 diabetes](#).

1 **2 Effectiveness of SGLT2 inhibitors for adults with a urine ACR below**
2 **3 mg/mmol**

3 What is the clinical and cost effectiveness of SGLT2 inhibitors in adults with type 2
4 diabetes, chronic kidney disease and a urine ACR of less than 3 mg/mmol?

For a short explanation of why the committee made this recommendation see the [rationale and impact section on SGLT2 inhibitors for adults with type 2 diabetes and chronic kidney disease](#).

Full details of the evidence and the committee's discussion are in the [evidence review for SGLT2 inhibitors for people with chronic kidney disease and type 2 diabetes](#).

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6 **Rationale and impact**

7 This section briefly explains why the committee made the recommendations and how
8 they might affect practice.

9 **SGLT2 inhibitors for adults with type 2 diabetes and chronic kidney**
10 **disease**

11 [Recommendations 1.1.1 to 1.1.3](#)

12 **Why the committee made the recommendations**

13 Strong evidence from well-conducted randomised controlled trials showed that
14 SGLT2 inhibitors reduced the risk of CKD progression, mortality and cardiovascular
15 events in adults with type 2 diabetes and CKD.

16 Economic modelling for people with an ACR above 30 mg/mol at baseline showed
17 that SGLT2 inhibitors were likely to be both more effective and cost saving in this
18 group compared with standard treatment.

19 People with a baseline ACR of 3 to 30 mg/mmol will experience fewer cardiovascular
20 events and events relating to CKD progression than people with a higher ACR.
21 Because of this, SGLT2 inhibitors would prevent fewer events for this group in

1 absolute terms, even if the relative effect was the same. Economic modelling
2 showed that SGLT2 inhibitors were still likely to be both more effective and cost
3 saving in people with a baseline ACR of between 3 and 30 mg/mol compared with
4 standard treatment. However, there was more uncertainty around the clinical and
5 cost effectiveness in this group than in people with a baseline ACR over
6 30 mg/mmol. Because of this, SGLT2 inhibitors may not be suitable for everyone
7 with a baseline ACR of between 3 mg/mmol and 30 mg/mmol, and the committee
8 made a different recommendation for this group.

9 There was no evidence specifically looking at the effectiveness of SGLT2 inhibitors
10 for people with a baseline ACR of less than 3 mg/mol, so the committee made a
11 research recommendation for this group.

12 The committee cautioned that SGLT inhibitors are not suitable for everyone and
13 should only be used within their marketing authorisation. People taking these
14 medicines should have monitoring, in line with the advice in the BNF. The committee
15 highlighted volume depletion as a particular issue of concern, as this may cause falls
16 for people with frailty.

17 Some ethnic groups have a higher risk of micro and macrovascular complications
18 and so may benefit more from SGLT2 inhibitors. However, no evidence was found
19 that stratified data by ethnicity. To address this gap, the committee made a research
20 recommendation.

21 For an explanation of why the committee recommended ARBs and ACE inhibitors,
22 see the [NICE guideline on chronic kidney disease](#).

23 **How the recommendations might affect practice**

24 The recommendations will lead to a significant change in practice, since SGLT2
25 inhibitors will be prescribed more widely. This will result in a substantial cost impact.
26 The committee noted, however, that there was likely to be a long-term cost saving
27 from reduced downstream treatment costs, as SGLT2 inhibitors slow CKD
28 progression and reduce the number of cardiovascular events.

29 [Return to recommendations](#)

1 Finding more information and committee details

2 To find NICE guidance on related topics, including guidance in development, see the
3 [NICE webpage on diabetes](#) and the [NICE webpage on chronic kidney disease](#).

4 For details of the guideline committee see the [committee member list](#).

5 Update information

6 September 2021

7 We have reviewed the evidence on SGLT2 inhibitors for adults with type 2 diabetes
8 and chronic kidney disease.

9 The new recommendations will replace recommendation 1.6.7 in the NICE guideline
10 on chronic kidney disease.

11 See also:

- 12 • the [2015 version of the type 2 diabetes guideline and supporting documents](#)
- 13 • the [2021 version of the CKD guideline and supporting documents](#).

14 Table 1 Recommendations that have been deleted

| Recommendation in 2021 chronic kidney disease guideline | Comment |
|---|---|
| 1.6.7 For adults with CKD and type 2 diabetes, offer an SGLT2 inhibitor, in addition to an ARB or an ACE inhibitor at an optimised dose if: <ul style="list-style-type: none">• ACR is more than 30 mg/mmol, and• they meet the criteria in the marketing authorisation (including relevant eGFR thresholds). Monitor for volume depletion and eGFR decline. In August 2021, not all SGLT2 inhibitors were licensed for this indication. See NICE's information on prescribing medicines. | Replaced by recommendations 1.1.2 and 1.1.3 |

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