Type 2 diabetes in adults: choosing, reviewing and changing medicines

Diet and healthy living advice

At each point, reinforce advice about diet and other aspects of healthy living (also see the NICE guideline on overweight and obesity and the NHS better health website).

Involving people in medicine discussions

Discuss the benefits and risks of each medicine treatment option with adults with type 2 diabetes, and support them to make an informed decision about their treatment. Take into account the:

- effect of each medicine on HbA1c and weight
- effectiveness of each medicine at preventing and managing cardiovascular and renal conditions
- factors that might prevent the person from following a specific treatment option (for example, pioglitazone is contraindicated for people with heart failure)
- cost: when more than 1 medicine from the same drug class are equally suitable for the person, use the least expensive.

If a person has more than one comorbidity (for example, atherosclerotic cardiovascular disease and obesity; see recommendation 1.9.3), make a shared decision with them about which comorbidity to prioritise when choosing medicines. Take into account: medicines required for cardiovascular and renal protection (for example, subcutaneous semaglutide (Ozempic) for people with atherosclerotic cardiovascular disease), medicines that are contraindicated (for example, metformin for people with chronic kidney disease and an eGFR of less than 30 mL/min/1.73 m^2), and any other medicines they are taking and at what dose, particularly if the person has frailty (see recommendations for people with frailty in the initial medicines section).

Give clear sick day rules in each person's individualised treatment plan (also see the guideline section on sick day rules).

Reviewing medicines

When reviewing treatments, make a shared decision about changes with the person with type 2 diabetes. See the recommendations on involving people in medicine discussions. Optimise their current treatment regimen before changing treatments, taking into account factors such as:

- adverse effects
- prescribed doses and formulations
- adherence to, and management of, existing medicines
- the need to revisit advice about diet and healthy living.

If response to medicines suggests that type 2 diabetes might not be the correct diagnosis, see the recommendations on initial diagnosis and revisiting initial diagnosis in NICE's guideline on managing type 1 diabetes.

If the person has reached their individualised glycaemic and weight targets (as defined in NICE's guideline on overweight and obesity), consider continuing any medicines that have contributed to this.

Consider continuing SGLT-2 inhibitors for their cardiovascular or renal benefits, even if they do not help the person reach their individualised glycaemic targets.

Stop GLP-1 receptor agonists or tirzepatide if:

- the person becomes underweight (BMI under 18.5 kg/m^2), or
- they do not help the person reach their individualised glycaemic targets and they are not being taken for their cardiovascular benefits.

Do not offer a GLP-1 receptor agonist or tirzepatide and a DPP-4 inhibitor together to treat type 2 diabetes.

People already on standard-release metformin

Continue standard-release metformin if it is effective. Switch to modified-release metformin if standard-release metformin is not tolerated, or this is the person's preference.

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Type 2 diabetes in adults: choosing medicines for first line and further treatment

For all medications:

- Start medications sequentially, not simultaneously
- Only move on to the next step having reached and confirmed the maximum tolerable dose of the current medication

Symptoms of hyperglycaemia at any stage?

- Consider insulin-based treatment or a sulfonylurea
- Review when blood glucose within target range

Comorbidities

Medicines that are suitable for people with some comorbidities may not be suitable for people with other comorbidities shown on this diagram. See NICE's information on prescribing medicines.

GLP-1 receptor agonists and subcutaneous semaglutide

For GLP-1 receptor agonists, at the time of publication (February 2026) this only includes liraglutide, dulaglutide, and semaglutide. For subcutaneous semaglutide (Ozempic), this only includes doses up to 1 mg once a week.

Assess:

- cardiovascular status
- risk of developing cardiovascular disease in the future
- renal status
- for clinically significant frailty

No relevant comorbidites

Offer:

- modified-release metformin and
- an SGLT-2 inhibitor

Metformin contraindicated or not tolerated?

Offer an SGLT-2 inhibitor alone

Further treatment needed to reach individualised glycaemic targets?

Add a DPP-4 inhibitor

DPP-4 inhibitor contraindicated, not tolerated or not effective?

Offer:

- a sulfonylurea or
- pioglitazone or
- an insulin-based treatment

Obesity

Offer:

- modified-release metformin and
- an SGLT-2 inhibitor

Metformin contraindicated or not tolerated?

Offer an SGLT-2 inhibitor alone

Further treatment needed to reach individualised glycaemic targets?

Consider adding a GLP-1 receptor agonist or tirzepatide if not already taking either and initial therapy started 3 months ago or more

Additional further treatment needed to reach individualised glycaemic targets?

If the person is taking a GLP-1 receptor agonist or tirzepatide, add:

- a sulfonylurea or
- pioglitazone or
- an insulin-based treatment

If a GLP-1 receptor agonist or tirzepatide is contraindicated, not tolerated, not appropriate or not effective, add a DPP-4 inhibitor

DPP-4 inhibitor contraindicated, not tolerated or not effective?

Offer:

- a sulfonylurea or
- pioglitazone or
- an insulin-based treatment

Chronic kidney disease

eGFR above 30 ml/min/1.73 m²

Offer:

- modified-release metformin and
- an SGLT-2 inhibitor

Metformin contraindicated or not tolerated?

Offer an SGLT-2 inhibitor alone

eGFR from 20 up to 30 ml/min/1.73 m²

Offer a DPP-4 inhibitor and either dapagliflozin or empagliflozin

eGFR below 20 ml/min/1.73 m²

Consider a DPP-4 inhibitor

DPP-4 inhibitor contraindicated, not tolerated or not effective? consider:

- pioglitazone or
- an insulin-based treatment

Further treatment needed to reach individualised glycaemic targets?

Consider adding a DPP-4 inhibitor (if not already used)

DPP-4 inhibitor contraindicated, not tolerated, not effective or already being taken?

Consider adding:

- pioglitazone or
- a sulfonylurea (if eGFR above 30 ml/min/1.73 m²) or
- an insulin-based treatment

Early-onset (before age 40) type 2 diabetes

Offer:

- modified-release metformin and
- an SGLT-2 inhibitor

Consider adding either a GLP-1 receptor agonist or tirzepatide

Metformin contraindicated or not tolerated?

Offer an SGLT-2 inhibitor

Consider adding either a GLP-1 receptor agonist or tirzepatide

Further treatment needed to reach individualised glycaemic targets?

Consider adding a GLP-1 receptor agonist or tirzepatide.

If the person is taking a GLP-1 receptor agonist or tirzepatide, add:

- a sulfonylurea or
- pioglitazone or
- an insulin-based treatment

If a GLP-1 receptor agonist or tirzepatide is contraindicated, not tolerated, not appropriate, add a DPP-4 inhibitor

DPP-4 inhibitor contraindicated, not tolerated or not effective?

Offer:

- a sulfonylurea or
- pioglitazone or
- an insulin-based treatment

Heart failure with any ejection fraction

Offer:

- modified-release metformin and
- an SGLT-2 inhibitor

Metformin contraindicated or not tolerated?

Offer an SGLT-2 inhibitor alone

Further treatment needed to reach individualised glycaemic targets?

Add a DPP-4 inhibitor

DPP-4 inhibitor contraindicated, not tolerated or not effective?

Offer:

- a sulfonylurea or
- an insulin-based treatment

Atherosclerotic cardiovascular disease

Offer:

- modified-release metformin and
- an SGLT-2 inhibitor and
- subcutaneous semaglutide (Ozempic), up to 1 mg per week

Metformin contraindicated or not tolerated?

Offer an SGLT-2 inhibitor and subcutaneous semaglutide (Ozempic), up to 1 mg per week

Further treatment needed to reach individualised glycaemic targets?

Add:

- a sulfonylurea or
- pioglitazone or
- an insulin-based treatment

Person develops atherosclerotic cardiovascular disease after starting initial treatment?

Add subcutaneous semaglutide (Ozempic), up to 1 mg per week

Further treatment needed to reach glycaemic targets?

Add:

- a sulfonylurea or
- pioglitazone or
- an insulin-based treatment

Frailty

Offer modified-release metformin

Only offer an SGLT-2 inhibitor in addition to metformin if the person's level of frailty does not place them at risk of adverse events from such a medicine (for example, hypotension)

Metformin contradicted or not tolerated?

Consider monotherapy with an SGLT-2 inhibitor or, if at risk of adverse events, a DPP-4 inhibitor

Medication review

Consider reviewing the person's overall diabetes treatment plan to ensure that they are taking the smallest effective number of medications, at the lowest effective dosage

Further treatment needed to reach individualised glycaemic targets?

Consider adding a DPP-4 inhibitor (if not already used)

DPP-4 inhibitor contraindicated, not tolerated, not effective or already being taken?

Consider adding 1 of the following:

- pioglitazone or
- a sulfonylurea or
- an insulin-based treatment

Take into account the risk of hypoglycaemia and falls with sulfonylureas and insulin-based treatments

Atherosclerotic cardiovascular disease develops after starting initial treatment

For guidance on managing weight loss and definitions of obesity, see NICE's guideline on overweight and obesity management

For guidance on managing other aspects of kidney disease in adults with type 2 diabetes, see NICE's guideline on chronic kidney disease

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This diagram covers only part of the guideline content. For full details, see NG28 Type 2 diabetes in adults: management.

 Last updated February 2026. ISBN 978-1-4731-9285-0.