

<u>Treatment options algorithm for type 2 diabetes mellitus</u>

Version:	1.0
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Based on NICE NG28

Treatment options for patients with type 2 diabetes

Institute lifestyle interventions and individualised HbA1c target with patient. Agreed HbA1c target should be appropriate for the individual.

AT EVERY STEP:

- EDUCATE reinforce importance of lifestyle interventions
- Check adherence
- Assess hypoglycaemia risk
- Optimise BP and cholesterol management
- Refer to patient structured education if available
- Consider referral for Medicines Use Review (MUR) or New Medicines Service (NMS) at a pharmacy
- Patients to self-monitor blood glucose (SMBG) if appropriate

Do not routinely offer prolonged self-monitoring of blood glucose (SMBG) levels unless:the person is on insulin or

- there is evidence of hypoglycaemic episodes or
- the person is on oral medication that may increase their risk of hypoglycaemia while driving or operating machinery or
- the person is pregnant or planning to become pregnant



If target HbA1c not achieved

First line therapy options

Offer standard-release metformin if eGFR >45ml/min/1.73m² Titrate slowly to reduce incidence of side effects If standard release metformin not tolerated, consider trial of modified release metformin.

IF METFORMIN IS CONTRAINDICATED OR NOT TOLERATED or if rapid response is required then consider:

- Gliptin, or pioglitazone, or SU, or
- SGLT2 inhibitor only if:
 - a gliptin would otherwise be prescribed, and
 - an SU or pioglitazone is not appropriate.

symptomatic with HbA1c >75mmol/L and has unintentional weight loss consider early insulin or refer to secondary care

If patient is

If target HbA1c not achieved (usually around 3 months)

Choose ONE of these options as add-on second line therapy (order not to denote any preference)

Sulphonylurea (SU) in combination with:

- Metformin or
- Gliptin or
- Pioglitazone

Advantages

- Generally recommended as second-line
- Low cost (consider cost of SMBG)

Disadvantages

- Moderate to severe hypo risk
- Weight gain

DPP-4 inhibitors (gliptins) in combination with:

- Metformin or
- Pioglitazone or
- SU

Advantages

- Low risk
- Weight neutral

Disadvantages

- High cost
- Do not use if history of pancreatitis
- Advise patients of pancreatitis symptoms
- At six months monitor beneficial effect is maintained

GLP-1 mimetics

For initiation criteria / combinations, see link

Advantages

- Low hypo risk
- A second-line therapy for those whom weight loss is a therapeutic priority

Disadvantages

- High cost
- Do not use if history of pancreatitis
- Advise patients of pancreatitis symptoms
- At six months monitor beneficial effect is maintained

Pioglitazone in combination with:

- Metformin or
- Gliptin or
- SU

Advantages

- Consider in people with very significant features of metabolic syndrome
- Low hypo risk
- Low cost

Disadvantages

- Do not use in patients with a history of bladder cancer, uninvestigated haematuria, fracture or CHF risk
- Weight gain

SGLT2 inhibitors in combination with:

■ Metformin, only if SU contraindicated or not tolerated, or if there is significant risk of hypoglycaemia with an SU

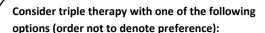
Advantages

- Low hypo risk
- Weight loss

Disadvantages

- High cost
- Do not use if CrCl< 60ml/min or eGFR< 60ml/min/1.73m²
- Do not use in patients taking loop diuretics who are volume depleted (e.g. acute GI illness)
- Avoid in patients >75yrs

Review and optimise therapy. Move to next level if target HbA1c not achieved (usually 3-6 mo.) and discontinue or adjust therapy as appropriate. For gliptins, pioglitazone and SGLT2 inhibitors, if HbA1c not decreased by 5-6mmol/mol within six months, discontinue. For GLP-1 mimetics, continue therapy only if HbA1c reduction of at least 11mmol/mol at six months.



su GLP-1 mimetic*

Gliptin SGLT2 inhibitor[∆] Pioglitazone

*Only if triple therapy with metformin and two other oral drugs is not effective. See <u>link</u> for initiation criteria. Continue therapy only if HbA1c reduction of at least 11mmol/mol AND weight loss of at least 3% of initial body weight at month six. DO NOT USE A GLP-1 **MIMETIC WITH A GLIPTIN.**

^ΔCautioned use with pioglitazone due to potential increased bladder cancer risk. To be used only in line with HMMC guidance.

Review and optimise therapy. Add insulin if target HbA1c not achieved (usually 3-6 months) and discontinue or adjust therapy as appropriate. For gliptins, pioglitazone and SGLT2 inhibitors, if HbA1c not decreased by 5-6mmol/mol within six months, discontinue.

- Initiation by community or secondary care or by GPs who feel competent to do so.
- Teach <u>SMBG</u> to all patients before insulin initiation unless inappropriate
- Use **human insulin** first line
- Move onto analogue insulin only in line with NICE guidance NG28
- Give insulin passport + information booklet

If patient is symptomatic with a HbA1c >75mmol/mol, and has unintentional weight loss consider early insulin or refer to secondary care

DOSES MAY NEED TO BE REDUCED IN PATIENTS WITH IMPAIRED RENAL **FUNCTION. CHECK MONITORING REQUIREMENTS FOR MEDICATIONS:** http://www.medicines.org.uk/emc/

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