

This Type 2 Diabetes Glycaemic Management Algorithm should be read in conjunction with the Living Evidence Guidelines in Diabetes (please click [here](#)).

All patients should receive education regarding lifestyle measures: healthy diet, physical activity and **weight management**.

Consider a diabetes-specific nutritional formula (DSNF) if appropriate.

Determine **the individual's HbA1c target** – commonly ≤ 53 mmol/mol (7.0%) but should be appropriately individualised (refer to ADS position statement).

+ Weight loss of $\geq 10\%$ will likely allow a reduction or cessation of glucose lowering medication. Consider intensive weight management options including:

- Low energy or very low energy diets with meal replacements
- Pharmacotherapy
- Bariatric surgery.



Click here for the Australian Obesity Management Algorithm

Review treatment: if **not** at target HbA1c or if presence of cardiovascular/chronic kidney disease –

- Check patient understanding of self-management including drug treatment
- Ensure current therapies are clinically appropriate including comorbidities/therapies impacting glycaemic control
- Review medication adherence
- Assess tolerability, adverse effects and risk of interactions

Review treatment in 3 months. If HbA1c not at target: Reinforce lifestyle measures and review weight management strategies.

MONOTHERAPY: Metformin is the usual monotherapy unless contraindicated or not tolerated

Metformin

SU

Insulin

Less commonly used: acarbose, DPP-4 inhibitor, SGLT2 inhibitor GLP-1RA, or TZD. Only acarbose is PBS reimbursed for monotherapy.

DUAL THERAPY: Choice of treatment – add on an oral agent or injectable therapy

Choice of dual therapy should be guided by clinical considerations (presence of, or high risk of, cardiovascular disease, heart failure, chronic kidney disease, hypoglycaemia risk, obesity), side effect profile, contraindications and cost.

SGLT2 inhibitor

GLP-1RA*

DPP-4 inhibitor

SU

Insulin

Less commonly used are: acarbose or TZD.

MULTIPLE THERAPIES: Choice of treatment : include additional oral agent or GLP-1 RA or insulin

Choice of agents should be guided by clinical considerations as above. Note: combinations not approved by PBS include GLP-1RA with SGLT2i. Consider reviewing any previous medication that has not reduced HbA1c by $\geq 0.5\%$ after 3 months and take into consideration **glycaemic AND non-glycaemic benefits**.

SGLT2 inhibitor

GLP-1RA

DPP-4 inhibitor

SU

Insulin

Less commonly used are: acarbose or TZD.

THEN...

To intensify treatment to meet glycaemic targets

- If on metformin+SU+DPP-4i, consider *adding* SGLT2i, or *switching* DPP-4i to a GLP-1RA, or an SGLT2i.
- When adding incretin therapy, use either a DPP4i or GLP-1RA (not both together).

- If on basal insulin, consider *adding* SGLT2i or GLP-1RA or bolus insulin with meals, or *change* to premixed/coformulated insulin.
- If on metformin+DPP4i+SGLT2i consider adding SU or insulin.

With increasing clinical complexity consider specialist endocrinology consultation

***Combinations not approved by PBS include GLP-1RA with SGLT2i. Use of PBS-subsidised GLP-1 RAs in combination with an SGLT2i is permitted when the SGLT2i is prescribed for an indication other than T2D (e.g. chronic kidney disease or heart failure). PBS-subsidised GLP-1 RA can only be commenced if SGLT2i has not achieved a clinically meaningful glycaemic response or if there is a contraindication/intolerance to an SGLT2i. PBS-subsidised GLP-1RA can only be combined with PBS-subsidised SGLT2i if the SGLT2i is being prescribed through the heart failure or CKD PBS code. Consider reviewing any previous medication that has not reduced HbA1c by $\geq 0.5\%$ after 3 months, and consider glycaemic AND non-glycaemic benefits.**

Recommendation for addition of a SGLT2i (or GLP-1RA where SGLT2i is not tolerated or contraindicated) to other glucose lowering medication(s) in adults with type 2 diabetes who also have cardiovascular disease, multiple cardiovascular risk factors and/or kidney disease.

Conditional recommendation for metformin as first-line monotherapy in adults with type 2 diabetes.

Conditional recommendation for DPP-4i addition to other glucose lowering medication(s) in adults with type 2 diabetes who have cardiovascular disease, multiple cardiovascular risk factors and/or kidney disease, and are unable to be prescribed an SGLT2i or a GLP-1RA due to either intolerance or contraindication.

Conditional recommendation against sulphonylurea being first choice medication to add to metformin as dual therapy as it may increase risk of hypoglycaemia.

Dark blue boxes indicate usual therapeutic strategy (order is not meant to denote any specific preference); usual refers to commonly available, evidence based, cost effective therapy.

Light blue boxes denote alternate approaches (order is not meant to denote any specific preference).

White boxes indicate less commonly used approaches.

PBS = Pharmaceutical Benefits Scheme, HF = heart failure, CKD = chronic kidney disease, SU = sulphonylurea, TZD = thiazolidinedione, DPP-4i = dipeptidyl peptidase-4 inhibitor, GLP-1RA = glucagon like peptide-1 receptor agonist, SGLT2i = sodium glucose co-transporter inhibitor.

For more details click [here](#) to access the Living Evidence Guidelines in Diabetes.

Table of Evidence and Properties of Glucose-Lowering Agents†

† Gunton JE et.al. MJA 2014, 201(11), 650-53.

*COST: \$ = \$0-\$499 \$\$ = \$500-\$999; \$\$\$ = > \$1,000 per annum cost to the PBS

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