Updated Diabetes Handbook out now


As always, the handbook, published by The Royal Australian College of General Practitioners (RACGP) and Diabetes Australia, provides practical, evidence-based recommendations for managing type 2 diabetes in general practice.

What’s new?
This clinical summary explains the major changes in the new edition, and contains the following clinical aids:

• Type 2 diabetes screening and diagnosis algorithm
• Goals for optimal management of type 2 diabetes
• The latest Australian type 2 diabetes management algorithm

The new handbook at a glance
Updates to the Diabetes Handbook include completely new sections on the following topics:

• Early-onset type 2 diabetes
• Mental health and type 2 diabetes
• Management of type 2 diabetes in older people and residential aged care facilities
• The use of technology in managing type 2 diabetes

Significant updates to pre-existing sections include the following.

• Managing risks and other impacts of diabetes:
  - New recommendations regarding cessation of sodium glucose co-transporter 2 (SGLT2) inhibitors in people with type 2 diabetes who are undergoing surgery or endoscopic procedures, and during intercurrent illness
  - A new subsection on diabetes management for people fasting during Ramadan

• Managing cardiovascular risk: new recommendation for the use of SGLT2 inhibitors and glucagon-like peptide-1 receptor agonists (GLP-1 RAs) in people with type 2 diabetes in the setting of cardiovascular disease and suboptimal glucose control

• Reproductive health: removal of advice on management of polycystic ovary syndrome (PCOS); GPs can refer to international guidelines for management of PCOS (www.monash.edu/medicine/sphpm/mchri/pcos/guideline).

Access the full handbook at www.racgp.org.au/diabetes-handbook
Type 2 diabetes: Goals for optimum management

The following table lists goals for optimum management for all people with type 2 diabetes. For guidance on specific assessment intervals, advice and arrangements, refer to the relevant sections of the handbook.

<table>
<thead>
<tr>
<th>Individual goals</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Encourage all people with type 2 diabetes to approach/reach these goals.</td>
<td></td>
</tr>
<tr>
<td><strong>Diet</strong></td>
<td>Advise eating according to the Australian dietary guidelines, with attention to quantity and type of food. Advise individual dietary review for people with difficulty managing weight, difficulty maintaining glucose levels in target range, CVD risk, or if otherwise concerned.</td>
</tr>
<tr>
<td><strong>BMI</strong></td>
<td>Advise a goal of 5–10% weight loss for people who are overweight or obese with type 2 diabetes. For people with BMI &gt;35 kg/m² and comorbidities, or BMI &gt;40 kg/m², consider facilitating greater weight-loss measures.</td>
</tr>
<tr>
<td><strong>Physical activity</strong></td>
<td>Children and adolescents: at least 60 min/day of moderate-to-vigorous physical activity, plus muscle- and bone-strengthening activities at least three days/week. Adults: 150 minutes of aerobic activity, plus 2–3 sessions of resistance exercise (to a total ≥60 minutes) per week.</td>
</tr>
<tr>
<td><strong>Cigarette consumption</strong></td>
<td>Zero per day.</td>
</tr>
<tr>
<td><strong>Alcohol consumption</strong></td>
<td>Advise ≤2 standard drinks (20 g of alcohol) per day for men and women.</td>
</tr>
<tr>
<td><strong>Blood glucose monitoring</strong></td>
<td>Advise 4–7 mmol/L fasting and 5–10 mmol/L postprandial. SMBG is recommended for patients with type 2 diabetes who are using insulin. Education should be provided regarding frequency and timing of insulin dose. For people not on insulin, the need for and frequency of SMBG should be individualised, depending on type of glucose-lowering medications, level of glycaemic control and risk of hypoglycaemia, as an aid to self-management. SMBG is recommended in pregnancy complicated by diabetes or gestational diabetes. SMBG is also recommended for people with hyperglycaemia arising from intercurrent illness. It may be helpful in haemoglobinopathies or other conditions where HbA1c measurements may be unreliable.</td>
</tr>
</tbody>
</table>
**Clinical management goals**

Treatment targets for people with type 2 diabetes include the following. For a comprehensive list of assessments and screening intervals, refer to the section ‘Assessment of the patient with type 2 diabetes’.

<table>
<thead>
<tr>
<th><strong>Parameter</strong></th>
<th><strong>Target</strong></th>
</tr>
</thead>
</table>
| **HbA1c**     | Target needs individualisation according to patient circumstances  
General ≤7% (53 mmol/mol) |
| **Lipids**    | Initiation of pharmacotherapy is dependent on the assessment of absolute CVD risk (refer to the Australian absolute cardiovascular disease risk calculator). This uses multiple risk factors, which is considered more accurate than the use of individual parameters  
Once therapy is initiated, the specified targets apply; however, these targets should be used as a guide to treatment and not as a mandatory target |
| **Total cholesterol** | <4.0 mmol/L |
| **HDL-C**     | ≥1.0 mmol/L |
| **LDL-C**     | <2.0 mmol/L; <1.8 mmol/L if established CVD is present |
| **Non-HDL-C** | <2.5 mmol/L |
| **Triglycerides** | <2.0 mmol/L |
| **Blood pressure** | ≤140/90 mmHg  
Lower blood pressure targets may be considered for younger people and for secondary prevention in those at high risk of stroke  
The target for people with diabetes and albuminuria/proteinuria remains <130/80 mmHg. As always, treatment targets should be individualised and monitored for side effects from medications used to lower blood pressure |
| **Urine albumin excretion** | UACR:  
• women: <3.5 mg/mmol  
• men: <2.5 mg/mmol  
Timed overnight collection: <20 μg/min; spot collection: <20 mg/L |
| **Vaccination** | Recommended immunisations: influenza, pneumococcus, diphtheria-tetanus-acellular pertussis (dTpa).  
Consider: hepatitis B (if travelling), herpes zoster |

*BMI, body mass index; CVD, cardiovascular disease; GPs, general practitioners; HbA1c, glycated haemoglobin; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; SMBG, self-monitoring of blood glucose; UACR, urine albumin-to-creatinine ratio.*
Screening and diagnosing type 2 diabetes in asymptomatic people\textsuperscript{1–4}

Asymptomatic patients assessed to be at high risk\textsuperscript{*}

Test blood glucose

- FBG: 5.5–6.9 mmol/L
  - Diabetes possible
- FBG: ≥7.0 mmol/L or RBG ≥11.1 mmol/L
  - Diabetes likely

Retest in three years if indicated

Perform OGTT

- Fasting glucose: <6.1
  - Normal glucose tolerance – diabetes unlikely
- Fasting glucose: 6.1–6.9
  - IFG
- Fasting glucose: ≥7.0
  - IGT

Confirm with repeat FBG

Retest in three years if indicated

- Two-hour glucose: <7.8
  - Normal glucose tolerance – diabetes unlikely
- Two-hour glucose: 7.8
  - IGT
- Two-hour glucose: ≥7.8 and <11.1
  - Diabetes possible
- Two-hour glucose: ≥11.1
  - Diabetes likely

Retest in one year

Test HbA1c\textsuperscript{†}

- <6.0% (42 mmol/mol)
  - Diabetes unlikely\textsuperscript{‡}
- 6.0–6.4% (42–46 mmol/mol)
  - High risk/diabetes possible\textsuperscript{‡}
    - Refer to the section "Preventing progression to type 2 diabetes"
- ≥6.5% (48 mmol/mol)
  - Diabetes likely

Confirm with repeat HbA1c

Retest in one year

Retest in three years

FBG, fasting blood glucose; HbA1c, glycated haemoglobin; IFG, impaired fasting glucose; IGT, impaired glucose tolerance; OGTT, oral glucose tolerance test; RBG, random blood glucose

Note: IGT and IFG cannot be diagnosed using HbA1c.

\textsuperscript{*} Using AUSDRISK (score ≥12) or in specific high-risk categories

\textsuperscript{†} Medicare Benefits Schedule (MBS) item number 66841 allows for diagnostic use only, once every 12 months. The request slip should be annotated as HbA1c or for Service Incentive Payment (SIP) and Practice Incentives Program (PIP) purposes. However, a confirmatory HbA1c test (MBS item number 66551) should be ordered before treatment initiation

\textsuperscript{‡} HbA1c results <6.5% do not exclude diabetes diagnosed by glucose tests

\textsuperscript{§} If confirmatory test is negative, repeat assessment one year or earlier if symptomatic
The Australian type 2 diabetes management algorithm

<table>
<thead>
<tr>
<th>First line: Metformin is usual first-line therapy unless contraindicated or not tolerated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metformin</strong></td>
</tr>
<tr>
<td>Move down the algorithm if not at target HbA1c:</td>
</tr>
<tr>
<td>• Check and review current therapies.</td>
</tr>
<tr>
<td>• Review adherence to medications.</td>
</tr>
<tr>
<td>• Check for side effects.</td>
</tr>
<tr>
<td>• Exclude other comorbidities/therapies impacting on glycaemic control.</td>
</tr>
<tr>
<td>• Check patient understanding of treatment and self-management.</td>
</tr>
<tr>
<td>Check HbA1c target in three months – if not achieved, move down</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second line: Choice of treatment – add on an oral agent or injectable therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice of second-line agent should be guided by clinical considerations (presence of, or high risk of, CVD, heart failure, chronic kidney disease, hypoglycaemia), side-effect profile, contraindications and cost.</td>
</tr>
<tr>
<td><strong>SGLT2i</strong></td>
</tr>
<tr>
<td>Then</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third line: Choice of treatment – include additional oral agent or GLP-1 RA or insulin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice of third-line agent should be guided by clinical considerations as above. Note: combinations not approved by PBS include GLP-1 RA with SGLT2i or GLP-1 RA with insulin. Consider stopping any second-line medication that has not reduced HbA1c by ≥0.5% after three months, unless indicated for non-glycaemic benefits.</td>
</tr>
<tr>
<td><strong>SGLT2i</strong></td>
</tr>
<tr>
<td>If on metformin+SU+DPP-4i, consider adding SGLT2i, or switching DPP-4i to a GLP-1 RA, or an SGLT2i.</td>
</tr>
<tr>
<td>If on metformin+DPP-4i+SGLT2i, consider adding SU or insulin.</td>
</tr>
<tr>
<td>If on GLP-1 RA, consider adding basal or premixed/co-formulated insulin.†</td>
</tr>
<tr>
<td>If on basal insulin, consider adding SGLT2i or GLP-1 RA or bolus insulin with meals, or change to premixed/co-formulated insulin.</td>
</tr>
<tr>
<td>Consider stopping third-line medication that has not reduced HbA1c by ≥0.5% after three months, unless indicated for non-glycaemic benefits.</td>
</tr>
</tbody>
</table>

With increasing clinical complexity, consider specialist endocrinology consultation

- Dark blue boxes indicate usual therapeutic strategy (order is not meant to denote any specific preference); usually refers to commonly available, evidence-based, cost-effective therapy.
- Light blue boxes denote alternative approaches.
- White boxes indicate less commonly used approaches.
- For patients with high risk of or established CVD, studies have shown improved major adverse cardiovascular endpoints and heart failure/hospitalisation when used with usual care.
- For patients with CKD as defined by albuminuria and/or eGFR <35-45 ml/ min/1.73m², studies have shown reductions in important major renal end points when used with usual care.
- Long-term reduction in end-stage kidney disease associated with intensive glucose control.
- Exenatide is the only GLP-1 RA PBS-approved for use with insulin.

Source: Developed in conjunction with, and reproduced with the permission of, the Australian Diabetes Society.
References


Disclaimer

The information set out in this publication is current at the date of first publication and is intended for use as a guide of a general nature only and may or may not be relevant to particular patients or circumstances. Nor is this publication exhaustive of the subject matter. It is no substitute for individual inquiry. Compliance with any recommendations does not guarantee discharge of the duty of care owed to patients. The RACGP and its employees and agents have no liability (including for negligence) to any users of the information contained in this publication.

© The Royal Australian College of General Practitioners 2020

This resource is provided under licence by the RACGP. Full terms are available at www.racgp.org.au/usage/licence

We acknowledge the Traditional Custodians of the lands and seas on which we work and live, and pay our respects to Elders, past, present and future.