**Summary screening and diagnosis of diabetes**

- **Screening**

  **Risk factors for type 2 diabetes**
  - Age ≥40 years
  - First-degree relative with type 2 diabetes
  - Member of high-risk population (e.g., Aboriginal, African, Asian, Hispanic, or South Asian decent)
  - History of prediabetes (IGT, IFG or A1C 6.0%–6.4%)*
  - History of gestational diabetes mellitus
  - History of delivery of a macrosomic infant
  - Presence of end organ damage associated with diabetes:
    - Microvascular (retinopathy, nephropathy, neuropathy)
    - Macrovascular (coronary, cerebrovascular, peripheral)
  - Presence of vascular risk factors:
    - HDL cholesterol level <1.0 mmol/L in males, <1.3 mmol/L in females
    - Triglycerides ≥1.7 mmol/L
    - Hypertension
    - Overweight
    - Abdominal obesity
  - Presence of associated diseases:
    - Polycystic ovary syndrome
    - Acanthosis nigricans
    - Psychiatric disorders (bipolar disorder, depression, schizophrenia)
    - HIV infection
    - OSA
  - Use of drugs associated with diabetes:
    - Glucocorticoids
    - Atypical antipsychotics
    - HAART
    - Other
  - Other secondary causes

- **Screen every 3 years in individuals ≥40 years of age or in individuals at high risk using a risk calculator**

- **Screen earlier and more frequently in people with additional risk factors for diabetes (see Table 1)**

- **OSA is an independent risk factor for diabetes (hazard ratio 1.43)**

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*A1C, glycated hemoglobin; HAART, highly active antiretroviral therapy; HDL, high-density lipoprotein; HIV, human immunodeficiency virus-1; IFG, impaired fasting glucose; IGT, impaired glucose tolerance; OSA, obstructive sleep apnea*

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If both fasting plasma glucose (FPG) and glycated hemoglobin (A1C) are available but discordant, use the test that appears furthest to the right side of the algorithm.

**If both fasting plasma glucose (FPG) and glycated hemoglobin (A1C) are available but discordant, use the test that appears furthest to the right side of the algorithm.**

**Prediabetes = impaired fasting glucose (IFG), impaired glucose tolerance (IGT), or A1C 6.0% to 6.4%**

† In the absence of symptomatic hyperglycemia, if a single laboratory test is in the diabetes range, a repeat confirmatory test (FPG, A1C, 2hPG in a 75 g OGTT) must be done on another day. It is preferable that the same test be repeated (in a timely fashion) for confirmation. If results of 2 different tests are available and both are above the diagnostic cutpoints, the diagnosis of diabetes is confirmed. NA = not available; OGTT = oral glucose tolerance test.
1. In the absence of symptomatic hyperglycemia, if a single laboratory test result is in the diabetes range, a repeat confirmatory laboratory test (FPG, A1C, 2hPG in a 75 g OGTT) must be done on another day.
2. It is preferable that the same test be repeated (in a timely fashion) for confirmation, but a random PG in the diabetes range in an asymptomatic individual should be confirmed with an alternate test.
3. In the case of symptomatic hyperglycemia, the diagnosis has been made and a confirmatory test is not required before treatment is initiated.
4. In individuals in whom type 1 diabetes is likely (younger or lean or symptomatic hyperglycemia, especially with ketonuria or ketonemia), confirmatory testing should not delay initiation of treatment to avoid rapid deterioration.
5. If results of 2 different tests are available and both are above the diagnostic cutpoints, the diagnosis of diabetes is confirmed.

### Diagnosis of prediabetes

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
<th>Prediabetes category</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPG (mmol/L)</td>
<td>6.1–6.9</td>
<td>IFG</td>
</tr>
<tr>
<td>2hPG in a 75 g OGTT (mmol/L)</td>
<td>7.8–11.0</td>
<td>IGT</td>
</tr>
<tr>
<td>A1C (%)</td>
<td>6.0–6.4</td>
<td>Prediabetes</td>
</tr>
</tbody>
</table>

### Harmonized definition of the metabolic syndrome: ≥3 measures to make the diagnosis of metabolic syndrome* (29)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Categorical cutpoints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevated waist circumference (population- and country-specific cutpoints):</td>
<td></td>
</tr>
<tr>
<td>• Canada, United States</td>
<td>≥102 cm</td>
</tr>
<tr>
<td>• European, Middle Eastern, sub-Saharan African, Mediterranean</td>
<td>≥94 cm</td>
</tr>
<tr>
<td>• Asian, Japanese, South and Central American</td>
<td>≥90 cm</td>
</tr>
<tr>
<td>Elevated TG (drug treatment for elevated TG is an alternate indicator)</td>
<td>≥1.7 mmol/L</td>
</tr>
<tr>
<td>Reduced HDL-C (drug treatment for reduced HDL-C is an alternate indicator)</td>
<td></td>
</tr>
<tr>
<td>Elevated BP (antihypertensive drug treatment in a patient with a history of hypertension is an alternate indicator)</td>
<td>Systolic ≥130 mm Hg and/or diastolic ≥85 mm Hg</td>
</tr>
<tr>
<td>Elevated FPG (drug treatment of elevated glucose is an alternate indicator)</td>
<td>≥5.6 mmol/L</td>
</tr>
</tbody>
</table>
**Summary screening and diagnosis of gestational diabetes**

1. All pregnant women should be screened for GDM at 24-28 weeks of gestation.
2. If there is a high risk of GDM based on multiple clinical factors, screening should be offered at any stage of the pregnancy.
3. If the initial screening is performed before 24 weeks of gestation and is negative, rescreen between 24 and 28 weeks of gestation.
4. Risk factors include:
   - Previous diagnosis of GDM
   - Prediabetes
   - Member of a high-risk population (Aboriginal, Hispanic, South Asian, Asian, African)
   - Age ≥ 35 years
   - BMI ≥ 30 kg/m²
   - PCOS, acanthosis nigricans
   - Corticosteroid use
   - History of macrosomic infant
   - Current fetal macrosomia or polyhydramnios

**References**