Summary of Recommended Guideline

Diabetes – Preventing and Screening for Complications

**Key Highlights**
- The first priority in the prevention of complications should be reduction in cardiovascular risk by vascular protection through a comprehensive multifaceted approach (in alphabetical order): ACE inhibitor and antiplatelet therapy as recommended, optimize blood pressure and glycemic control, lifestyle modifications, optimize lipid control and smoking cessation;

- Screening should be done regularly for retinopathy and annually for nephropathy, peripheral neuropathy, foot care, and influenza vaccination.

**Scope**
This guideline is intended for physicians who care for patients with diabetes or who are at risk for developing diabetes. Recommendations include both type 1 and type 2 diabetes unless only one is specified.

**Excellent/Good Evidence to Recommend**
- Unless contraindicated, low-dose ASA therapy (80 to 325 mg/day) is recommended in all patients with diabetes with evidence of cardiovascular disease (CVD), as well as for those individuals with atherosclerotic risk factors that increase their likelihood of CV events.

- Treat blood pressure to a target diastolic BP ≤ 80 mmHg.

- Any one of the following drugs is recommended as initial antihypertensive therapy in patients without diabetic nephropathy: ACE Inhibitor, ARB (if left ventricular hypertrophy), thiazide-like diuretic. [see below, under “Fair Evidence”, for other options and under “Consensus”, for suggested order of preference]

- The best possible glycemic control, including possible intensive diabetic management should be achieved to prevent or delay the onset and delay the progression of nephropathy, peripheral neuropathy, and retinopathy.

- Screening should be done for retinopathy by an experienced professional.
  - For type 1, this should begin five years after diagnosis in individuals ≥ 15 years of age and be done annually.
  - For type 2, this should start at the time of diagnosis. The recommended interval is 1 – 2 years for those with no or minimal retinopathy and should be tailored to the severity of the retinopathy.
Fair Evidence to Recommend

- Treat blood pressure to a target systolic BP < 130 mmHg.
- Any one of the following drugs is recommended as initial antihypertensive therapy in patients without diabetic nephropathy: ARB (without left ventricular hypertrophy), cardioselective beta-blocker, long-acting calcium-channel blocker. [see above for other options, and below, under “Consensus”, for suggested order of preference]

Consensus

- The first priority in the prevention of complications should be reduction in cardiovascular risk by **vascular protection** through a comprehensive multifaceted approach (in alphabetical order): ACE inhibitor and antiplatelet therapy as recommended, optimize blood pressure and glycemic control, lifestyle modifications, optimize lipid control and smoking cessation.
- Patients should be encouraged to adopt a healthy lifestyle to lower their risk of **CVD**: adopting **healthy eating habits**, achieving and maintaining a **healthy weight**, engaging in **regular physical activity**, and **stopping smoking**. Also consider lifestyle interventions to reduce blood pressure, such as healthy weight and **limiting sodium and alcohol intake**.
- A fasting lipid profile (TC, HDL-C, TG and calculated LDL-C)* should be conducted at the time of diagnosis of diabetes and then every 1 to 3 years as clinically indicated. More frequent testing should be done if treatment for dyslipidemia is initiated.
- Patients with diabetes should be treated to achieve the following target **lipid goals**:
  - For patients at high risk of a vascular event (most people with diabetes): LDL-C <2.5 mmol/L and TC:HDL-C <4.0;
  - For patients at moderate risk of a vascular event (such as younger patients with shorter duration of disease and without complications of diabetes and without other risk factors): LDL-C <3.5 mmol/L and TC:HDL-C <5.0
- **Blood pressure** should be measured at every diabetes visit. Systolic blood pressure > 130 mmHg or diastolic blood pressure > 80 mmHg should be re-measured at a separate visit.
- For initial antihypertensive therapy in patients without diabetic nephropathy, drugs are recommended in the following order: ACE Inhibitor, ARB, thiazide-like diuretic, cardioselective beta-blocker, long-acting calcium-channel blocker. [see above for level of evidence associated with each drug]
- **Annual screening** should be done for
  - diabetic nephropathy (random urine test for Albumin to Creatinine Ratio [ACR]),
  - peripheral neuropathy (10g monofilament or loss of vibration sense at great toe), and
  - foot care (foot examinations).
This screening should start, for type 1, in postpubertal individuals >5 years from diagnosis and, for type 2, at the time of diagnosis of diabetes. Foot examinations should be performed more frequently for patients at high risk.
- All adult men should be periodically screened for erectile dysfunction with a sexual function history. For type 2, this should begin at the time of diagnosis of diabetes.
• **Adults** should be immunized against **influenza annually** and should be considered for **pneumococcal** immunization.

• Patients with diabetes should be regularly screened for psychological and psychosocial problems, depression and anxiety disorders.

**Good Evidence NOT to recommend**

• Alpha-adrenergic blockers are **not** recommended as first-line agents for the treatment of hypertension in persons with diabetes

**Glossary**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>*HDL-C</td>
<td>high-density lipoprotein cholesterol</td>
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<tr>
<td>LDL-C</td>
<td>low-density lipoprotein cholesterol</td>
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<tr>
<td>TC</td>
<td>total cholesterol</td>
</tr>
<tr>
<td>TC:HDL-C</td>
<td>total cholesterol to high-density lipoprotein cholesterol ratio</td>
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<tr>
<td>TG</td>
<td>triglyceride</td>
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The above recommendations were derived from the following GAC endorsed guideline:

Rating (out of 4): 🌟🌟🌟🌟

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