# Prescription for Cardiovascular Protection with diabetes

**Prescriber's Name:** | **Patient's Name:**

Address: | Address:

Tel: Fax: | Tel:

| STEP 1: | STEP 2: Choose Cardiovascular protection agent(s) from the following list | | | Dosing |
|---|---|---|---|---|
| **Is the patient...**<br>– age >40?<br>OR<br>– age >30, and diabetes >15 years?<br>OR<br>– warranted for statin therapy based on the Canadian Cardiovascular Society Lipid Guidelines?<br>**YES** | **Statin** | **STATIN** | | **Dosing:** see start and maximum doses listed for each statin |
| | | ☐ **Atorvastatin** (Lipitor®)<br>☐ 10 mg (start 10 mg OD)<br>☐ 20 mg<br>☐ 40 mg<br>☐ 80 mg (max 80 mg OD) | ☐ **Fluvastatin** (Lescol®)<br>☐ 20 mg (start 20 mg OD)<br>☐ 40 mg<br>☐ 80 mg (max 80 mg OD) | ☐ **Lovastatin** (Mecavor®)<br>☐ 20 mg (start 20 mg OD)<br>☐ 40 mg (max 80 mg OD) |
| | | ☐ **Pravastatin** (Pravachol®)<br>☐ 10 mg (start 10 mg OD)<br>☐ 20 mg<br>☐ 40 mg<br>☐ 80 mg (max 80 mg OD) | ☐ **Rosuvastatin** (Crestor®)<br>☐ 5 mg<br>☐ 10 mg (start 10 mg OD)<br>☐ 20 mg<br>☐ 40 mg (max 40 mg OD) | ☐ **Simvastatin** (Zocor®)<br>☐ 10 mg (start 10 mg OD)<br>☐ 20 mg<br>☐ 40 mg (max 80 mg OD) |
| **Is the patient...**<br>– age >55 with additional CV risk factors?<br>**Does the patient have microvascular disease?**<br>– Retinopathy<br>– Kidney disease (ACR>2.0)<br>– Neuropathy<br>**YES** | **Statin + ACEi or ARB** | **ACE INHIBITORS** | | **ARB** |
| | | ☐ **Perindopril** (Aceon®, Coversyl®)<br>☐ 2 mg<br>☐ 4 mg (start 4 mg OD)<br>☐ 8 mg (max 16 mg OD) | ☐ **Ramipril** (Altace®)<br>☐ 1.25 mg<br>☐ 2.5 mg (start 2.5 mg OD)<br>☐ 5 mg<br>☐ 10 mg (max 20 mg OD) | ☐ **Telmisartan** (Micardis®)<br>☐ 20 mg<br>☐ 40 mg (start 40 mg OD)<br>☐ 80 mg (max 80 mg OD) |
| | | | | **Dosing:** see start and maximum doses listed for each ACEi<br>**ACEi:** see precautions for dosing in kidney and liver disease on next page<br>Increase doses at 2-3 week intervals. |
| **Does the patient have cardiovascular disease?**<br>– Cardiac ischemia (silent or overt)<br>– Peripheral arterial disease<br>– Cerebrovascular/carotid disease<br>**YES** | **Statin + ACEi or ARB + ASA** | **ASA** (if CVD) | | |
| | | ☐ **ASA**<br>☐ 81 mg<br>☐ 162 mg | ☐ **Clopidrogrel** (Plavix®) for those unable able to tolerate ASA<br>☐ 75 mg | |
| **AND** the patient has type 2 diabetes and is **NOT** at glycemic target<br>**YES** | **Statin + ACEi or ARB + ASA + SGLT-2i or GLP-1ra** | **SGLT-2 inhibitor** | | **Starting dose:** lowest dose and titrate up Q 4 weeks. Check eGFR periodically; discontinue if eGFR <30mL/min.<br>**See benefits and precautions on next page** |
| | | ☐ **Canagliflozin** (Invokana®)<br>☐ 100 mg (start 100 mg OD)<br>☐ 300 mg (max 300 mg OD) | ☐ **Empagliflozin** (Jardiance®)<br>☐ 10 mg (start 10 mg OD)<br>☐ 25 mg (max 25 mg OD) | |
| | | **GLP-1 receptor agonist** | | **Starting dose:** Start at 0.6 mg s.c. OD, increase by 0.6 mg Q weekly until maximum dose reached. If nausea experienced, reduce dose down by 0.6 mg and use slower titration schedule (Q 2 – 3 weeks between increases)<br>**See benefits and precautions on next page** |
| | | ☐ **Liraglutide** (Victoza®)<br>☐ 0.6 mg (start 0.6 mg OD)<br>☐ 1.2 mg<br>☐ 1.8 mg (max 1.8 mg OD) | | |

Signature: Print Name: Date: License #:

## Cardiovascular protection targets & precautions for people with diabetes

**People with diabetes should be started on cardiovascular protection agents.**
The following are suggestions for considerations in cardiovascular protection.
Clinical judgment must always be used as the suggestions may not apply to every patient.

**Lipid targets:** LDL-cholesterol <2.0 mmol/L or >50% reduction from baseline; Non-HDL <2.6 mmol/L; Apolipoprotein B <0.8 g/L
**BP targets:** <130/80 mmHg
**BG targets:** A1C <7.0% implemented early in the course of diabetes
**NOTE: among women with childbearing potential, ACEi, ARBs or statins should only be used if there is reliable contraception**

**Angiotension Converting Enzyme inhibitor (ACEi) & Angiotension II Receptor Blocker (ARB) are used to reduce CV risk in adults with type 1 or type 2 diabetes with any of the following:**
**a)** Clinical CVD;
**b)** Age >55 years with additional CV risk factors or
**c)** end organ damage (albuminuria, retinopathy, LVH), microvascular complications
Precautions: hypersensitivity; previous angioedema associated with ACEi therapy; impaired renal function; hyperkalemia; renal artery stenosis (bilateral or unilateral with a solitary functioning kidney); concomitant NSAID hypovolemia or dehydration; primary hyperaldosteronism; pregnancy or breastfeeding.
**NOTE: among women with childbearing potential, ACEi, ARBs or statins should only be used if there is reliable contraception**

**STATIN** therapy should be used to reduce CV risk in adults with type 1 or type 2 diabetes with any of the following:
**a)** Clinical CVD;
**b)** age >40 years;
**c)** age <40 years and 1 of the following: (i) diabetes duration >15 years and age >30; (ii) microvascular complications
Precautions: Impaired renal and hepatic function are risk factors for adverse effects with statins, e.g rhabdomyolysis. Active liver disease or unexplained transaminase elevations are contraindications to all statins.
**NOTE: among women with childbearing potential, ACEi, ARBs or statins should only be used if there is reliable contraception**

**ASA**
In people with established CVD, low-dose ASA therapy (81–162 mg) should be used to prevent CV events
ASA should not be used routinely for the primary prevention of CVD events
Clopidrogrel 75 mg may be used in people unable to tolerate ASA
Precautions: risk of stomach ulcers or bleeding

**SGLT-2 inhibitor or GLP-1 receptor agonist with demonstrated CV benefit: Indicated for use in patients with type 2 diabetes only** (if CVD and A1C not at target)
**SLGT-2 Precautions:** use with caution in renal impairment (will not cause harm, will just not be effective); monitor for DKA and euglycemia or mild hyperglycemia, should be held if unable to stay hydrated through diet, encourage 1 – 1.5 L of fluid intake per day. Increased risk of UTI and yeast infections.
**GLP-1 Precautions:** nausea; vomiting; injection site reactions; contraindicated in: renal failure; pancreatitis; medullary thyroid cell carcinoma; Multiple Endocrine Neoplasia Syndrome (MENS2) or T1DM, DKA, pregnancy, children; can increase heart rate by 7-8 bpm & prolong PR interval by 10 ms.

**Physical Activity**
Physical activity is associated with improvement in CV outcomes and a reduction in CV and overall mortality in people with type 2 diabetes or IGT and CVD. Habitual, prolonged sitting is associated with increased risk of death and major cardiovascular events. People with diabetes should ideally accumulate a minimum of 150 minutes of moderate- to vigorous-intensity aerobic exercise each week, spread over at least 3 days of the week, with no more than 2 consecutive days without exercise, to improve glycemic control and to reduce risk of CVD and overall mortality.

**Diet**
To reduce the risk of CVD, adults with diabetes should avoid trans fatty acids and consume less than 9% of total daily energy from saturated fatty acids replacing these fatty acids with polyunsaturated fatty acids, monounsaturated fatty acids, whole grains or low-Glycemic Index carbohydrates. The Mediterranean style diet and DASH diet have been shown to help manage diabetes and cardiovascular disease.

**Cardiovascular Protection Quick Link from Diabetes Canada** http://guidelines.diabetes.ca/reduce-complications/risk-assessment