

GUARDIANS FOR HEALTH

medical essentials checklist



www.guardiansforhealth.ca

Use this checklist with each of your patients **at least once a year*** to help support the **GUARDIANS FOR HEALTH vision** to stop early mortality, by reducing cardiovascular and kidney complications in people with type 2 diabetes[†]

COMMIT

In people with type 2 diabetes:[†]



Assess for comorbidities and modifiable risk factors regularly



Use medications for cardiorenal risk reduction



Individualize and achieve targets

This checklist is directed at HCPs who treat people with type 2 diabetes. It is a compilation of recommendations from the Diabetes Canada Clinical Practice Guidelines and various publications that support type 2 diabetes treatment decision-making. This information is only intended to support your treatment decisions and is not intended to be a substitute for your own independent clinical judgment as a health care professional. Treatment decisions need to be based on the individual needs of the patient.

GUARDIANS FOR HEALTH does not take over any guarantee nor makes any warranty with regard to any individual treatment plan decided by the HCP based on these recommendations. When applying recommendations, HCPs should also refer to the respective prescribing information applicable in his/her country for a selected medication.

HCP=healthcare professional.

* It may be appropriate to perform some checks more often than once a year; please refer to local guidelines and exercise your own clinical judgement.

† See local guideline recommendations and always refer to prescribing information.

1

Assess regularly for comorbidities and risk factors



Screen for the presence of cardiovascular disease (CVD)

- **Questions you may want to consider asking patients. Do they:**^{1,2}
 - Feel chest pain when walking? Does the pain stop when resting?
 - Feel short of breath when walking? Does this improve with rest?
 - Experience leg pain, especially in their calves, when walking? Does the pain stop when resting?
 - Feel their heart beating fast, or missing beats?
- **When screening for CVD, Diabetes Canada recommends:**^{1,2}
 - A resting ECG repeated every 3 to 5 years following certain criteria*
 - An investigation for CAD by exercise ECG stress testing in the presence of certain criteria†
 - Pharmacological stress echocardiography or nuclear imaging when resting ECG abnormalities preclude the use of exercise ECG stress testing‡
 - A cardiac specialist referral for individuals who demonstrate ischemia at a low exercise capacity (<5 METs) on stress testing



Screen for heart failure (HF)

- **Questions you may want to consider asking patients. Are they:**^{1,3}
 - More tired than usual?
 - More short of breath than usual?
 - Unable to do things they normally do?

ECG=electrocardiogram; CAD=coronary artery disease; METs=metabolic equivalents.

* Criteria met to perform resting ECG includes: age >40 years, duration of diabetes >15 years and age >30 years, end organ damage (microvascular, CV), ≥1 CVD risk factor(s), age >40 years and planning to undertake very vigorous or pro-longed exercise, such as competitive running, long-distance running, or high-intensity interval training.

† ECG stress test in the presence of the following at a Grade C and D level: typical or atypical cardiac symptoms (e.g. unexplained dyspnea, chest discomfort), signs or symptoms of associated diseases PAD (abnormal ankle-brachial index), carotid bruits, transient ischemic attack, stroke, resting abnormalities on ECG (e.g. Q waves), CAC score >400 Agatston score.

‡ Individuals who require stress testing and are unable to exercise should undergo pharmacological stress echocardiography or nuclear imaging.

- **When screening for HF in people with diabetes, Diabetes Canada recommends:**^{1,3}

- Screen for further symptoms such as swelling, coughing and try to differentiate from other conditions that may have similar presentations, such as chronic obstructive pulmonary disease, pneumonia, anemia, varicose veins, and depression (add DC reference here)

- **If HF is suspected, Canadian Cardiovascular Society endorses the new universal definition of HF:** a clinical syndrome with current or prior symptoms and or signs caused by a structural and/or functional cardiac abnormality (eg. EF <50%) and **corroborated by at least one of the following:**⁴

- Elevated natriuretic peptide levels
 - Ambulatory BNP ≥35 pg/mL
 - Ambulatory NT-proBNP ≥125 pg/mL
- Objective evidence of cardiogenic pulmonary or systemic congestion by diagnostic modalities such as imaging or hemodynamic measurement (e.g. by chest X-ray or elevated filling pressures by echocardiography)



Screen for kidney dysfunction

- **Measure and assess:**^{1,5}
 - UACR
 - eGFR
- **Diagnose chronic kidney disease (CKD) if:**^{1,5}
 - Random urine ACR ≥2 mg/mmol on at least 2–3 samples over a 3-month period
 - eGFR persistently <60 mL/min/1.73 m²
- **If CKD is diagnosed, continue to monitor eGFR and UACR more frequently**^{1,5}
 - Refer to specialist care as per local guidance
 - See appendix for details on CKD prognosis by eGFR and albuminuria categories

EF=ejection fraction; UACR=urine albumin-to-creatinine ratio; eGFR=estimated glomerular filtration rate; GFR=glomerular filtration rate.



Screen for retinopathy

- **Questions you may want to consider asking patients:**^{1,6}
 - When was the last time you had your eyes checked?
 - Have you had your eyes checked in the past 2 years?
- **Refer to an optometrist or ophthalmologist according to local referral criteria**^{1,6}



Assess footcare

- **Questions you may want to consider asking patients. Have they experienced:**^{1,7}
 - Any change in sensation in their feet?
 - Difficulty walking?
 - Foot pain?
 - Ulcers, numbness or tingling in their feet?
 - Foot discolouration?
- **When assessing footcare, Diabetes Canada recommends:**^{1,7}
 - Assess for neuropathy and conduct a visual inspection of the foot e.g., skin integrity, callous formation, foot deformity or ulcer
 - Check for palpation e.g., pedal pulses and temperature, and assess protective sensation e.g., sensation to 10 g monofilament
 - Structural abnormalities e.g. range of motion



Monitor risk factors at least annually and/or in accordance to guideline recommendations and patient characteristics¹

- Albuminuria (UACR)⁸
- eGFR⁸
- Smoking
- Retinopathy⁶
- A1C levels (HbA1c) every 3 months if target is not being met and every 6 months if target is achieved⁹

A1C=glycated hemoglobin; HbA1c=glycated hemoglobin; BMI=body mass index; LDL-C=low-density lipoprotein cholesterol; HDL-C=high-density lipoprotein cholesterol.

- Blood pressure should be checked annually or more often if blood pressure is high¹⁰
- BMI
- Encourage and discuss healthy eating or an individualized diet if necessary¹¹
- Encourage and discuss individualized exercise goals¹¹
- Cholesterol/lipid profile¹²
A lipid profile consists of total cholesterol, LDL-C, HDL-C and triglycerides

2

Use medications for CV and/or cardiorenal protection*



- **Check that the recommended medications for potential organ protection are being where appropriate:**^{1,13*}
 - ACEi/ARB
(if CVD, age ≥55 with risk factors, OR diabetes complications)
 - Statin
(if CVD, age ≥40 for type 2, OR diabetes complications)
 - ASA
(if CVD)
 - SGLT2i/GLP1-RA with demonstrated cardiorenal benefits in patients with ASCVD, CKD or HF, OR Age >60 with 2 CV risk factors

ACE=angiotensin-converting enzyme; ARB=angiotensin receptor blocker; MI=myocardial infarction; HFrEF=heart failure with reduced ejection fraction; GLP-1 RA=glucagon-like peptide 1 receptor agonist; SGLT2=sodium-glucose co-transporter 2; MRA=mineralocorticoid receptor antagonist.

* See local guideline recommendations and always refer to prescribing information for each medication.

† Additional medication for CKD treatment may be recommended as per respective CKD guidelines.

‡ Additional medication for HF treatment may be recommended as per respective HF treatment guidelines, e.g., beta-blockers, MRAs, diuretics in HFrEF.

3 Individualize and achieve targets*



Lifestyle

○ Individualize lifestyle targets and treat to target:¹

- BMI/weight
- Diet¹¹
- Exercise levels¹¹
- Smoking cessation (where applicable)



HbA1c

○ Individualize HbA1c target and treat to target:^{1,14}

- Target for most adults: ≤7.0% (8.6 mmol/L)
Individual targets of ≤6.5%, or 7.1–8.5% in some patients may be appropriate depending on factors such as life expectancy, comorbidities, frailty and risk for hypoglycemia, with stricter targets in certain populations e.g., in younger patients with a short duration of diabetes mellitus or those without comorbidities



Blood pressure

○ Individualize blood pressure target and treat to target:^{1,15}

- Target <130/80 mmHg
Individual targets may be appropriate based on CV risk, albuminuria/UACR, potential adverse effects of antihypertensive medications



LDL-C

○ Individualize LDL-C target and treat to target:^{1,12}

- For people with diabetes with indications for lipid-lowering therapy, treatment should be initiated with a statin to achieve LDL-C consistently <2.0 mmol/L or >50% reduction of LDL-C from baseline

Appendix

Prognosis of CKD by eGFR and Albuminuria Categories¹⁶

				Persistent albuminuria categories Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30–300 mg/g 3–30 mg/mmol	>300 mg/g >30 mg/mmol
GFR categories (mL/min/1.73 m ²) Description and range	G1	Normal or high	≥90			
	G2	Mildly decreased	60–89			
	G3a	Mildly to moderately decreased	45–59			
	G3b	Moderately to severely decreased	30–44			
	G4	Severely decreased	15–29			
	G5	Kidney failure	<15			

Grid to reflect the frequency of monitoring, with the numbers in the boxes indicating the recommended number of times per year, and the risk of progression, from blue indicating low risk to dark red indicating very high risk.

References

1. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. *Can J Diabetes* 2018;42(Suppl 1):S1–S325.
2. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Screening for the Presence of Cardiovascular Disease. *Can J Diabetes* 2018;42(Suppl 1):S170–77.
3. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Treatment of Diabetes in People With Heart Failure. *Can J Diabetes* 2018;42(Suppl 1):S196–200.
4. Bozkurt B et al. *J Card Fail* 2021;27:387–413.
5. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Chronic Kidney Disease in Diabetes. *Can J Diabetes* 2018;42(Suppl 1):S201–09.
6. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Retinopathy. *Can J Diabetes* 2018;42(Suppl 1):S210–16.
7. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Foot care. *Can J Diabetes* 2018;42(Suppl 1):S222–27.
8. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Chronic Kidney Disease in Diabetes. *Can J Diabetes* 2018;42(Suppl 1):S201–09.
9. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Monitoring Glycemic Control. *Can J Diabetes* 2018;42(Suppl 1):S47–53.
10. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Treatment of Hypertension. *Can J Diabetes* 2018;42(Suppl 1):S186–89.
11. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Nutrition Therapy. *Can J Diabetes* 2018;42(Suppl 1):S64–79.
12. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Dyslipidemia. *Can J Diabetes* 2018;42(Suppl 1):S178–85.
13. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Pharmacologic Glycemic Management of Type 2 Diabetes in Adults: 2020 Update. *Can J Diabetes* 2020;44:S575–91.
14. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Targets for Glycemic Control. *Can J Diabetes* 2018;42(Suppl 1):S42–46.
15. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Treatment of Hypertension. *Can J Diabetes* 2018;42(Suppl 1):S186–89.
16. Akbari A, et al. Canadian Society of Nephrology commentary on the KDIGO clinical practice guideline for CKD evaluation and management. *Am J Kidney Dis* 2015;65(2):177–205.

