COMPREHENSIVE CARDIOMETABOLIC HEALTH MANAGEMENT MODEL FOR PERSONS WITH TYPE 2 DIABETES: LIFE’S SIMPLE 7

The American Heart Association (AHA) has identified seven simple measures (“Life’s Simple 7”) to prevent cardiovascular disease.

Life’s Simple 7 Assessment

2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease

Measure height, weight, waist circumference

Calculating body mass index (BMI) is recommended annually or more frequently to identify adults with overweight and obesity for weight loss considerations. It is reasonable to measure waist circumference to identify those at higher cardiometabolic risk.

Measure blood pressure

Nonpharmacologic interventions are recommended for all adults with elevated blood pressure or hypertension and cardiovascular disease. For those requiring pharmacologic therapy, the target blood pressure should generally be less than 130/80 mmHg.

Measure A1C

Statin therapy is first-line treatment for primary ASCVD prevention in:

- Those with diabetes who are 40–75 years of age
- Patients with elevated LDL-C levels (≥190 mg/dL)
- Those at sufficient ASCVD risk following a clinician-patient risk discussion

Measure lipid levels

Statin therapy is first-line treatment for primary ASCVD prevention in:

- Patients with diabetes and at least one ASCVD risk factor
- Patients with diabetes and a 10-year ASCVD risk of 10% or higher
- All adults with diabetes and a 10-year ASCVD risk of 20% or higher

Assess tobacco use

For adults with type 2 diabetes mellitus, lifestyle changes, such as improving dietary habits and achieving exercise recommendations, are crucial. If medication is indicated, metformin is first-line therapy, followed by consideration of a sodium-glucose cotransporter 2 inhibitor or a glucagon-like peptide-1 receptor agonist.

ASCVD RISK CALCULATOR

The assessment of ASCVD risk remains the foundation of primary prevention. The purpose of the ASCVD Risk Calculator is to estimate a patient’s 10-year ASCVD risk at an initial visit to establish a reference point. ACC/AHA guidelines recommend the use of the PCE as an important starting point, not as the final arbiter, for decision-making in primary prevention of ASCVD.

Adults who are 40 to 75 years of age and are being evaluated for cardiovascular disease prevention should undergo a 10-year atherosclerotic cardiovascular disease (ASCVD) risk estimation and have a clinician–patient risk discussion before starting on pharmacological therapy, such as antihypertensive therapy, a statin, or aspirin. ACC/AHA 2018 Cholesterol Guidelines and 2017 Hypertension Guidelines recommend the use of quantitative 10-year risk assessment, based on measurement of traditional ASCVD risk factors and with use of a validated risk prediction tool, as the first step in considering treatment options for primary prevention.

ASCVD Risk Calculator: KNOWDIABETESBYHEART.ORG/RISKCALC

| Measure height, weight, waist circumference | Age, sex, race |
| Measure blood pressure (systolic blood pressure) | Measure lipid levels |
| Medication use (antihypertensives, statin, aspirin) | Determine diabetes status |

Assess tobacco use (smoking status)

STATIN RECOMMENDATIONS FOR ADULTS WITH TYPE 2 DIABETES

In adults 40 to 75 years of age with diabetes mellitus, regardless of estimated 10-year ASCVD risk, moderate-intensity statin therapy is indicated (S4.3-1–S4.3-9).

In adults 40 to 75 years of age with diabetes mellitus and an LDL-C level of 70 to 189 mg/dL (1.7 to 4.8 mmol/L), it is reasonable to assess the 10-year risk of a first ASCVD event by using the race and sex-specific PCE to help stratify ASCVD risk (S4.3-10, S4.3-11).

In adults with diabetes mellitus who have multiple ASCVD risk factors, it is reasonable to prescribe high-intensity statin therapy with the aim to reduce LDL-C levels by 50% or more (S4.3-12, S4.3-13).

In adults older than 75 years of age with diabetes mellitus and who are already on statin therapy, it is reasonable to continue statin therapy (S4.3-14, S4.3-15).

In adults with diabetes mellitus and 10-year ASCVD risk of 20% or higher, it may be reasonable to add ezetimibe to maximally tolerated statin therapy to reduce LDL-C levels by 50% or more (S4.3-16, S4.3-17).

In adults older than 75 years with diabetes mellitus, it may be reasonable to initiate statin therapy after a clinician–patient discussion of potential benefits and risks (S4.3-18, S4.3-19).

In adults 20 to 39 years of age with diabetes mellitus that is either of long duration (>20 years of type 1 diabetes mellitus), albuminuria (>30 mg of albumin/mg creatinine), estimated glomerular filtration rate (eGFR) less than 60 mL/min/1.73 m2, retinopathy, neuropathy, or ABI <1.0, it may be reasonable to initiate statin therapy (S4.3-20, S4.3-21, S4.3-22, S4.3-23, S4.3-24).

In adults 40 to 59 years of age with diabetes mellitus and an LDL-C level of 70 to 189 mg/dL (1.7 to 4.8 mmol/L), it is reasonable to assess the 10-year risk of a first ASCVD event by using the race and sex-specific PCE to help stratify ASCVD risk (S4.3-10, S4.3-11).

In adults with diabetes mellitus who have multiple ASCVD risk factors, it is reasonable to prescribe high-intensity statin therapy with the aim to reduce LDL-C levels by 50% or more (S4.3-12, S4.3-13).

In adults older than 75 years with diabetes mellitus, it may be reasonable to initiate statin therapy after a clinician–patient discussion of potential benefits and risks (S4.3-18, S4.3-19).

In adults 20 to 39 years of age with diabetes mellitus that is either of long duration (>20 years of type 1 diabetes mellitus), albuminuria (>30 mg of albumin/mg creatinine), estimated glomerular filtration rate (eGFR) less than 60 mL/min/1.73 m2, retinopathy, neuropathy, or ABI <1.0, it may be reasonable to initiate statin therapy (S4.3-20, S4.3-21, S4.3-22, S4.3-23, S4.3-24).
Approaches to management of glycemia in adults with type 2 diabetes, with the goal of reducing complications and maintaining quality of life in the context of comprehensive cardiovascular risk management and patient-centered care. The principles of how this can be achieved are summarized and underpin the approach to management needs and generally includes metformin and comprehensive lifestyle modification.

**Goals of Care**

- Prevent complications
- Optimize quality of life

**Assess Key Patient Characteristics**

- Current health
- Comorbidities, i.e., ASCVD, CKD, HF
- Clinical characteristics, i.e., HbA1c, weight
- Socioeconomic factors
- Cultural and socioeconomic context

**Consider Specific Factors That Impact Choice of Treatment**

- Individualized HbA1c target
- Impact on weight and psychosocial health
- Impact of lifestyle intervention
- Complexity of regimen, i.e., frequency, mode of administration
- Choice regimes to optimize adherence and persistence
- Access, cost, and availability of medicaments

**Pharmacologic Treatment of Hyperglycemia in Adults with Type 2 Diabetes**

**First-Line Therapy** depends on comorbidities, patient-centered treatment factors, including cost and access considerations, and management needs and generally includes metformin and comprehensive lifestyle modification.

**Recommend Independently of Baseline A1C, Individualized A1C Target, or Metformin Use**

**Preferably**

- GLP-1 RA with proven benefit in this population

**Favorably**

- SGLT2i with proven benefit in this population

**Appendix A1:** TREATMENT DEPENDS ON COMORBIDITIES, PATIENT-CENTERED TREATMENT FACTORS, INCLUDING COST AND ACCESS CONSIDERATIONS, AND MANAGEMENT NEEDS AND GENERALLY INCLUDES METFORMIN AND COMPREHENSIVE LIFESTYLE MODIFICATION.

**Shared Decision-Making to Create a Management Plan**

- Involve an educated and informed patient (and their family/caregiver)
- Seeks patient preferences
- Ensure effective collaboration includes motivational interviewing, goal setting, and shared decision-making
- Empowers the patient
- Ensures access to GMEs

**Figure legend:** 2022 ADA Professional Practice Committee (PPC) adaptation of Davies et al. and Buse et al. The 2022 ADA PPC adaptation emphasizes incorporation of the new AHA/ACC/CDC 2018 guidelines, which may require adjustments to the sequential therapies. Therapeutic regimen should be tailored to comorbidities, patient-centered treatment factors, and management needs. ASCVD, atherosclerotic cardiovascular disease; CKD, chronic kidney disease; CVD, cardiovascular disease; CVD, cardiovascular disease outcomes trials; DPP-4, dipeptidyl peptidase 4 inhibitor; eGFR, estimated glomerular filtration rate; GLP-1 RA, glucagon-like peptide 1 receptor agonist; HF, heart failure; SGLT2i, sodium–glucose cotransporter 2 inhibitor; SU, sulfonylurea; T2D, type 2 diabetes; TZD, thiazolidinediones.