Know Diabetes by Heart™ Pocket Guide:

Guide to Clinical Care with Patients with Diabetes and Established Cardiovascular Risk

The American Heart Association and American Diabetes Association have partnered to summarize key clinical recommendations for cardiometabolic health management for people with type 2 diabetes.

American Heart Association.

Know Diabetes by Heart™

American Diabetes Association. Connected for Life

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.[1]

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	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.
Measure lipid levels	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
Assess tobacco use	All adults should be assessed at every visit for tobacco use, and those who use tobacco should be assisted and strongly advised to quit. Referral to specialists is helpful for both behavioral modification, nicotine replacement, and drug treatments.
Assess physical activity level	Adults should engage in at least 150 minutes per week of accumulated moderate intensity or 75 minutes per week of vigorous intensity physical activity.
Assess dietary pattern	All adults should consume a healthy diet that emphasizes the intake of vegetables, fruits, nuts, whole grains, lean vegetable or animal protein, and fish and minimizes the intake of trans fats, processed meats, refined carbohydrates, and sweetened beverages.

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.[1]

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[2]

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 (S4.3-5, S4.3-8, S4.3-13).

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 (S4.3-14, S4.3-15).

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 (S4.3-5, S4.3-8, S4.3-13).

In adults 20 to 39 years of age with diabetes mellitus that is either of long duration (≥10 years of type 2 diabetes mellitus, ≥20 years of type 1 diabetes mellitus), albuminuria (≥30 mcg of albumin/mg creatinine), estimated glomerular filtration rate (eGFR) less than 60 mL/min/1.73 m2, retinopathy, neuropathy, or ABI (<0.9), it may be reasonable to initiate statin therapy (S4.3-5, S4.3-6, S4.3-8, S4.3-16—S4.3-25).

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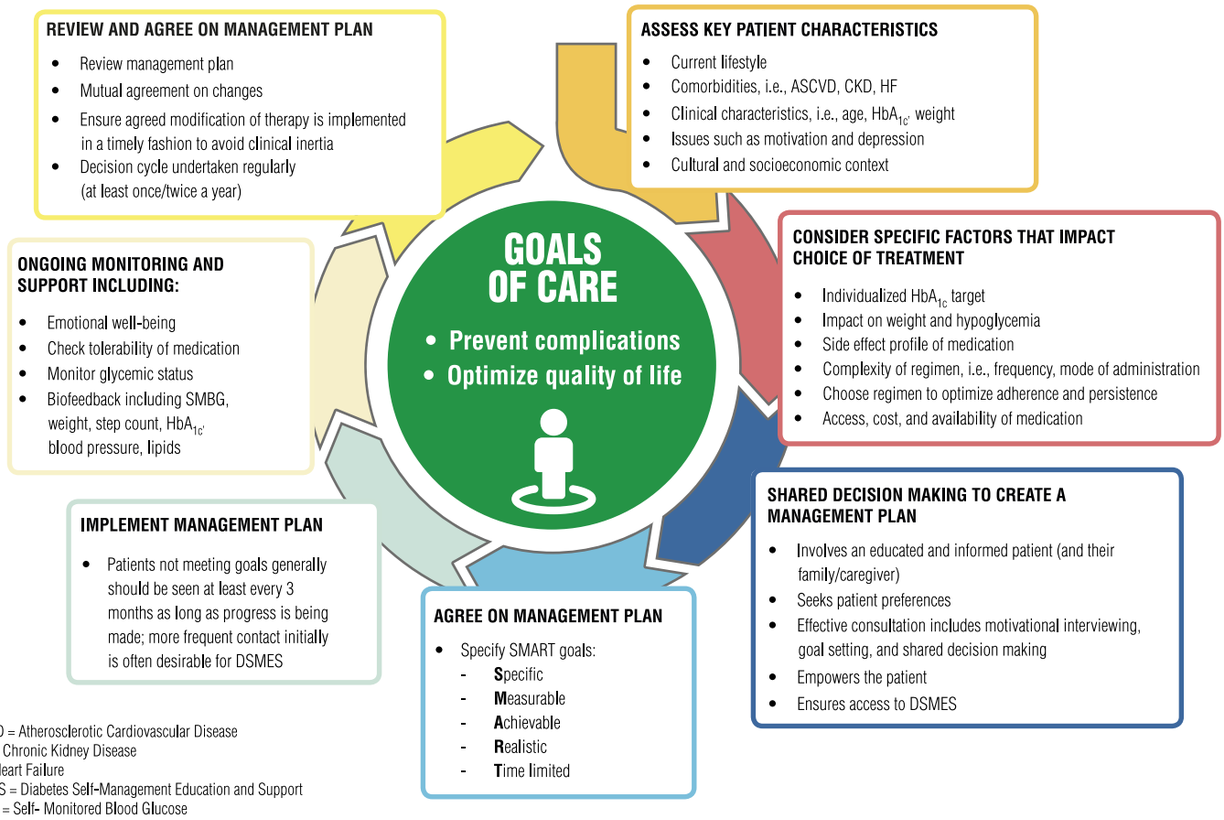
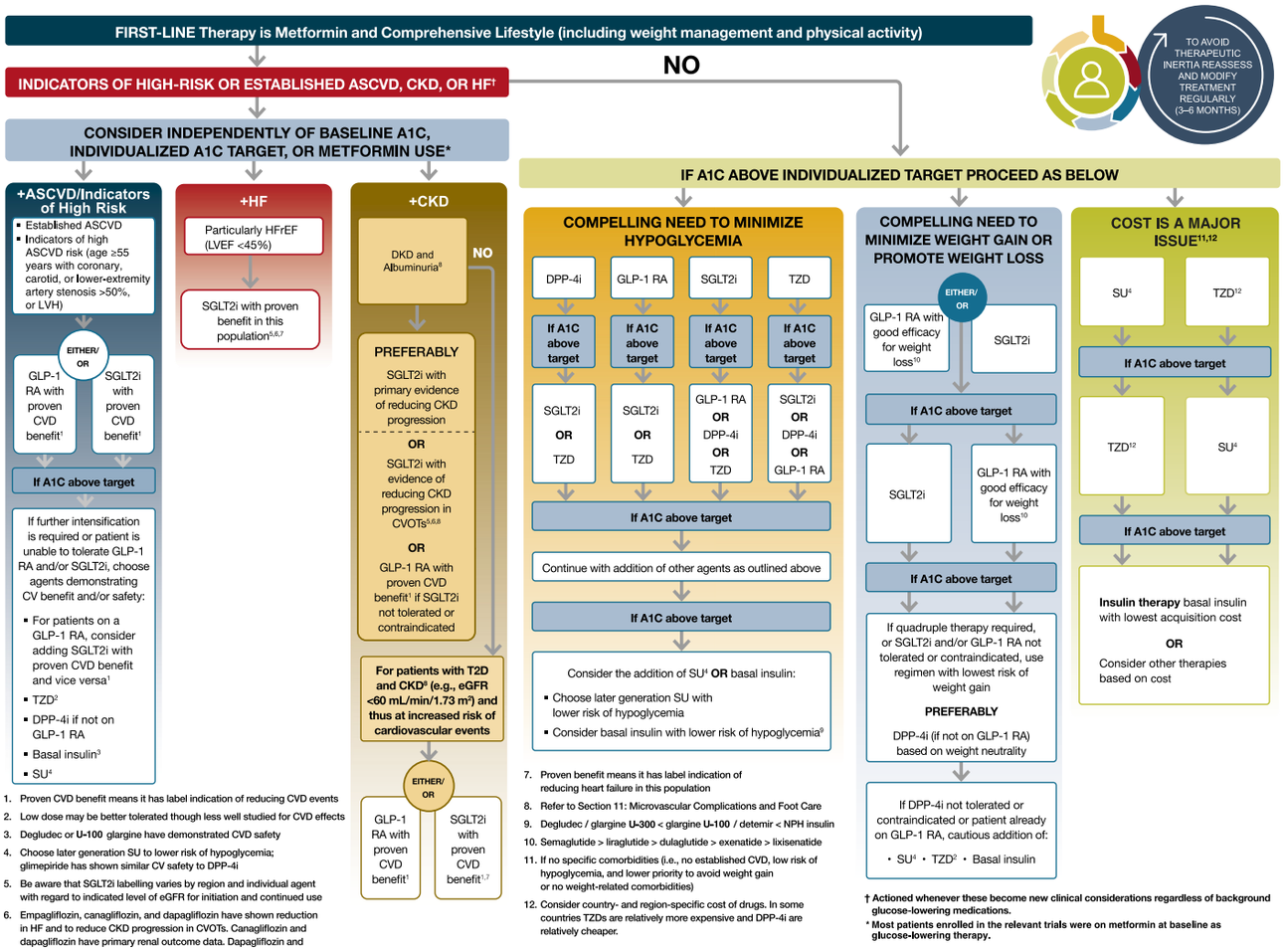
DECISION CYCLE FOR PATIENT-CENTERED GLYCEMIC MANAGEMENT IN TYPE 2 DIABETES[3]

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 and care. These recommendations are not generally applicable to patients with monogenic diabetes, secondary diabetes, or type 1 diabetes, or to children.



ASCVD = Atherosclerotic Cardiovascular Disease
CKD = Chronic Kidney Disease
HF = Heart Failure
DSMES = Diabetes Self-Management Education and Support
SMBG = Self- Monitored Blood Glucose

GLUCOSE-LOWERING MEDICATION IN TYPE 2 DIABETES: OVERALL APPROACH



1. Proven CVD benefit means it has label indication of reducing CVD events
2. Low dose may be better tolerated though less well studied for CVD effects
3. Degludec or **U-100** glargine have demonstrated CVD safety
4. Choose later generation SU to lower risk of hypoglycemia; glimepiride has shown similar CV safety to DPP-4i
5. Be aware that SGLT2i labelling varies by region and individual agent with regard to indicated level of eGFR for initiation and continued use
6. Empagliflozin, canagliflozin, and dapagliflozin have shown reduction in HF and to reduce CKD progression in CVOTs. Canagliflozin and dapagliflozin have primary renal outcome data. Dapagliflozin and
7. Proven benefit means it has label indication of reducing heart failure in this population
8. Refer to Section 11: Microvascular Complications and Foot Care
9. Degludec / glargine **U-300** < glargine **U-100** / detemir < NPH insulin
10. Semaglutide > liraglutide > dulaglutide > exenatide > lixisenatide
11. If no specific comorbidities (i.e., no established CVD, low risk of hypoglycemia, and lower priority to avoid weight gain or no weight-related comorbidities)
12. Consider country- and region-specific cost of drugs. In some countries TZDs are relatively more expensive and DPP-4i are relatively cheaper.

† Actioned whenever these become new clinical considerations regardless of background glucose-lowering medications.
*** Most patients enrolled in the relevant trials were on metformin at baseline as glucose-lowering therapy.**

1. Arnett DK, Blumenthal RS, Albert MA, Buroker AB, Goldberger ZD, Hahn EJ, Himmelfarb CD, Khera A, Lloyd-Jones D, McEvoy JW, Michos ED, Miedema MD, Munoz D, Smith SC Jr, Virani SS, Williams KA Sr, Yeboah, J, Ziaeian B. 2019 ACC/AHA guideline on the primary prevention of cardiovascular disease: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. Circulation. 2019;000:e•••–e•••. DOI: 10.1161/CIR.0000000000000678

2. 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Blood Cholesterol: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines Scott M. Grundy, MD, PhD, FAHA, Chair, Neil J. Stone, MD, FACC, FAHA, Vice Chair, Alison L. Bailey, MD, FACC, FAACVPR, Craig Beam, CRE, Kim K. Birtcher, MS, PharmD, AACC, FNLA, Roger S. Blumenthal, MD, FACC, FAHA, FNLA, Lynne T. Braun, PhD, CNP, FAHA, FPCNA, FNLA, Sarah de Ferranti, MD, MPH, Joseph Faiella-Tommasino, PhD, PA-C, Daniel E. Forman, MD, FAHA, Ronald Goldberg, MD, Paul A. Heidenreich, MD, MS, FACC, FAHA, Mark A. Hlatky, MD, FACC, FAHA, Daniel W. Jones, MD, FAHA, Donald Lloyd-Jones, MD, SCM, FACC, FAHA, Nuria Lopez-Pajares, MD, MPH, Chiadi E. Ndumele, MD, PhD, FAHA, Carl E. Orringer, MD, FACC, FNLA, Carmen A. Peralta, MD, MAS, Joseph J. Saseen, PharmD, FNLA, FAHA, Sidney C. Smith Jr, MD, MACC, FAHA, Laurence Sperling, MD, FACC, FAHA, FASPC, Salim S. Virani, MD, PhD, FACC, FAHA, Joseph Yeboah, MD, MS, FACC, FAHA

3. American Diabetes Association. *Standards of Medical Care in Diabetes*—2021. *Diabetes Care* 2021;44(Suppl. 1).