CLINICAL GUIDELINE:

COMPREHENSIVE DIABETES CARE AND STATIN ADHERENCE THERAPY

Physician Clinical Integration Network, LLC

Scope

According to the American Diabetes Association (ADA), more than 30 million Americans currently have diabetes, contributing to health care costs of $327 billion annually. There are approximately 84 million Americans with prediabetes who are at increased risk for developing Type 2 diabetes. Those with diabetes are at higher risk of developing serious health complications, such as stroke, blindness, kidney disease, heart disease, and/or loss of toes, feet, or legs [1]. In 2014, there were 7.2 million hospital discharges related to complications of diabetes, with diabetes as the seventh leading cause of death in the United States in 2015 [2].

Focusing on A1C, blood pressure, cholesterol control, screening for eye disease, neuropathy, and renal disease has been shown to improve clinical outcomes [3]. This guideline will focus on comprehensive diabetes care, including prevention, screening, diagnosis, treatment and reducing/preventing complications.

Population Included

Adults ≥18 years of age with Type 1 or Type 2 diabetes

Exclusions

Gestational diabetes

Guidance

The ADA serves as the primary source of up-to-date best practice standards. The PCIN Quality Committee and its designees reviewed this information on the evaluation and management of diabetes, as well as information derived from their clinical practice to devise these guidelines.

Documentation requirements for HEDIS measures include:

- HbA1C testing (date & result)
- Blood pressure (date & result)
- Medical attention to nephropathy (micro/macro urine, angiotensin-converting enzyme [ACE] inhibitor/angiotensin receptor blocker [ARB] medication therapy) in measurement year
- Established coded diagnosis of renal disease and/or nephrology consultation
- Retinal or dilated eye exam performed by an ophthalmologist or optometrist in measurement year or year prior

Recommendations

- ✓ **Prevention & Screening**
  - Prevention education provided to all patients:
    - Weight loss
    - Exercise
    - Diet
    - Smoking cessation
  - Screen all patients annually using the ADA risk assessment (Figure 1)

- ✓ **Diagnosis**
  - Diagnostic testing for prediabetes and Type 2 diabetes in asymptomatic patients:
    - Overweight or obese (BMI ≥ 25kg/m2) and who have one or more additional risk factors for diabetes (see rationale/diagnosis)
    - Patients with prediabetes should be tested annually
    - All patients beginning at age 45, every 3 years
  - Diagnosis of prediabetes:
    - Fasting plasma glucose (FPG) 100 mg/dl (5.6 mmol/l) to 125 mg/dl (6.9 mmol/l) IFG; or
    - 2-h plasma glucose (PG) during 75-g oral glucose tolerance test (OGTT) 140 mg/dl (7.8 mmol/l) to 199 mg/dl (11.0 mmol/l) IGT; or
    - A1C 5.7 - 6.4% (39-47 mmol/mol)
  - Diagnosis of diabetes:
    - FPG value ≥ 126 mg/dl (7.0 mmol/l), fasting is defined as no caloric intake for at least 8 hours, repeated to confirm; or
    - 2-h plasma glucose (2-h PG) value during a 75-g OGTT ≥ 200 mg/dl (11.1 mmol/l); or
    - A1C ≥ 6.5% (48 mmol/mol); or
    - Random blood sugar >200mg/dL with symptoms of hyperglycemia.

- ✓ **Treatment**
  - Glycemic control
    - Patients meeting treatment goals, A1C test at least two times a year
    - Patients whose therapy has changed or not meeting glycemic goals, A1C test quarterly
  - Pharmacologic treatment
    - Refer to Figure 2

- ✓ **Reducing Complications/Comorbidities**
  - Obesity
    - Nutritional counseling resulting in 7% weight loss
  - Hypertension
    - Blood pressure measurements taken at every clinical visit
    - Orthostatic blood pressure measurements taken upon initial diagnosis of hypertension and periodically thereafter
    - Pharmacologic treatment - primarily ACE Inhibitor/ARB (Figure 3)
  - Hyperlipidemia
    - Lipid panel upon diagnosis of diabetes
    - LDL cholesterol levels at initiation of statins or other lipid-lowering therapy, 4-12 weeks after initiation or a change in dose, and annually thereafter
    - Statin therapy as recommended by the ADA (Tables 3 & 4)
  - Nephropathy
    - Annual testing for albuminuria (urinary albumin-to-creatinine ratio performed on a morning sample and a serum estimated glomerular filtration rate [eGFR])

- Neuropathy
  - Optimize glucose control as early as possible to prevent or delay the development of distal symmetric polyneuropathy and cardiovascular autonomic neuropathy in people with type 1 diabetes.
  - Optimize glucose control to prevent or slow the progression of distal symmetric polyneuropathy in people with type 2 diabetes.
  - Consider a multifactorial approach targeting glycemia among other risk factors to prevent cardiovascular autonomic neuropathy in people with type 2 diabetes.
  - All patients should be assessed for distal symmetric polyneuropathy starting at diagnosis of type 2 diabetes and 5 years after the diagnosis of type 1 diabetes and at least annually thereafter;
  - Consider screening patients with prediabetes who have symptoms of peripheral neuropathy;
  - Lifestyle interventions are recommended for distal symmetric polyneuropathy prevention in patients with prediabetes/metabolic syndrome and type 2 diabetes;
  - Assessment should include a careful history and either temperature or pinprick sensation (small-fiber function) and vibration sensation using a 128-Hz tuning fork (large-fiber function). All patients should have an annual 10-g monofilament testing to assess for feet at risk for ulceration and amputation;
  - Electrophysiological testing or referral to a neurologist is rarely needed for screening, except in situations where the clinical features are atypical, the diagnosis is unclear, or a different etiology is suspected. Atypical features include motor greater than sensor neuropathy, rapid onset, or asymmetrical presentation.
  - Consider either gabapentin, pregabalin or duloxetine as the initial approach in the symptomatic treatment for neuropathic pain in diabetes.
- Retinopathy
  - A dilated and comprehensive eye exam should be performed on adults with Type 1 diabetes within five years of diagnosis; as well as on adults with Type 2 diabetes upon diagnosis and annually thereafter.
  - Use of retinal imaging is acceptable if it includes the date when the fundus photography was performed and evidence that an eye care professional reviewed the results.

Rationale

Prevention & Screening

Screening for prediabetes and Type 2 diabetes on an annual basis is recommended by the ADA to determine those at high risk for developing the disease (Figure 1) [4]. Patients who are high-risk with an A1C of 5.7 - 6.4%, IGT test or IFG would benefit from diabetes prevention and lifestyle changes [5]. Studies supporting the Diabetes Prevention Program have demonstrated a 58% reduction in Type 2 diabetes incidence through lifestyle intervention [4].

Proven Prevention Strategies:

- Weight loss
  - High-risk patients who are overweight have a greater risk of developing Type 2 diabetes; however, patients can cut their chances in half by losing 7-10% of their current weight.
- Exercise
  - Inactivity also increases a patient's risk for developing Type 2 diabetes. Studies indicate that walking briskly for a half-hour daily can reduce this risk by 30%.
- Diet
  - Nutritional changes shown to decrease the risk of developing Type 2 diabetes:
    - Choose whole grains and whole-grain products over refined grains or highly-processed carbohydrates.
    - Choose water, coffee, or tea over sugar-based drinks.
    - Choose healthy fats.
    - Limit red meat and avoid processed meat. Choose nuts, beans, whole grains, poultry, or fish.
- Smoking cessation
  - Smokers are at a 50% greater risk than non-smokers [6].

Diagnosis

Criteria for testing for diabetes or prediabetes in asymptomatic adults:

- Testing should be considered in overweight or obese (BMI ≥25 kg/m2, or ≥23 kg/m2 in Asian Americans) adults who have one or more of the following risk factors:
  - First-degree relative with diabetes
  - High-risk race/ethnicity (e.g., African American, Latino, Native American, Asian American, Pacific Islander)
  - History of cardiovascular disease (CVD)
  - Hypertension (≥140/90 mmHg or on therapy for hypertension)
  - HDL cholesterol level <35mg/dL (0.90 mmol/L) and/or a triglyceride level >250 mg/dL (2.82 mmol/L)
  - Women with polycystic ovarian syndrome
  - Physical inactivity
  - Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans)
- Patients with prediabetes (A1C ≥5.7% [39mmol/mol], IGT, or IFG) should be tested annually.
- For all other patients, testing should begin at age 45.
- If results are normal, then testing should be repeated at a minimum of three-year intervals, with consideration of more frequent testing depending on initial results and risk status [4].
- The 2-h PG value has a higher level of diagnosing prediabetes and diabetes than the FPG or A1C.
- History of gestational diabetes.

Criteria for prediabetes:

- FPG 100 mg/dL (5.6 mmol/L) to 125 mg/dL (6.9 mmol/L) IFG; or
- 2-h PG during 75-g OGTT 140 mg/dL (7.8 mmol/L) to 199 mg/dL (11.0 mmol/L) IGT; or
- A1C 5.7 – 6.4% (39-47 mmol/mol)

Criteria for diabetes (Table 1):

- FPG value ≥126 mg/dL (7.0 mmol/L), fasting is defined as no caloric intake for at least 8 hours, repeated to confirm;or
- 2-h PG value during a 75-g OGTT ≥200 mg/dL (11.1 mmol/L); or
- A1C ≥6.5% (48 mmol/mol); or
- In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose ≥200 mg/dL (11.1 mmol/L).
- Random blood sugar >200mg/dL with symptoms of hyperglycemia.

Treatment

Preferred pharmacologic treatment for the initial treatment of Type 2 diabetes is metformin, in conjunction with lifestyle modifications (see proven prevention strategies above). Patients experiencing ongoing weight loss who remain hyperglycemic or A1C levels are >10%/blood glucose levels ≥300 mg/dL may require an early introduction of insulin. Dual therapy may be considered for newly diagnosed Type 2 diabetics with an A1C ≥1.5% above their glycemic target. Pharmacologic treatment is dependent on several factors: comorbidities (atherosclerotic cardiovascular disease [ASCVD], heart failure, chronic kidney disease), hypoglycemic risk, impact on weight, cost, risk for side effects and patient preferences (refer to Figure 2 for specific recommendations by the ADA) [20].

Glycemic management is assessed with the A1C test, indicating the average blood sugar control over three months. A1C testing frequency is determined by how well the patient is meeting his/her glycemic targets and depends on the clinical assessment, treatment, and clinician judgment. Stable patients may only require an A1C test twice/year, while unstable patients may require testing every three months to ensure timely treatment changes [4].

Reducing Complications/Comorbidities

The most common comorbidities for patients with Type 2 diabetes are: obesity (87.5%), hypertension (73.6%), dyslipidemia (58.2% - 66.9%), chronic kidney disease (36.5%) and retinopathy (28.5%) [8]. Adult patients with diabetes are two to four times more likely to die from heart disease than non-diabetics, particularly due to hypertension, unhealthy cholesterol levels (high LDL, low HDL), high triglycerides, obesity, lack of physical activity, poorly controlled blood sugars, and smoking.

Control of the following risk factors is essential to the prevention of heart disease or stroke [7]:

Obesity
Screening obese patients for diabetes can identify patients who are at risk for but have not yet developed diabetes. The United States Preventive Services Task Force recommends that all patients be assessed for obesity using BMI as the screening tool. A patient with a BMI of 18-24.9 is considered normal, 25-29.9 is the classification for overweight patients and >30 signifies obesity. Lifestyle treatment for obesity includes caloric restriction and physical activity. Studies indicate lifestyle interventions that include caloric reduction and approximately 30 minutes of daily moderate physical activity can result in 7% weight loss [9].

Hypertension
Hypertension is a prominent risk factor for the development of ASCVD, the leading cause of morbidity and mortality for patients with diabetes. The ADA recommends blood pressure measurements at every routine clinical care visit. Those with an elevated blood pressure (≥130/80 mmHg) should have their blood pressure repeated and confirmed with multiple readings. Orthostatic blood pressure measurement should be performed at the initial diagnosis of hypertension and periodically (Figure 3) [14]. Orthostatic hypotension is a common finding of autonomic failure, particularly in a patient with diabetes [15].

Dyslipidemia
Obesity and insulin resistance present in Type 2 diabetics are associated with hypertension and dyslipidemia, leading to early development of coronary heart disease. Improved glycemic control decreases circulating very-low-density lipoprotein and increases catabolism of LDL, affecting cardiovascular risk in diabetics. Elevated triglyceride levels and dyslipidemia are often observed several years before clinically diagnosed hyperglycemia, indicating dyslipidemia is a factor not only for cardiovascular disease, but also in the development of diabetes [10].

The ADA stresses the importance of lifestyle modification, including weight loss, increased physical activity, and nutrition counseling; however, statin therapy should be considered as indicated by the results of a lipid panel (total cholesterol, LDL cholesterol, HDL cholesterol, and triglycerides). The ADA recommends that a lipid profile be drawn at the time of diabetes diagnosis, with the initial medical evaluation, and at least every five years. To monitor the response to therapy and to ensure medication adherence, an LDL cholesterol level should be obtained at initiation of statins or other lipid-lowering therapy, 4-12 weeks after initiation, a change in dose, and annually thereafter. Statins are the drugs of choice for LDL cholesterol lowering and prevention of cardiac disease. Evidence-based recommendations have been set by the ADA for statin therapy (Tables 6 & 7) [4]. "High-intensity statin therapy will achieve approximately a 50% reduction in LDL cholesterol and moderate-intensity statin regimens achieve 30-50% reductions in LDL cholesterol" [4].

Nephropathy
Elevated blood sugars damage small vessels affecting the kidneys, as well as other organs and tissues. Chronic kidney disease (CKD) currently affects over 247,000 people with diabetes in the United States [11] and accounts for approximately 40% of patients who are diabetic. Glomerular hypertrophy, glomerulosclerosis, and tubulointerstitial inflammation/fibrosis are the result of metabolic changes associated with diabetes. The American Society of Nephrology recommends screening for CKD annually for patients with Type 1 diabetes beginning five years after diagnosis and annually for all patients with Type 2 diabetes. The preferred test for albuminuria is a urinary albumin-to-creatinine ratio performed on a morning sample and a serum eGFR [12]. Microalbuminuria, urinary albumin excretion between 30 mg and 300 mg per 24 hours, is a sign of vascular damage to the glomerulus and is used to identify patients with increased risk of CVD and progressive renal disease [7].

Neuropathy
Diabetic neuropathy may be asymptomatic, so early detection and treatment is essential to prevent risk for injury, particularly to a patient's insensate feet. Due to lack of treatment for underlying nerve damage, prevention is an important component of diabetes care. The ADA focuses on glucose control and lifestyle modification in their recommendations for the prevention of diabetic neuropathy:

The most predominant diabetic neuropathy is chronic distal symmetric polyneuropathy (DSPN). Foot ulceration and Charcot neuroarthropathy (CN) are commonly caused by DSPN and can result in amputation and increased mortality in patients with diabetes. As small- and large-fiber dysfunction, loss of sensory, proprioception, temperature discrimination, and pain progresses, patient often become unsteady, increasing their risk for falls and injury. Neuropathic pain may be the earliest symptom, characterized by complaints of burning, lancinating, tingling, or shooting (electric shock-like) pain, typically worse at night. The DSPN pattern generally begins distally on both sides of the feet and move proximally, thus assessments should follow this same

pattern until a sensory threshold is identified. Combining both small- and large-fiber function testing increases the sensitivity and specificity of detecting DSPN. ADA approved medications include Pregabalin, proven effective in the treatment of neuropathic pain and Duloxetine, proven effective in the treatment of pain associated with DSOH in multicenter randomized trials and shown to improve quality of life for patients with DSPN. There have been mixed reviews with the use of Gabapentin, requiring gradual titration to be clinically effective. Tricyclic antidepressants may be beneficial, with nortriptyline and desipramine studied to have less side-effects than amitriptyline; however, these are not currently FDA approved for the treatment of DSPN.

Diabetic autonomic neuropathies, such as cardiovascular autonomic neuropathy (CAN), are less prevalent; however, increase substantially with diabetes duration. Other diabetic autonomic neuropathies affecting the gastrointestinal and genitourinary systems should be considered when assessing patients with diabetes [19].

Retinopathy

Diagnostic assessment of diabetic retinopathy has improved dramatically since 2002; however, it is still the most frequent cause of blindness among adults aged 20-74 years. Recommendations by the ADA include a dilated and comprehensive eye examination by an ophthalmologist or optometrist within five years after diagnosis of Type 1 diabetes and at the time of diagnosis in Type 2 diabetes. Follow-up eye exams should be performed annually [13]. One-fifth of newly diagnosed diabetics have some form of retinopathy, thus early detection of diabetic retinopathy is critical to prevent further vision loss and blindness [16]. It is estimated that approximately 35% of Americans with DM do not comply with these recommendations; therefore, the use of retinal imaging by the primary care physician is acceptable if it includes the date when the fundus photography was performed and evidence that an eye care professional reviewed the results [17,18]

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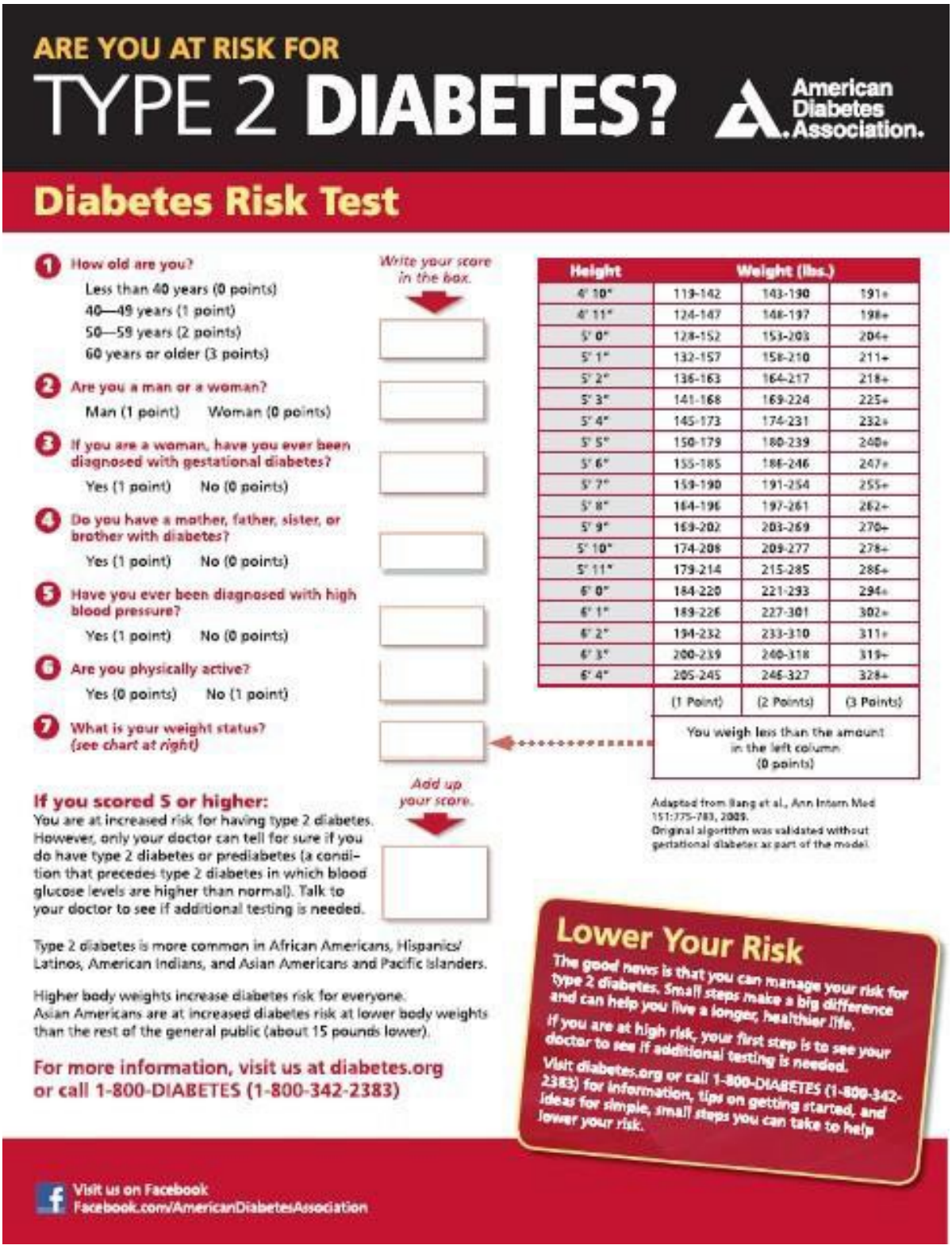
Appendix

Figure 1: Diabetes Risk Test



ARE YOU AT RISK FOR

TYPE 2 DIABETES?

American Diabetes Association.

Diabetes Risk Test

1. **How old are you?**
   Less than 40 years (0 points)
   40—49 years (1 point)
   50—59 years (2 points)
   60 years or older (3 points)

2. **Are you a man or a woman?**
   Man (1 point) Woman (0 points)

3. **If you are a woman, have you ever been diagnosed with gestational diabetes?**
   Yes (1 point) No (0 points)

4. **Do you have a mother, father, sister, or brother with diabetes?**
   Yes (1 point) No (0 points)

5. **Have you ever been diagnosed with high blood pressure?**
   Yes (1 point) No (0 points)

6. **Are you physically active?**
   Yes (0 points) No (1 point)

7. **What is your weight status?** *(see chart at right)*

Write your score in the box.

Height	Weight (lbs.)		
4' 10"	119-142	143-190	191+
4' 11"	124-147	148-197	198+
5' 0"	128-152	153-203	204+
5' 1"	132-157	158-210	211+
5' 2"	136-163	164-217	218+
5' 3"	141-168	169-224	225+
5' 4"	145-173	174-231	232+
5' 5"	150-179	180-239	240+
5' 6"	155-185	186-246	247+
5' 7"	159-190	191-254	255+
5' 8"	164-196	197-261	262+
5' 9"	169-202	203-269	270+
5' 10"	174-208	209-277	278+
5' 11"	179-214	215-285	286+
6' 0"	184-220	221-293	294+
6' 1"	189-226	227-301	302+
6' 2"	194-232	233-310	311+
6' 3"	200-239	240-318	319+
6' 4"	205-245	246-327	328+
	(1 Point)	(2 Points)	(3 Points)

You weigh less than the amount in the left column (0 points)

Adapted from Bang et al., Ann Intern Med 151:775-783, 2009.
Original algorithm was validated without gestational diabetes as part of the model.

Add up your score.

If you scored 5 or higher:
You are at increased risk for having type 2 diabetes. However, only your doctor can tell for sure if you do have type 2 diabetes or prediabetes (a condition that precedes type 2 diabetes in which blood glucose levels are higher than normal). Talk to your doctor to see if additional testing is needed.

Type 2 diabetes is more common in African Americans, Hispanics/Latinos, American Indians, and Asian Americans and Pacific Islanders.

Higher body weights increase diabetes risk for everyone. Asian Americans are at increased diabetes risk at lower body weights than the rest of the general public (about 15 pounds lower).

For more information, visit us at diabetes.org or call 1-800-DIABETES (1-800-342-2383)

Lower Your Risk

The good news is that you can manage your risk for type 2 diabetes. Small steps make a big difference and can help you live a longer, healthier life.

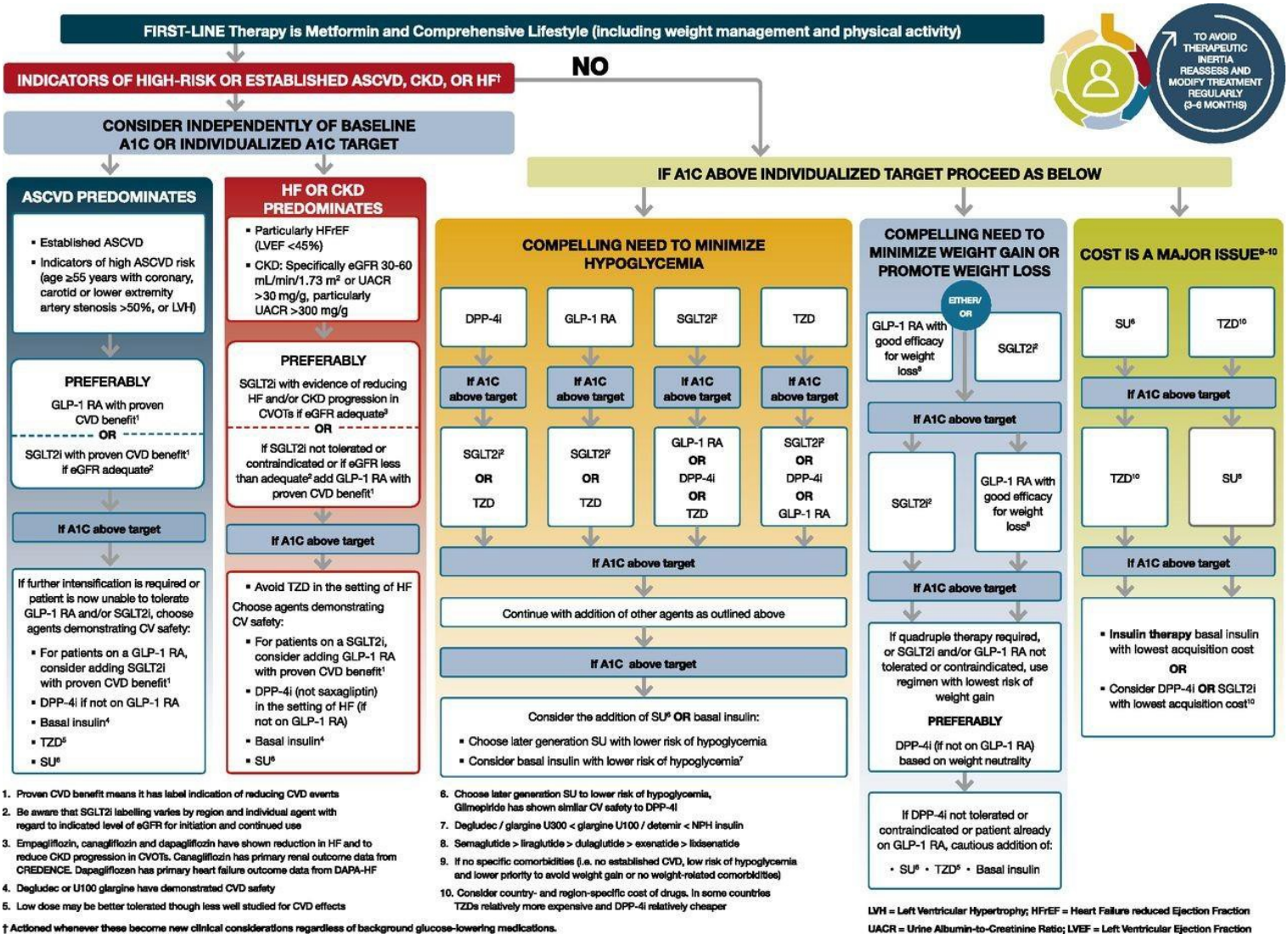
If you are at high risk, your first step is to see your doctor to see if additional testing is needed.

Visit diabetes.org or call 1-800-DIABETES (1-800-342-2383) for information, tips on getting started, and ideas for simple, small steps you can take to help lower your risk.

Visit us on Facebook
Facebook.com/AmericanDiabetesAssociation

American Diabetes Association. Standards of Medical Care in Diabetes. 2019; volume 42 issue Supplement 1

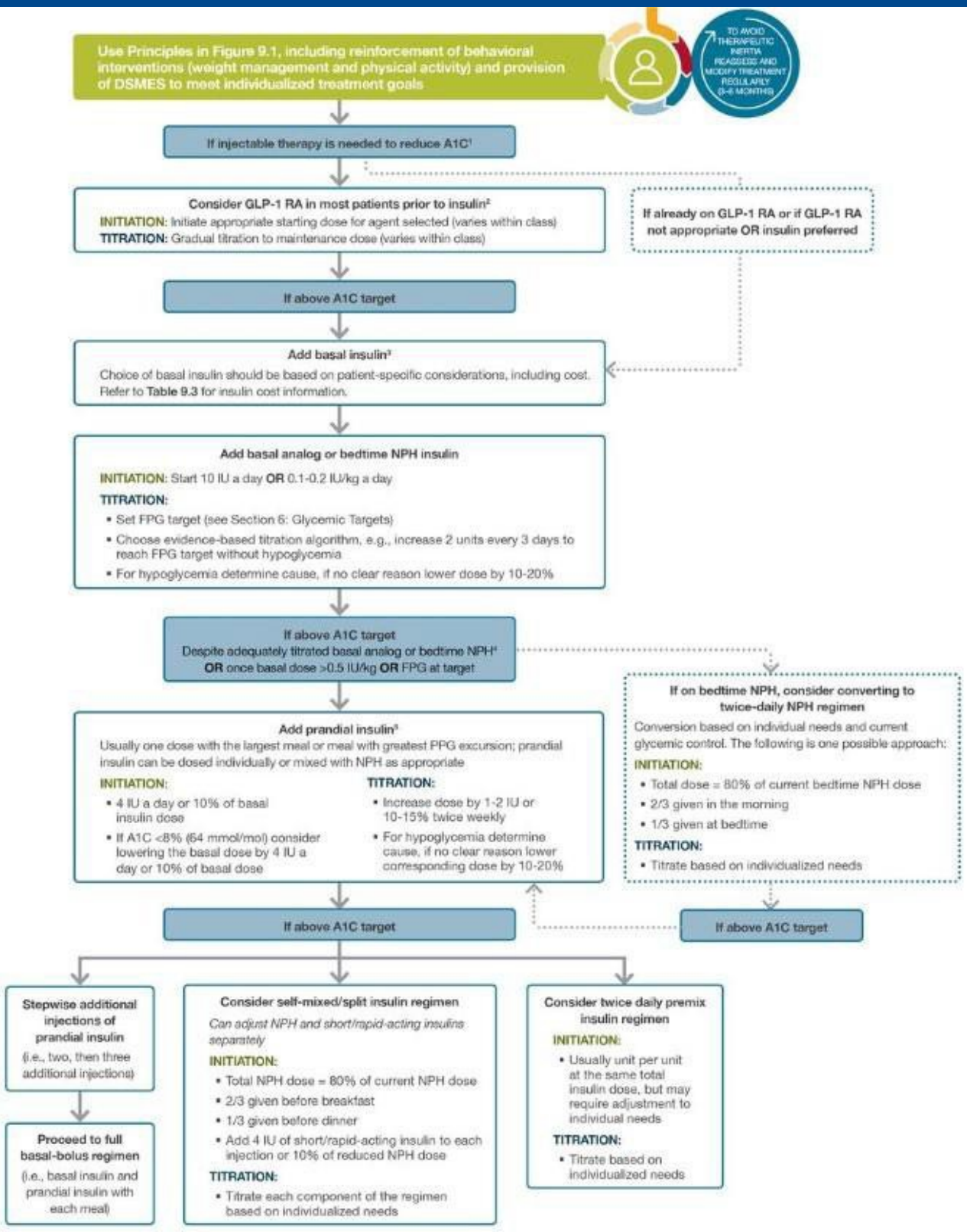
Figure 2: Glucose Lowering Medication in Type 2 Diabetes: Overall Approach



1. Proven CVD benefit means it has label indication of reducing CVD events
2. Be aware that SGLT2i labelling varies by region and individual agent with regard to indicated level of eGFR for initiation and continued use
3. Empagliflozin, canagliflozin and dapagliflozin have shown reduction in HF and to reduce CKD progression in CVOTs. Canagliflozin has primary renal outcome data from CREDENCE. Dapagliflozen has primary heart failure outcome data from DAPA-HF
4. Degludec or U100 glargine have demonstrated CVD safety
5. Low dose may be better tolerated though less well studied for CVD effects
6. Choose later generation SU to lower risk of hypoglycemia, Glimepiride has shown similar CV safety to DPP-4i
7. Degludec / glargine U300 < glargine U100 / detemir < NPH insulin
8. Semaglutide > liraglutide > dulaglutide > exenatide > lixisenatide
9. 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)
10. Consider country- and region-specific cost of drugs. In some countries TZDs relatively more expensive and DPP-4i relatively cheaper

† Actioned whenever these become new clinical considerations regardless of background glucose-lowering medications.

LVH = Left Ventricular Hypertrophy; HFrEF = Heart Failure reduced Ejection Fraction
UACR = Urine Albumin-to-Creatinine Ratio; LVEF = Left Ventricular Ejection Fraction



1. Consider insulin as the first injectable if evidence of ongoing catabolism, symptoms of hyperglycemia are present, when A1C levels (>10% [86 mmol/mol]) or blood glucose levels (≥300 mg/dL [16.7 mmol/L]) are very high, or a diagnosis of type 1 diabetes is a possibility.
2. When selecting GLP-1 RA, consider: patient preference, A1C lowering, weight-lowering effect, or frequency of injection. If CVD, consider GLP-1 RA with proven CVD benefit.
3. For patients on GLP-1 RA and basal insulin combination, consider use of a fixed-ratio combination product (iDegLira or iGlarLixi).
4. Consider switching from evening NPH to a basal analog if the patient develops hypoglycemia and/or frequently forgets to administer NPH in the evening and would be better managed with an AM dose of a long-acting basal insulin.
5. If adding prandial insulin to NPH, consider initiation of a self-mixed or premixed insulin regimen to decrease the number of injections required.

American Diabetes Association. Standards of Medical Care in Diabetes. 2020; volume 43 issue Supplement 1: S98-S110

Figure 3

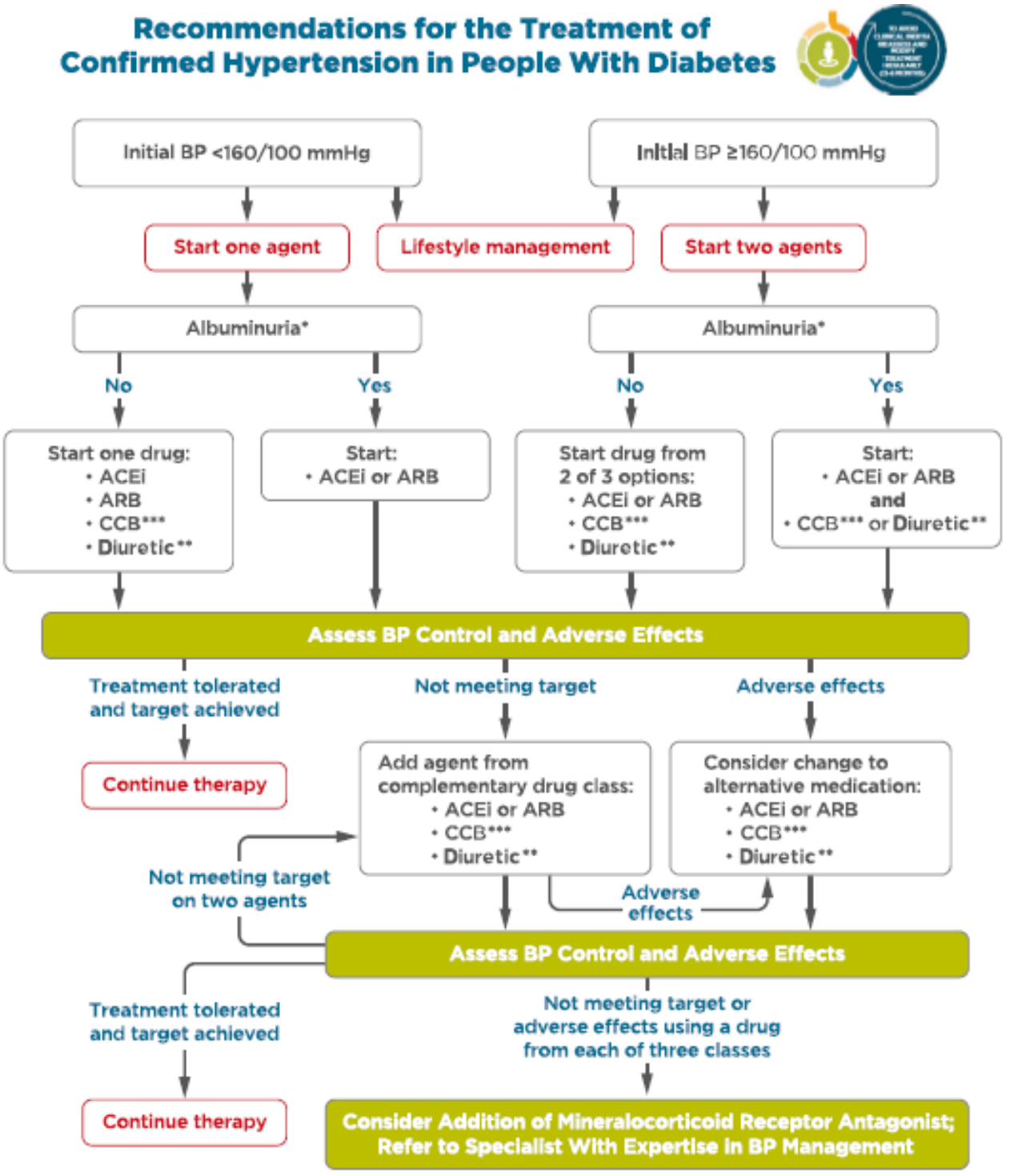


Figure 10.1—Recommendations for the treatment of confirmed hypertension in people with diabetes. *An ACE inhibitor (ACEi) or angiotensin receptor blocker (ARB) is suggested to treat hypertension for patients with urine albumin-to-creatinine ratio 30–299 mg/g creatinine and strongly recommended for patients with urine albumin-to-creatinine ratio ≥ 300 mg/g creatinine. **Thiazide-like diuretic; long-acting agents shown to reduce cardiovascular events, such as chlorthalidone and indapamide, are preferred. ***Dihydropyridine calcium channel blocker (CCB). BP, blood pressure. Adapted from de Boer et al. (17).

American Diabetes Association. Standards of Medical Care in Diabetes. 2019; volume 42 issue Supplement 1

Table 1: Criteria for the Screening and Diagnosis of Diabetes

Criteria for the Screening and Diagnosis of Diabetes

	Prediabetes	Diabetes
A1C	5.7–6.4%*	≥6.5%†
FPG	100–125 mg/dL (5.6–6.9 mmol/L)*	≥126 mg/dL (7.0 mmol/L)†
OGTT	140–199 mg/dL (7.8–11.0 mmol/L)*	≥200 mg/dL (11.1 mmol/L)†
RPG		≥200 mg/dL (11.1 mmol/L)‡

* For all three tests, risk is continuous, extending below the lower limit of the range and becoming disproportionately greater at the higher end of the range.

† In the absence of unequivocal hyperglycemia, diagnosis requires two abnormal test results from the same sample or in two separate samples.

‡ Only diagnostic in a patient with classic symptoms of hyperglycemia or hyperglycemic crisis.

RPG, random plasma glucose.

American Diabetes Association. Standards of Medical Care in Diabetes 2019 Abridged for Primary Care Providers. Clinical Diabetes. 2019 Jan; 37(1): 11-34

Table 2: Components of the Comprehensive Diabetes Medical Evaluation at Initial, Follow-Up, and Annual Visits

PAST MEDICAL AND FAMILY HISTORY	**Diabetes history**			
	▪ Characteristics at onset (e.g., age, symptoms)	✓		
	▪ Review of previous treatment regimens and response	✓		
	▪ Assess frequency/cause/severity of past hospitalizations	✓		
	Family history			
	▪ Family history of diabetes in a first-degree relative	✓		
	▪ Family history of autoimmune disorder	✓		
	Personal history of complications and common comorbidities			
	▪ Macrovascular and microvascular	✓		✓
	▪ Common comorbidities (e.g., obesity, OSA)	✓		
	▪ Hypoglycemia: awareness/frequency/causes/timing of episodes	✓	✓	✓
	▪ Presence of hemoglobinopathies or anemias	✓		
	▪ High blood pressure or abnormal lipids	✓		✓
	▪ Last dental visit	✓		✓
	▪ Last dilated eye exam	✓		✓
	▪ Visits to specialists	✓	✓	✓
	Interval history			
	▪ Changes in medical/family history since last visit		✓	✓
LIFESTYLE FACTORS	▪ Eating patterns and weight history	✓	✓	✓
	▪ Physical activity and sleep behaviors	✓	✓	✓
	▪ Tobacco, alcohol, and substance use	✓		✓
MEDICATIONS AND VACCINATIONS	▪ Current medication regimen	✓	✓	✓
	▪ Medication-taking behavior	✓	✓	✓
	▪ Medication intolerance or side effects	✓	✓	✓
	▪ Complementary and alternative medicine use	✓	✓	✓
	▪ Vaccination history and needs	✓		✓
TECHNOLOGY USE	▪ Assess use of health apps, online education, patient portals, etc.	✓		✓
	▪ Glucose monitoring (meter/CGM): results and data use	✓	✓	✓
	▪ Review insulin pump settings and use	✓	✓	✓
BEHAVIORAL AND DIABETES SELF-MANAGEMENT SKILLS	**Psychosocial conditions**			
	▪ Screen for depression, anxiety, and disordered eating; refer for further assessment or intervention if warranted	✓		✓
	▪ Identify existing social supports	✓		
	▪ Consider assessment for cognitive impairment*	✓		✓
	Diabetes self-management education and support			
	▪ History of dietician/diabetes educator visits/classes	✓	✓	✓
	▪ Assess diabetes self-management skills and barriers	✓		✓
	▪ Assess familiarity with carbohydrate counting (type 1 diabetes)	✓		
	Pregnancy planning			
	▪ For women with childbearing capacity, review contraceptive needs and preconception planning	✓	✓	✓

Table 2 (continued)

		INITIAL VISIT	EVERY FOLLOW-UP VISIT	ANNUAL VISIT
PHYSICAL EXAMINATION	▪ Height, weight, and BMI; growth/pubertal development in children and adolescents	✓	✓	✓
	▪ Blood pressure determination	✓	✓	✓
	▪ Orthostatic blood pressure measures (when indicated)	✓		
	▪ Fundoscopic examination (refer to eye specialist)	✓		✓
	▪ Thyroid palpation	✓		✓
	▪ Skin examination (e.g., acanthosis nigricans, insulin injection or insertion sites, lipodystrophy)	✓	✓	✓
	▪ Comprehensive foot examination			
	• Visual inspection (e.g., skin integrity, callous formation, foot deformity or ulcer, toenails)**	✓		✓
	• Screen for PAD (pedal pulses–refer for ABI if diminished)	✓		✓
	• Determination of temperature, vibration or pinprick sensation, and 10-g monofilament exam	✓		✓
LABORATORY EVALUATION	▪ A1C, if the results are not available within the past 3 months	✓	✓	✓
	▪ If not performed/available within the past year	✓		✓
	• Lipid profile, including total, LDL, and HDL cholesterol and triglycerides#	✓		✓^
	• Liver function tests#	✓		✓
	• Spot urinary albumin–to–creatinine ratio	✓		✓
	• Serum creatinine and estimated glomerular filtration rate*	✓		✓
	• Thyroid-stimulating hormone in patients with type 1 diabetes#	✓		✓
	• Vitamin B12 if on metformin (when indicated)	✓		✓
	• Serum potassium levels in patients on ACE inhibitors, ARBs, or diuretics+	✓		✓

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Table 3: Recommendations for Statin and Combination Treatment in Adults with Diabetes

Age	ASCVD or 10-year ASCVD risk >20%	Recommended statin intensity^ and combination treatment*
<40 years	No	None†
	Yes	High • In patients with ASCVD, if LDL cholesterol ≥70 mg/dL despite maximally tolerated statin dose, consider adding additional LDL-lowering therapy (such as ezetimibe or PCSK9 inhibitor)#
≥40 years	No	Moderate‡
	Yes	High • In patients with ASCVD, if LDL cholesterol ≥70 mg/dL despite maximally tolerated statin dose, consider adding additional LDL-lowering therapy (such as ezetimibe or PCSK9 inhibitor)

ASCVD, atherosclerotic cardiovascular disease; PCSK9, proprotein convertase subtilisin/kexin type 9. *In addition to lifestyle therapy. ^For patients who do not tolerate the intended intensity of statin, the maximally tolerated statin dose should be used. †Moderate-intensity statin may be considered based on risk-benefit profile and presence of ASCVD risk factors. ASCVD risk factors include LDL cholesterol ≥100 mg/dL (2.6 mmol/L), high blood pressure, smoking, chronic kidney disease, albuminuria, and family history of premature ASCVD. ‡High-intensity statin may be considered based on risk-benefit profile and presence of ASCVD risk factors. #Adults aged <40 years with prevalent ASCVD were not well represented in clinical trials of non-statin–based LDL reduction. Before initiating combination lipid-lowering therapy, consider the potential for further ASCVD risk reduction, drug-specific adverse effects, and patient preferences.

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Table 4: High-Intensity and Moderate-Intensity Statin Therapy*

High-intensity statin therapy (lowers LDL cholesterol by ≥50%)	Moderate-intensity statin therapy (lowers LDL cholesterol by 30–50%)
Atorvastatin 40–80 mg	Atorvastatin 10–20 mg
Rosuvastatin 20–40 mg	Rosuvastatin 5–10 mg
	Simvastatin 20–40 mg
	Pravastatin 40–80 mg
	Lovastatin 40 mg
	Fluvastatin XL 80 mg
	Pitavastatin 2–4 mg

*Once-daily dosing. XL, extended release.

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