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Patient with newly diagnosed type 2 diabetes? Remember these steps

In addition to promoting glycemic control, you'll need to initiate statin therapy for CV risk, administer appropriate vaccinations, and screen for depression regularly.

PRACTICE RECOMMENDATIONS

› Individualize lifestyle modifications, considering personal and cultural experiences, health literacy, access to healthy foods, willingness and ability to make behavior changes, and barriers to change. ©

› Initiate medication therapy at diagnosis, considering medication efficacy and cost, hypoglycemia risk, weight effects, benefits in cardiovascular and kidney disease, and patient-specific comorbidities. ©

› Start basal insulin as first-line therapy in patients with severe baseline hyperglycemia, symptoms of hyperglycemia, or evidence of catabolism. ©

Strength of recommendation (SOR)

- Ⓐ Good-quality patient-oriented evidence
- Ⓑ Inconsistent or limited-quality patient-oriented evidence
- Ⓒ Consensus, usual practice, opinion, disease-oriented evidence, case series

Nearly 40 antihyperglycemic agents have been approved by the US Food and Drug Administration (FDA) since the approval of human insulin in 1982.¹ In addition, existing antihyperglycemic medications are constantly gaining FDA approval for new indications for common type 2 diabetes (T2D) comorbidities. For example, in addition to their glyce-mic benefits, the sodium-glucose cotransporter-2 (SGLT2) inhibitors have been approved for use in patients with T2D and established atherosclerotic cardiovascular disease (ASCVD) to reduce the risk for major adverse cardiovascular events (MACE; canagliflozin), risk for hospitalization for heart failure (dapagliflozin), and cardiovascular death (empagliflozin).²⁻⁴

The plethora of new agents and new data for existing agents, coupled with the annual release of guidelines from the American Diabetes Association (ADA) and practice recommen-dations from several other professional organizations,⁵⁻⁷ make it challenging for family physicians to stay current and provide the most up-to-date, evidence-based care. In this article, we provide advice on how to approach the screening, diagnosis, and evaluation of T2D, and on how to manage newly diagnosed T2D.

Screening, Dx, and evaluation: A quick review

Screening

Screening recommendations vary among professional orga-nizations (TABLE 1^{5,6,8}). The US Preventive Services Task Force (USPSTF) recommends screening adults ages 35 to 70 years who are overweight or obese. Clinicians also can consider screening patients with a higher risk for diabetes.⁵ The ADA suggests screening all adults starting at 35 years, regardless of risk factors.⁸ Asymptomatic adults of any age with overweight or obesity and 1 or more risk factors should be screened.⁸ The American Association of Clinical Endocrinology (AACE) rec-

TABLE 1

Screening recommendations and risk factors for prediabetes and T2D in adults^{5,6,8}

Screening recommendation	Identified risk factors
USPSTF 2021⁵	
<p>Screen all adults ages 35-70 years who are overweight or obese</p> <p>Screen before age 35 in patients with ≥ 1 risk factors</p>	<ul style="list-style-type: none"> • Family history of diabetes • Members of certain racial and ethnic groups (ie, Black, American Indian or Alaska Native, Asian American, Hispanic or Latino, or Native Hawaiian or Pacific Islander) • Personal history of gestational diabetes or polycystic ovary syndrome
ADA 2022⁸	
<p>Screen asymptomatic patients with BMI ≥ 25 or Asian Americans with BMI ≥ 23, and ≥ 1 risk factor</p> <p>Screen at 35 years if no risk factors</p> <p>Repeat every 3 years if normal</p> <p>Screen patients with prediabetes (A1C $\geq 5.7\%$) annually</p>	<ul style="list-style-type: none"> • Impaired glucose tolerance, or impaired fasting glucose on previous testing • Acanthosis nigricans • Cardiovascular disease • First-degree relative with diabetes • HDL cholesterol level < 35 mg/dL and/or a triglyceride level > 250 mg/dL • High-risk ethnicity: Black, Native American/Alaska Native, Hispanic/Latino, Asian American, and Native Hawaiian/Pacific Islander • Hypertension (blood pressure $\geq 140/90$ mm Hg or taking medication for hypertension) • Physical inactivity • Polycystic ovary syndrome • Patients who had gestational diabetes • People with HIV
AACE 2015⁶	
<p>Screen all adults with risk factors whose glucose values are within normal range every 3 years</p> <p>Screen patients with ≥ 2 risk factors annually</p>	<ul style="list-style-type: none"> • Adults ≥ 45 years without other risk factors • Acanthosis nigricans • Antipsychotic therapy for schizophrenia and/or severe bipolar disorder • Cardiovascular disease or family history of T2D • Chronic glucocorticoid exposure • HDL cholesterol level < 35 mg/dL (0.90 mmol/L) and/or a triglyceride level > 250 mg/dL (2.8 mmol/L) • History of gestational diabetes or delivery of a baby weighing > 9 lb (4 kg) • Hypertension (blood pressure $> 140/90$ mm Hg or taking medication for hypertension) • Impaired glucose tolerance, impaired fasting glucose, and/or metabolic syndrome • Member of an at-risk racial or ethnic group: Asian, Black, Hispanic, Native American (Alaska Native or American Indian), or Pacific Islander • Nonalcoholic fatty liver disease • Overweight or obese • Polycystic ovary syndrome • Sedentary lifestyle • Sleep disorders in the presence of glucose intolerance (A1C $> 5.7\%$, impaired glucose tolerance, or impaired fasting glucose on previous testing), including obstructive sleep apnea, chronic sleep deprivation, and night-shift occupation

A1C, glycosylated hemoglobin; AACE, American Association of Clinical Endocrinology; ADA, American Diabetes Association; BMI, body mass index; HDL, high-density lipoprotein; T2D, type 2 diabetes; USPSTF, US Preventive Services Task Force.



With newer agents, more aggressive A1C goals can be targeted safely in select patients, particularly those with long life expectancy.

ommends screening adults of any age who have risk factors.⁶ If the screening result is normal, repeat testing in 3 years is appropriate, unless there is a change in symptoms or risks.^{5,8} Annual testing can be considered in patients with ≥ 2 risk factors or with prediabetes (glycosylated hemoglobin [A1C] $\geq 5.7\%$).^{6,8}

Making the diagnosis

The initial diagnosis of diabetes can be made by a fasting plasma glucose level ≥ 126 mg/dL (7.0 mmol/L); a 2-hour plasma glucose level ≥ 200 mg/dL (11.0 mmol/L) following an oral glucose tolerance test; or an A1C level $\geq 6.5\%$. Prioritize lab-drawn A1C measurements over point-of-care tests to diagnose T2D. In patients with classic symptoms of hyperglycemia, a random plasma glucose level ≥ 200 mg/dL (11.0 mmol/L) is also diagnostic. Generally, these tests are considered equally appropriate in screening for diabetes and may be used to detect prediabetes. In the absence of clear symptoms of hyperglycemia, the diagnosis of diabetes requires 2 abnormal screening test results, either via 1 blood sample (such as an abnormal A1C and glucose) or 2 separate blood samples of the same test. Further evaluation is advised if there is discordance between the 2 samples.⁸

Extended evaluations

Patients with newly diagnosed T2D require a thorough evaluation for comorbidities and complications of diabetes. Refer patients to an ophthalmologist for a dilated eye examination, with subsequent exams occurring every 1 to 2 years.^{6,9} Additional referrals for diabetes education, family planning for women of reproductive age, and dental, social, or mental health services may be clinically appropriate.⁹

Setting goals for glycemic control

Glycemic control is commonly monitored by the A1C level and by blood glucose monitoring either through traditional point-of-care glucometers or continuous glucose monitors (CGMs).¹⁰ Generally, CGMs provide more glycemic data than traditional glucometers and may cue patients to choose healthier dietary options and engage in physical exercise.¹¹ Patients with T2D who use CGMs exhibit

lower A1Cs, greater time in glycemic range, and reduced hypoglycemic episodes.¹¹ Generally, CGMs are reserved for patients with type 1 diabetes and patients with T2D who use multiple daily injections, subcutaneous insulin infusions, or basal insulin only.¹² Most professional organizations recommend that clinicians consider patient-specific factors to set individualized glycemic goals.^{6,10,13,14} For example, more stringent glycemic goals could be pursued for patients with longer life expectancy, shorter disease duration, absence of complications (eg, nephropathy, neuropathy, or cardiovascular disease), fewer comorbid conditions, lower hypoglycemia risk, or higher cognitive function.⁶

More specific A1C goals vary by professional organization. For nonpregnant adults, the ADA recommends an A1C goal of $< 7\%$ and a preprandial blood glucose level of 80 to 130 mg/dL (4.4-7.2 mmol/L).¹⁰ However, a lower A1C goal may be appropriate if it can be attained safely without causing hypoglycemia or other adverse effects.¹⁰ The AACE suggests an A1C goal of $\leq 6.5\%$ and a fasting blood glucose level of < 110 mg/dL when it can be achieved safely.⁶ More stringent A1C goals may reduce long-term micro- and macrovascular complications—especially in patients with newly diagnosed T2D.¹⁰ While older studies such as the ACCORD trial found increased mortality in groups with more stringent glycemic targets, they did not include newer agents (SGLT2 inhibitors or glucagon-like peptide-1 [GLP-1] receptor agonists) that reduce cardiovascular events by mechanisms outside their glycemic-lowering effect. With these newer agents, more aggressive A1C goals can be targeted safely in select patients, particularly those with long life expectancy.¹⁰ Both the ADA and AACE recommend a less stringent A1C goal of 7% to 8% for patients with limited life expectancy or risks (eg, a history of hypoglycemia) that outweigh expected benefits.^{6,10}

Lifestyle modifications: As important as medication Nutrition

The energy-dense Western diet, combined with sedentary behavior, are thought to be

a primary cause of T2D.¹⁵ Therefore, include lifestyle modifications in the initial management of newly diagnosed T2D. Diets that replace carbohydrates with saturated and trans fats are related to increased mortality in patients with T2D.¹⁶ Increased consumption of vegetables, fruits, legumes, nuts, fish, cereal, and oils reduces concentrations of saturated and trans fats and increases dietary intake of monounsaturated fatty acids, fiber, antioxidants, and polyphenols.¹⁷

Increasing the intake of fiber, an undigestible carbohydrate, offers numerous benefits in T2D management. High-fiber diets can help regulate blood sugar and lipid levels, increase satiety, reduce inflammation, aid in weight management, and reduce premature mortality.¹⁸ Insoluble fiber, found in foods such as whole wheat flour, nuts, and cauliflower, helps food pass more quickly through the stomach and intestines and adds bulk to stool. Soluble fiber, found in foods such as chickpeas, lentils, and Brussels sprouts, absorbs water and forms a gel-like substance that protects nutrients from digestive enzymes and slows down digestion. The result is a more gradual rise in postprandial glucose levels and improved insulin sensitivity.¹⁹ Dietary fiber may produce short-chain fatty acids which in turn activate incretin secretion and stimulate a glucose-dependent release of insulin from the pancreas.²⁰

Simple dietary substitutions, such as whole grains and legumes for white rice, can reduce fasting blood glucose and A1C levels.²¹ In a randomized controlled trial (RCT), increasing whole grain oat intake improved measures of glycemic control, reducing A1C by 1% at 1-year follow-up.¹⁹ Encourage patients with T2D to increase consumption of high-fiber foods and replace animal fats and refined grains with vegetable fats (eg, nuts, avocados, olives). Nutritional therapies should be individualized, taking into account personal preferences and cultural customs.²² Nutritional habits may be based on race/ethnicity, religion/spirituality, or even the city in which an individual resides. Nutrition recommendations should account for these differences as well as access to healthy foods. For instance, ethnic groups whose dietary patterns include tortillas could be

counseled to choose high-fiber options such as corn instead of flour tortillas and to incorporate vegetables in place of high-fat foods. Additionally, ethnic groups who favor using animal fats in foods such as greens could be advised on ways to add flavor to vegetables without adding saturated fats. Taking this approach may lessen barriers to change and increase ability to make dietary modifications.²³

Exercise

Encourage all patients with T2D to exercise regularly. The atherosclerotic plaques found in patients with T2D have increased inflammatory properties and result in worse cardiovascular outcomes compared with plaques in individuals without T2D.²⁴ Regular exercise reduces levels of pro-inflammatory markers—C-reactive protein, interleukin (IL)-6, and tumor necrosis factor alpha—and increases levels of anti-inflammatory markers (IL-4 and IL-10).²⁴ Regular exercise can improve body composition, physical fitness, lipid and glucose metabolism, and insulin sensitivity.^{25,26}

A meta-analysis of RCTs demonstrated that structured exercise > 150 minutes per week resulted in A1C reductions of 0.89%,²⁷ which is comparable to the effect of many oral antihyperglycemic medications.²⁶ The Health Benefits of Aerobic and Resistance Training in individuals with T2D (HART-D) and Diabetes Aerobic and Resistance Exercise (DARE) studies demonstrated that combining endurance and resistance training was superior for improving glycemic control, cardiorespiratory fitness, and body composition, than using either type of training alone.²⁵ Both the American College of Sports Medicine (ACSM) and the ADA recommend that adults engage in at least 150 total minutes of moderate-intensity aerobic activity per week and resistance training 2 to 3 times weekly.²⁶ ACSM defines moderate-intensity exercise as 65% to 75% of maximal heart rate, a rating of perceived exertion of 3 to 4, or a step rate of 100 steps per minute.²⁸

Because of their longitudinal relationships with patients, family physicians are in an optimal position to assess a patient's physical capacity level and provide individualized counseling. Several systematic reviews have



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 Several systematic reviews have demonstrated that counseling on exercise increases patients' participation in physical activity.

demonstrated that counseling on exercise increases patients' participation in physical activity.²⁹ Encourage your patients with T2D to exercise regularly, considering each individual's ability to engage in physical activity.

Weight loss

Include weight management in the initial treatment of patients with newly diagnosed T2D. Weight loss decreases hepatic glucose production and increases peripheral insulin sensitivity and insulin secretion.³⁰ Moderate decreases in weight (5%-10%) can reduce complications related to diabetes, and sustained significant weight loss (> 10%) can potentially cause T2D remission (A1C < 6.5% after stopping diabetes medications).^{31,32}

Diabetes self-management education supports patients by giving them tools for making and maintaining lifestyle changes. Understanding individual barriers to change and addressing these during motivational interviews is important. Through a qualitative interview study, participants in a diabetes self-management program revealed 4 factors that motivated them to maintain lifestyle changes: support from others, experiencing the impact of the changes they made, fear of T2D complications, and forming new habits.³³ Family physicians are key in helping patients acquire knowledge and support to make the lifestyle modifications needed to manage newly diagnosed T2D.

Individualized pharmacotherapy considerations

For decades, the initial pharmacotherapeutic regimen for patients with newly diagnosed T2D considered the patient's baseline A1C as a major driver for therapy. Metformin has been the mainstay in T2D treatment due to its clinical efficacy, minimal risk for hypoglycemia, and low cost. Regardless of the regimen, pharmacotherapy should be initiated at the time of T2D diagnosis in conjunction with the aforementioned lifestyle modifications.³⁴

When selecting pharmacotherapy, practice guidelines recommend considering the efficacy and adverse effects of medications, patient-specific comorbidities, adherence, cost, and a patient's lifestyle factors.³⁴ Drug

classes with pertinent information are listed in **TABLE 2**.³⁴⁻⁵⁴ After starting medication, monitor the A1C level every 3 months to determine whether therapy should be intensified. Patients should have their labs drawn ahead of the quarterly visit, or point-of-care measurements may be used to facilitate in-person patient-provider discussions.

Consider patient-specific factors when starting pharmacotherapy

■ **ASCVD.** Regardless of baseline glycemic control, offer patients who have ASCVD, or who are at high risk for it, an SGLT2 inhibitor (canagliflozin, dapagliflozin, or empagliflozin) or a long-acting GLP-1 receptor agonist (dulaglutide, liraglutide, or semaglutide).^{34,35} SGLT2 inhibitors reduced the risk for MACE by 11% in patients with established ASCVD.⁵⁵ They also reduced a composite outcome of cardiovascular death or hospitalization for heart failure by 23% in patients with or without ASCVD or heart failure at baseline.⁵⁵ GLP-1 receptor agonists offer a similar reduction in MACE to SGLT2 inhibitors, but they do not have significant effects in heart failure.⁵⁶ Thiazolidinediones (TZDs), saxagliptin, and alogliptin should be avoided in patients with heart failure.⁵⁷ TZDs may reduce the risk for recurrent stroke in patients with T2D.⁵⁸

■ **Chronic kidney disease (CKD).** As with ASCVD, prioritize SGLT2 inhibitors and GLP-1 receptor agonists in patients with CKD. While both classes reduced the risk for progression of kidney disease such as macroalbuminuria, SGLT2 inhibitors offer additional benefits in their reduction of the worsening of estimated glomerular filtration rate, end-stage kidney disease, and renal death.⁵⁶

■ **Obesity.** Consider the effect of each drug class on weight when making initial treatment choices, taking special care to minimize weight gain and potentially promote weight loss.³⁴ The ADA prefers GLP-1 receptor agonists, but also suggests SGLT2 inhibitors in these patients. While all GLP-1 receptor agonists have an impact on weight, weekly subcutaneous semaglutide offers the most pronounced weight loss of 2 to 7 kg over 56 weeks.⁵⁹ SGLT2 inhibitors promote sustainable weight loss to a lesser degree, con-

TABLE 2

Initial pharmacotherapy for T2D treatment³⁴⁻⁵⁴

Medication	Mechanism of action	Initial dose	Adverse effects (> 10%)	Considerations
Biguanides				
Metformin ³⁶	<ul style="list-style-type: none"> Decreases hepatic glucose production Decreases intestinal glucose absorption Improves insulin sensitivity 	500 mg PO 1-2 times daily	Diarrhea, flatulence, nausea, vomiting	<ul style="list-style-type: none"> Low cost Well tolerated
SGLT2 inhibitors³⁷⁻⁴⁰				
Canagliflozin	<ul style="list-style-type: none"> Increases urinary glucose excretion 	100 mg PO daily	Genitourinary fungal infections	<ul style="list-style-type: none"> Low risk for hypoglycemia Reduces progression of CKD Reduces MACE (canagliflozin) Reduces CV death (empagliflozin) Reduces HF hospitalization (dapagliflozin)
Dapagliflozin		10 mg PO daily		
Empagliflozin		10 mg PO daily		
Ertugliflozin		5 mg PO daily		
GLP-1 receptor agonists⁴¹⁻⁴⁶				
Dulaglutide	<ul style="list-style-type: none"> Improves glucose-dependent insulin secretion Slows gastric emptying 	0.75 mg SQ weekly	Diarrhea, nausea, injection-site reactions	<ul style="list-style-type: none"> High cost Low risk for hypoglycemia Avoid with DPP4 inhibitors Reduces MACE Reduces progression of CKD
Exenatide		<i>IR</i> : 5 mg SQ twice daily <i>ER</i> : 2 mg SQ weekly		
Liraglutide		0.6 mg SQ daily for 1 week, then 1.2 mg SQ daily		
Lixisenatide		10 mcg SQ daily for 14 days, then 20 mcg SQ daily		
Semaglutide		<i>SQ</i> : 0.25 mg SQ weekly for 4 weeks, then 0.5 mg SQ weekly <i>PO</i> : 3 mg daily for 30 days, then 7 mg/d		
DPP4 inhibitors⁴⁷⁻⁵⁰				
Alogliptin	<ul style="list-style-type: none"> Stimulates glucose-dependent insulin secretion 	25 mg PO daily		<ul style="list-style-type: none"> Well tolerated Low risk for hypoglycemia Avoid with GLP-1 receptor agonists
Linagliptin		5 mg PO daily		
Saxagliptin		2.5 to 5 mg PO daily		
Sitagliptin		100 mg PO daily		
Sulfonylureas⁵¹⁻⁵³				
Glimepiride	<ul style="list-style-type: none"> Stimulates insulin secretion Improves insulin sensitivity 	1 to 2 mg PO daily	Hypoglycemia	<ul style="list-style-type: none"> Low cost Weight gain
Glipizide		2.5 to 5 mg PO daily		
Glyburide		1.25 to 5 mg PO daily		

CONTINUED

tributing to an average loss of 3 kg at 2 years.⁶⁰ Weight gain is common in patients taking sulfonylureas (2.01-2.3 kg)³¹ and insulin (3-9 kg weight gain in the first year)⁶¹ and should be avoided in patients with T2D and obesity.³⁴

■ **Hypoglycemia risk.** In addition to

counseling patients on hypoglycemia management and prescribing glucagon rescue kits, offer medications with no or very low risk for hypoglycemia (eg, GLP-1 receptor agonists, SGLT2 inhibitors, dipeptidyl peptidase-4 inhibitors, and TZDs). Gener-

TABLE 2

Initial pharmacotherapy for T2D treatment³⁴⁻⁵⁴ (cont'd)

Medication	Mechanism of action	Initial dose	Adverse effects (> 10%)	Considerations
Thiazolidinediones⁵⁴				
Pioglitazone	<ul style="list-style-type: none"> Improves insulin sensitivity 	15 mg PO daily	Edema, hypoglycemia, URI	<ul style="list-style-type: none"> Low cost Low risk for hypoglycemia May increase risk for bladder cancer, bone fracture, liver injury CI in heart failure
Basal insulin^{34,35}				
Insulin degludec	<ul style="list-style-type: none"> Facilitates cellular glucose uptake in liver, skeletal muscle, and adipose tissue 	ADA: 10 units daily or 0.1 to 0.2 units/kg/d	Hypoglycemia, antibody development, headache, URI	<ul style="list-style-type: none"> High cost Weight gain
Insulin detemir ^a		AACE:		
Insulin glargine		A1C < 8%: 0.1 to 0.2 units/kg/d A1C > 8%: 0.2 to 0.3 units/kg/d		

A1C, glycated hemoglobin; AACE, American Association of Clinical Endocrinology; ADA, American Diabetes Association; CI, contraindicated; CKD, chronic kidney disease; DPP4, dipeptidyl peptidase 4; ER, extended release; GLP-1, glucagon-like peptide-1; HF, heart failure; IR, immediate release; MACE, major adverse cardiovascular events; SGLT2, sodium-glucose cotransporter 2; T2D, type 2 diabetes; URI, upper respiratory tract infection.

^a May be dosed twice daily due to shorter duration of action.

ally, avoid insulin and sulfonylureas in patients in whom hypoglycemia is a major concern (eg, older adults, individuals with labile blood glucose levels).³⁴ Patients with reduced renal function are at higher risk for hypoglycemia with insulin or sulfonylureas due to reduced drug clearance. However, insulin is often the only treatment for patients with advanced renal disease. Pay close attention to insulin dosing in patients with advanced renal disease, which may necessitate lower doses and smaller dose adjustments due to this risk.

■ Social determinants of health. Medication access and cost is a major burden in T2D management and should be considered for every patient. Compared with the period of 2005 to 2007, the annual cost of diabetes medications for an individual in 2015 to 2017 increased by 147%, rising from \$1106 to \$2727 per year.⁶² This increase is driven by the cost of insulin and newer medications without generic options.⁶² Identify local resources in your community, such as patient assistance programs and pharmacies with reduced-price generic prescription programs, which may be useful for patients who are underinsured or uninsured.

Even if cost weren't an issue, many medications such as insulin and GLP-1 receptor agonists should be kept refrigerated and are only stable at room temperature for a limited time. Medications that are stable at room temperature should be prioritized in patients with limited or inconsistent access to refrigeration or unstable housing who may find it difficult to store their medications appropriately.

Do not delay insulin initiation in patients with high baseline A1C

Whenever possible, a GLP-1 receptor agonist is the preferred injectable medication to insulin. Starting insulin introduces numerous risks, including hypoglycemia, weight gain, and stigma. However, in the patient with newly diagnosed T2D, choose basal insulin when the baseline hyperglycemia is severe,³⁴ as indicated by:

- blood glucose > 300 mg/dL (16.7 mmol/L),
- A1C > 10% (86 mmol/mol),
- symptoms of hyperglycemia (polyuria or polydipsia), or
- evidence of catabolism (weight loss, hypertriglyceridemia, ketosis).

TABLE 3

Pharmacotherapeutic and monitoring recommendations for ASCVD risk reduction in patients with T2D^{35,63,64}

Patient population	Initial pharmacotherapy	Lipid targets
AHA/ACC 2018⁶³		
40-75 years old (no prior ASCVD event)	Moderate-intensity statin	30%-49% LDL-C reduction
≤ 75 years old with established ASCVD	High-intensity statin	≥ 50% LDL-C reduction
ADA 2022⁶⁴		
40-75 years old (no prior ASCVD event)	Moderate-intensity statin	30%-49% LDL-C reduction
At higher risk (ASCVD risk factors or age 50-70 years)	High-intensity statin	≥ 50% LDL-C reduction
≥ 75 years old	Moderate-intensity statin	30%-49% LDL-C reduction
Established ASCVD or 10-year ASCVD risk ≥ 20%	High-intensity statin	≥ 50% LDL-C reduction
AACE 2020³⁵		
High risk (T2D with no other risk factors)	Moderate- to high-intensity statin	LDL-C < 100 mg/dL non-HDL-C < 130 mg/dL apo B < 90 mg/dL
Very high risk (T2D with ≥ 1 risk factor ^a)		LDL-C < 70 mg/dL Non-HDL-C < 100 mg/dL apo B < 80 mg/dL
Extreme risk (T2D with established ASCVD)		LDL-C < 55 mg/dL Non-HDL-C < 80 mg/dL apo B < 70 mg/dL

AACE, American Association of Clinical Endocrinology; ACC, American College of Cardiology; ADA, American Diabetes Association; AHA, American Heart Association; apo B, apolipoprotein B; ASCVD, atherosclerotic cardiovascular disease; HDL, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; T2D, type 2 diabetes.

^a High LDL-C, polycystic ovary syndrome, cigarette smoking, hypertension (blood pressure ≥ 140/90 mm Hg or on antihypertensive medication), low HDL-C (< 40 mg/dL), family history of coronary artery disease (first-degree relative younger than 55 years in males or 65 years in females), chronic kidney disease stage 3 or 4, evidence of coronary artery calcification, and age (males ≥ 45 years; females ≥ 55 years). Subtract 1 risk factor if individual has high HDL-C.

Basal insulin analogs are preferred over NPH given their reduced variability, dosing, and hypoglycemic risk.³⁵ Mixed insulins may be used if a patient is unable to afford an insulin analog, which can be quite costly. However, extensive counseling on dosing and management of hypoglycemia is crucial to patient safety with these agents. The ADA recommends initiating 0.1 to 0.2 units/kg of basal insulin daily or 10 units daily.³⁴ The AACE follows this recommendation for patients with baseline A1C < 8%, but it proposes a more aggressive initiation of 0.2 to 0.3 units/kg/d for patients with baseline A1C > 8%.³⁵ Titrate the dose by 2 units every 3 days to reach the target fasting blood glucose level. As hyperglycemia resolves, simplify the regi-

men and transition to noninsulin options per the previously discussed considerations.

It's not just about glycemic control

In addition to the direct effects of hyperglycemia, a T2D diagnosis introduces an increased risk for ASCVD, a reduced ability to fight infection, and heightened risk for depression. Order a lipid panel at the time of T2D diagnosis and initiate lipid management as needed (TABLE 3^{35,63,64}). Both the ADA and the American Heart Association recommend starting a moderate-intensity statin as primary prevention for all patients with T2D between 40 and 75 years of age regardless of the 10-year ASCVD risk.⁶³ The AACE uses specific lipid targets and recommends moderate- to



Both the ADA and the AHA recommend starting a moderate-intensity statin as primary prevention for all patients with T2D between 40 and 75 years of age regardless of the 10-year ASCVD risk.

high-intensity statin therapy for patients with T2D.³⁵ All recommendations by professional organizations list high-intensity statins for patients with established ASCVD.

It is also vital to recommend that patients with newly diagnosed T2D remain up to date on all indicated vaccinations. They should promptly receive the hepatitis B and pneumococcal vaccines if they have not already done so for a previous indication. COVID-19 and annual influenza vaccines also should be prioritized for these patients.⁶⁵

Finally, patients with diabetes are twice as likely to develop depression than patients without diabetes.⁶⁶ Individuals with T2D and depression exhibit poorer medication adherence, lifestyle choices, and glycemic control.⁶⁶ Screen for and treat these issues in all patients with T2D across the course of the disease.

Overall, work closely with patients to support them in managing their new diagnosis with evidence-based pharmacologic and nonpharmacologic approaches. The importance of lifestyle changes including high-fiber diets, regular exercise, and weight loss should not be overlooked. Do not delay starting pharmacotherapy after diagnosing T2D and consider medication-specific and patient-specific factors to individualize therapy, improve adherence, and prevent complications. **JFP**

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