Diabetes Mellitus: ADA Standards of Medical Care in Diabetes (2025)

About the Guideline

- The American Diabetes Association (ADA) has developed diabetes care standards for more than 30 years.
- The standards are evidence-based and undergo a formal peer review process by the ADA Professional Practice Committee and Board of Directors.
- ADA standards are published in *Diabetes Care* every January.
- These care standards were updated in December 2024.

Key Clinical Considerations

Become familiar with the recommendations and best-practice statements provided in this guideline, especially if you work in an acute care setting.

The guideline and protocols aim to integrate components of care, address the complexity of diabetes management, standardize order entry, individualize care, enhance patient safety, and allow patient self-management, when appropriate.

Improving Care and Promoting Health

- Assess and consider the patient's social context (such as decision-making and self-management support), including food insecurity, housing instability, current health status (including comorbidities, age, race, and language barriers), and financial barriers (including the cost of treatment and medications) when making treatment decisions.
- Include local community resources as referrals.
- Telemedicine increases access to care for patients with diabetes.
- The prevention and management of diabetes should be incorporated into patient care and treatment.

Diagnosis and Classification

- Diabetes mellitus type 1
    - Type 1 diabetes is caused by autoimmune beta-cell destruction that usually leads to absolute insulin deficiency; it includes latent autoimmune diabetes in adults.
    - Diagnosis is based on classic hyperglycemic symptoms (polyuria, unexplained weight loss, and polydipsia) plus two of the following laboratory results gathered from the same blood sample or from two different samples:
        - Glycosylated hemoglobin A_{1c} (A_{1c}) level of 6.5% or higher
        - Fasting plasma glucose (FPG) level greater than 126 mg/dL
        - 2-hour plasma glucose (PG) level greater than 200 mg/dL during an oral glucose tolerance test (OGTT)

        - Random blood glucose level greater than 200 mg/dL
    - Standardized islet autoantibody tests are recommended for individuals with certain risk factors.
- Diabetes mellitus type 2
    - Type 2 diabetes is a result of the progressive loss of beta-cell insulin secretion, often with the concurrent development of insulin resistance and metabolic syndrome.
    - Diagnosis is indicated by two of the following laboratory results gathered from the same blood sample or from two different samples:
        - A_{1c} level of 6.5% or higher
        - FPG level greater than 126 mg/dL
        - 2-hour PG level greater than 200 mg/dL during an OGTT
        - Random blood glucose level greater than 200 mg/dL
- Gestational diabetes mellitus (GDM) is diagnosed in the second or third trimester when overt diabetes was not present before pregnancy.
- Prediabetes
    - Characterized by glucose levels that do not fall in the diabetic range but that are too high to be considered normal. Prediabetes is diagnosed by the presence of the following:
        - A_{1c} level of 5.7% to 6.4%, or
        - FPG level of 100 mg/dL to 125 mg/dL, or
        - 2-hour PG level during 75-g OGTT of 140 mg/dL to 199 mg/dL.
    - Testing should be performed in asymptomatic individuals who are overweight or obese (body mass index [BMI] greater than or equal to 25 kg/m^2, or greater than or equal to 23 kg/m^2 for Asian Americans) with any of the following risk factors:
        - Race at high risk for developing diabetes (African American, Native American, Latino, Pacific Islander, Asian American)
        - First-degree relative with diabetes
        - History of cardiovascular disease (CVD)
        - Hypertension (blood pressure greater than or equal to 130/80 mmHg, or currently receiving hypertensive therapy)
        - High-density lipoprotein (HDL) cholesterol level of less than 35 mg/dL, triglyceride level of greater than 250 mg/dL, or both
        - Presence of polycystic ovary syndrome (PCOS)
        - Physical inactivity
        - Age over 35
        - History of pancreatitis
        - Exposure to high-risk medications, such as glucocorticoids, statins, thiazide diuretics, and second-generation antipsychotic medications
        - Individuals with human immunodeficiency virus infection or acquired immunodeficiency syndrome (HIV/AIDS) should be screened with a fasting glucose test before beginning antiretroviral therapy (ART) or before changing therapies.

        - Individuals prescribed antipsychotic medications should be screened at baseline, with repeat screening 12 to 16 weeks after initiation of therapy, if clinically indicated, then annually.
        - Patients who have been diagnosed with GDM should be tested every 3 years for life.
        - Individuals with prediabetes should be tested annually.
- Specific types of diabetes
    - Monogenic diabetes syndromes (neonatal diabetes and maturity-onset diabetes of the young [MODY])
    - Diseases of exocrine pancreas (cystic fibrosis-related diabetes and pancreatitis)
    - Drug-induced or chemically induced diabetes related to glucocorticoid use, treatment for HIV/AIDS, or organ transplant-related treatment

Prevention or Delay of Diabetes Mellitus Type 2

- Test annually for the development of type 2 diabetes in individuals previously diagnosed with prediabetes.
- Individuals with prediabetes should be referred to a lifestyle modification program. Encourage an increase in moderate-intensity physical activity (brisk walking) for at least 150 minutes per week, with a weight-loss goal of 7% of initial body weight.
- Consider more intensive prevention approaches for individuals at high risk of progression to diabetes.
- Consider technology-assisted diabetes prevention programs, including smartphone and web-based applications and telehealth programs, to increase adherence.
- Medical nutrition therapy should be included in any lifestyle modification plan. Encourage the intake of quality foods, such as nuts, legumes, whole grains, fruits, and vegetables; limit the intake of refined and processed foods.
- Consider metFORMIN to prevent type 2 diabetes in individuals with prediabetes, a history of GDM, and (in individuals ages 25 to 59) a BMI greater than or equal to 35 kg/m^2.
    - Vitamin B_{12} deficiency is associated with long-term use of metFORMIN, and B_{12} levels should be measured periodically.
- Prediabetes is associated with heightened cardiovascular risk. Screen and treat modifiable risk factors.
- Monitor patients who are receiving statin therapy and encourage diabetes prevention.
- Discourage the use of tobacco. Tobacco use increases the risk of type 2 diabetes.

Comprehensive Medical Evaluation and Assessment of Comorbidities

- Patient-centered collaborative care should focus on communication and should assess literacy, numeracy, health literacy, and any potential barriers to care.
- Care should be managed by a multidisciplinary team that may include primary care practitioners, specialists, dietitians, pharmacists, podiatrists, and any other health care practitioner that is appropriate.

- A comprehensive medical evaluation should be performed. Follow-up and ongoing care should be established.
- Provide routine vaccinations to adults and children with diabetes, such as vaccinations for influenza; pneumococcal pneumonia; hepatitis B; respiratory syncytial virus; tetanus, diphtheria, and pertussis (Tdap); herpes zoster (shingles); and coronavirus disease 2019, as recommended.
- The following should be performed for individuals with diabetes and comorbid conditions:
    - Assessment of CVD risk
    - Screening for autoimmune thyroid disease and celiac disease
    - Screenings for cancer, as appropriate
    - Screening for bone health and assessment of fracture risk, as appropriate
    - Assessment for cognitive impairment and dementia (In patients with dementia or cognitive impairment, intensive glucose control cannot be expected, and treatment should be focused on avoiding significant hypoglycemia.)
    - Individuals with prediabetes or type 2 diabetes and elevated liver enzymes or a fatty liver noted by ultrasonography should be evaluated for nonalcoholic steatohepatitis and liver fibrosis.
    - For patients with medically refractory chronic pancreatitis who require a total pancreatectomy, consider islet auto-transplantation to prevent postsurgical diabetes.
    - Patients with HIV should be screened for prediabetes and diabetes at the following intervals:
        - Before initiation of ART and 3 to 6 months after initiation
        - When switching ART and 3 to 6 months after switching
        - If the initial screening is normal, rescreen with a fasting blood glucose yearly.
    - A morning testosterone level should be measured for men with diabetes who have symptoms of hypogonadism, such as decreased libido or erectile dysfunction.
    - Mental health screenings should be performed for all patients with diabetes and for those with diabetes who are currently receiving antipsychotic medication. Assessments should include screening for anxiety, depression, disordered eating, and eating disorders.

Lifestyle Management

- Evaluate the need for teaching about diabetes self-management at each visit, if complications arise, and at any transitions of care.
- Diabetes self-management education should be patient-centered and take place in an individual or group setting; it should include the use of appropriate technology.
- Psychosocial screening and assessment should include evaluation for signs of anxiety, depression, diabetes distress, cognitive changes, and disrupted or disordered eating.
- Medical nutrition therapy and teaching are recommended and should address:

  - consistent carbohydrate intake (individualized to each patient and added to other diet orders)
  - consumption of nutrient-dense carbohydrates that are high in fiber and not highly processed
  - emphasis on fruits, non-starchy vegetables, dairy, whole grains, and minimal sugar
  - replacement of fruit juices and other sugar-sweetened drinks with water
  - effectiveness of nutrition therapy
  - energy balance (weight management)
  - eating patterns and macronutrients (carbohydrates, protein, and fats)
  - avoidance of sources of carbohydrates high in protein (for those with type 2 diabetes)
  - no general recommendation for micronutrients and herbal supplements because there is no clear evidence of efficacy
  - moderate alcohol consumption (one drink per day for adult women, and two drinks per day for adult men)
  - sodium limited to less than 2,300 mg/day
  - nonnutritive sweeteners in moderation
  - consideration of a Mediterranean-style diet
  - discussion of intermittent fasting and time-restricted eating
  - screening for food insecurity.
- Physical activity recommendations, according to the practitioner, include the following:
  - Children and adolescents should engage in at least 60 minutes per day of moderate-intensity activity.
  - Adults with type 1 and type 2 diabetes should engage in at least 150 minutes per week of moderate-intensity activity and in two or three sessions per week of resistance exercise. Those with type 2 diabetes should reduce sedentary behavior. Sitting for longer than 30 minutes should be interrupted.
  - Older adults should engage in flexibility and balance training two or three times per week.
  - Tai chi, gardening, dancing, swimming, walking, housework, and yoga can be added for older adults, if they prefer.
- Encourage the cessation of all tobacco and e-cigarette products.
- Perform sleep health screening due to the complex association between sleep and diabetes.

Glycemic Targets

- For patients who meet their treatment goals, perform an A_{1c} test at least twice per year.
- For patients whose therapy has changed or for those not meeting their glycemic goals, perform an A_{1c} test at least four times per year.
- Treatment changes can be made more efficiently with the use of point-of-care (POC) A_{1c} testing.
- A reasonable glycemic goal for nonpregnant adults is an A_{1c} level of less than 7% (in the absence of significant hypoglycemia).

    - Tighter control (A_{1c} level of less than 6.5%) may be reasonable for select patients.
    - A less stringent goal of an A_{1c} level of less than 8% may be appropriate for individuals who have:
        - history of severe hypoglycemia
        - advanced microvascular or macrovascular complications (or both)
        - extensive comorbidities
        - difficult to control, long-standing diabetes
        - limited life expectancy.
- Glycemic targets and goals should be reassessed periodically.
- For individuals at risk for hypoglycemia, asymptomatic and symptomatic hypoglycemia should be discussed at each visit.
- For hypoglycemia in conscious patients, glucose (15 to 20 g) is the preferred treatment for a blood glucose level less than 70 mg/dL (Level 1); however, any carbohydrate with glucose may be used.
    - Repeat blood glucose measurement 15 minutes after treatment. If the patient is still hypoglycemic, repeat the treatment.
    - To prevent recurrence, a meal or snack should be consumed once the blood glucose level has returned to normal.
- For patients who experience hypoglycemia with a blood glucose level of less than 54 mg/dL and who are asymptomatic or have mild neuroglycopenic symptoms (Level 2), or have severe symptoms that require another person's assistance (Level 3), treat with oral glucose, if appropriate. In addition, glucagon may be prescribed for these patients. Teaching should be provided to school and work personnel, caregivers, and family members about glucagon administration.
- Re-evaluate the patient's treatment regimen and cognitive function if persistent hypoglycemia occurs.

Diabetes Technology

- Diabetes technology describes any device, hardware, or software that is used to manage blood glucose levels, prevent complications, decrease the burden of living with diabetes, and improve a patient's quality of life.
- Use insulin syringes or insulin pens for insulin delivery.
    - Consider patient preference, insulin type, dosing regimen, cost, and self-management capabilities. Use insulin injection aids for patients with impaired dexterity or impaired vision.
- Insulin pumps are an option for most adults and youths with type 1 diabetes. These devices may also be considered for patients with type 2 diabetes who require multiple daily insulin injections.
- Individuals who use an insulin pump or administer multiple daily insulin injections should monitor the blood glucose level by using continuous glucose monitoring or by self-monitoring:
    - when fasting
    - before meals and snacks

  - at bedtime
  - periodically before exercise and postprandially
  - when a low blood glucose level is suspected
  - before driving.
- Self-monitoring and continuous glucose monitoring require extensive diabetes education, training, and support for optimal implementation and ongoing use.
- Practitioners should be aware of anything that may interfere with glucose meter accuracy, such as counterfeit or expired strips, abnormal oxygen saturation level or temperature, and interfering substances, such as high doses of vitamin C, xylose, uric acid, galactose, acetaminophen, furosemide, and maltose. Changes in humidity and altitude also may affect glucose meter results.
- Health care professionals should obtain or have basic knowledge of the use and application of diabetes technology.
- Real-time continuous glucose monitoring (CGM) is an additional tool to help improve glucose control and reduce the risk of hypoglycemia.
  - CGM should be offered to any individual with type 1 diabetes at the time of diagnosis, and to those with type 2 diabetes who are on multiple daily insulin injections or treated with a continuous subcutaneous insulin infusion.
  - Real-time CGM is also a useful tool to lower the A_{1c} level in adults with type 1 diabetes who are not meeting their glycemic targets.
  - It may be useful for patients at risk for frequent hypoglycemic episodes.
  - It may help improve neonatal outcomes and A_{1c} levels in pregnant patients with type 1 diabetes.
- For adults who require frequent glucose testing, intermittently scanned CGM may be considered as a substitute for self-monitoring of the blood glucose level.
- Allergies or skin reactions should be assessed.
- Use of an automated insulin delivery system (combined insulin pump and sensor systems), known as a *closed-loop system,* may:
  - improve glycemic control
  - reduce nocturnal hypoglycemia
  - reduce A_{1c} levels and improve time in range.

Obesity Management for the Prevention and Treatment of Type 2 Diabetes

- Calculate and record BMI at each patient encounter.
- Obesity-related anthropometric measurements should be monitored at least annually.
- For patients with type 2 diabetes with overweight or obesity who are ready to lose weight, diet, physical activity, and behavioral therapy to achieve and maintain equal to or greater than 5% weight loss is recommended. Counseling should be done for at least 16 sessions in a 6-months period.

    - From 200 to 300 minutes of activity per week and a 500 to 750 kcal/day energy deficit is recommended to achieve weight loss.
    - Diets should be individualized based on medical status, motivation, and life circumstances.
    - Once short-term weight-loss goals are achieved, long-term goals should be made and a long-term maintenance plan should be developed based on the patient's individual needs (such as nutritional needs and preferences).
    - For select patients, a diet of 800 to 1,000 kcal/day with total meal replacements may be prescribed for a short time.
- Medications for glucose-lowering or medications for comorbid conditions that are associated with weight gain should be avoided, if possible. Patients with comorbid heart failure should be more frequently assessed and monitored.
- Weight-loss medications may be considered for select patients after the benefits and risks have been discussed.
- A comprehensive readiness and mental health assessment should be performed before consideration of metabolic surgery.
- For surgical candidates with type 2 diabetes and a BMI greater than or equal to 30 kg/m^2 (27.5 kg/m^2 for Asian Americans), metabolic surgery is recommended if weight loss cannot be achieved or maintained with nonsurgical methods.
- For patients with type 2 diabetes and a BMI greater than or equal to 30 to 34.9 kg/m^2 (27.5 to 32.4 kg/m^2 for Asian Americans), metabolic surgery may be considered if weight loss cannot be achieved or maintained with nonsurgical methods.
- Metabolic surgery should be performed only in high-volume centers by an experienced multidisciplinary team.
- After surgery, patients will require lifelong support and monitoring of their nutritional, metabolic, and micronutrient status.
- Assess the need for mental health services for ongoing medical and psychosocial changes after surgery.
- Medical devices for short-term weight loss approved by the Food and Drug Administration (FDA) include implanted gastric balloons, gastric aspiration devices, and a vagus nerve stimulator.

Pharmacologic Approaches to Glycemic Treatment

- Treatment for most individuals with type 1 diabetes involves early initiation of CGM and continuous subcutaneous insulin infusion or multiple daily injections of prandial and basal insulin.
- Treatment should be based on efficacy, effects on renal and cardiovascular comorbidities, access, cost, impact on weight, patient preference, and hypoglycemia risk.
- Insulin analogs (or inhaled insulin) are preferred over injectable human insulin to decrease the risk of hypoglycemia.
- For type 2 diabetes, metFORMIN is the preferred initial medication and should be continued for as long as it is tolerated. Lifestyle changes should also be included with the therapy.

- Consider introducing insulin to patients with type 2 diabetes if one of the following is present:
  - Continued weight loss (catabolism)
  - Symptomatic hyperglycemia
  - A_{1c} level greater than 10%
  - Blood glucose level greater than or equal to 300 mg/dL
- For patients with newly diagnosed type 2 diabetes who have an A_{1c} level greater than or equal to 1.5% above their glycemic target, consider dual therapy.
- Consider sodium-glucose cotransporter 2 (SGLT2) inhibitors or glucagon-like peptide 1 (GLP-1) receptor agonists for patients with type 2 diabetes with known CVD or with known chronic kidney disease (CKD).
  - An SGLT2 inhibitor is preferred for patients with type 2 diabetes and CVD who are also at high risk for heart failure.
  - A GLP-1 is preferred over insulin for its glucose-lowering effect in type 2 diabetes.
- Re-evaluate the medication regimen at routine intervals (every 3 to 6 months) for optimal management of type 1 and type 2 diabetes.
- For all individuals taking insulin or for those at high risk for hypoglycemia, glucagon should be prescribed. Education about glucagon use and administration should be provided to caregivers, school personnel, and any others providing support to an individual with diabetes.

Cardiovascular Disease and Risk Management

- Measure blood pressure (BP) at all visits. Patients with a BP greater than or equal to 130/80 mm Hg should follow up with a BP reading confirmation on a different day using multiple readings.
- All patients with hypertension (HTN) should be encouraged to monitor their BP at home.
- For patients with diabetes and HTN, considerations should include the following:
  - An individualized treatment plan based on patient preferences and risk stratification.
  - Target BP of less than 130/80.
  - For patients with diabetes and pre-existing HTN who are also pregnant and being treated with antihypertensive therapy, BP targets should be between 110/85 and 135/85 mm Hg.
- Patients with diabetes and a BP greater than 120/80 mm Hg should be treated with lifestyle modifications, including:
  - weight loss, if appropriate
  - DASH (Dietary Approaches to Stop Hypertension) diet
  - increased potassium intake
  - moderation of alcohol intake
  - smoking cessation
  - increased physical activity.
- For patients with a confirmed BP greater than or equal to 130/80 mm Hg, lifestyle modifications and pharmacologic therapy are recommended.
- For patients with a confirmed BP greater than or equal to 160/100 mm Hg, lifestyle modifications and two different antihypertensives are recommended.

- Treatment of HTN in patients with diabetes should also address the risk of CVD. Treatment may include angiotensin-converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARBs), thiazidelike diuretics, dihydropyridine calcium channel blockers, or a combination.
- Multidrug regimens may be required for HTN management, but caution should be used with certain combinations.
- An ACE inhibitor or an ARB is the recommended first-line treatment for patients with diabetes and HTN.
- Resistant hypertension with type 2 diabetes (greater than or equal to 140/90 mm Hg despite other treatments) may also require mineralocorticoid receptor antagonist therapy.
- Serum creatinine level, estimated glomerular filtration rate (eGFR), and serum potassium level should be monitored within 7 to 14 days of initiation of therapy and at least once annually for patients being treated with an ACE inhibitor, ARB, or diuretic.
- For lipid management, lifestyle modifications should focus on weight loss and the inclusion of a Mediterranean or DASH diet. Encourage a reduction of saturated fat intake, an increase of viscous fiber, increased activity, and an intake of plant stanols or sterols.
- Monitor lipid levels in adults (less than age 40) not taking statins or other lipid-lowering therapy at initial diagnosis and at least every 5 years, or more frequently if indicated.
- Monitor lipid levels 4 to 12 weeks after the initiation of statin or lipid-lowering therapy.
- For patients ages 40 to 75 with diabetes but without CVD, moderate statin therapy is indicated along with lifestyle therapy.
- For patients ages 40 to 70 with diabetes and at high risk for CVD, high-intensity statin therapy is recommended.
- For secondary prevention in patients with diabetes and CVD, aspirin therapy (75 to 162 mg/day) is recommended.
- Dual antiplatelet therapy should be initiated for patients with diabetes according to the risk or presence of CVD, to prevent cardiovascular complications.
- Use caution with thiazolidinediones in patients with type 2 diabetes due to the increased risk of heart failure.
- For patients with type 2 diabetes and heart failure, an SGLT2 inhibitor is recommended.
- Consider screening adults with diabetes for asymptomatic heart failure by measuring B-type natriuretic peptide (BNP) or N-terminal pro-BNP (NT-proBNP).
- To guide CVD prevention and limb preservation, screening for peripheral arterial disease is recommended for asymptomatic adults with diabetes who are age 65 or older.

Chronic Kidney Disease (CKD) and Risk Management

- Optimize glucose control (A_{1C} level of 7% or less) and BP control to reduce the risk or slow the progression of CKD.
- At least annually, urine albumin and eGFR should be assessed in patients who have had type 1 diabetes for 5 years or more and in all patients with type 2 diabetes.
- Patients with established diabetic kidney disease should have their urine albumin and eGFR assessed one to four times a year.

- An SGLT2 inhibitor should be prescribed in the following situations:
    - For diabetic kidney disease, when the urine albumin level is greater than or equal to 200 mg/g and the eGFR is greater than or equal to 20 mL/minute/1.73m^2.
    - To reduce disease progression and for cardiovascular risk reduction in CKD, when the urine albumin level is normal to 200 mg/g and the eGFR is less than or equal to 20 mL/minute/1.73m^2.
    - A nonsteroidal mineralocorticoid receptor agonist, such as finerenone, is recommended for patients who cannot use an SGLT2 inhibitor.
    - A 30% or greater reduction in the urine albumin level is recommended to slow CKD progression.
- Renin-angiotensin system blockade should not be discontinued for minor creatinine level increases without volume depletion.
- For patients with stage 3 or higher kidney disease, protein intake should be a maximum of 0.8 g/kg body weight. Higher protein intake should be considered for patients on dialysis.
- For nonpregnant patients with diabetes and hypertension, these guidelines apply:
    - An ACE inhibitor or ARB is recommended for an elevated urine albumin level of 30 to 299 mg/g.
    - An ACE inhibitor or ARB is strongly recommended for an elevated urine albumin level greater than or equal to 300 mg/g, with or without an eGFR of less than 60 mL/minute/1.73 m^2.
    - Monitor the serum creatinine and serum potassium levels in patients taking ACE inhibitors or ARBs.
    - ACE inhibitors and ARBs are not recommended for patients with diabetes who have normal BP and kidney function.
- A nephrology referral should be given:
    - when a patient has an eGFR of less than 30 mL/minute/1.73 m^2, a continuously increasing urine albumin level, or both
    - when there is uncertainty about the etiology or management of the kidney disease.
    - for rapidly progressing kidney disease.

Retinopathy, Neuropathy, and Foot Care

- Perform eye examinations at routine intervals.
    - Type 1 diabetes: within 5 years of onset
    - Type 2 diabetes: at the time of diagnosis, every 1 to 2 years if no retinopathy is noted, and a minimum of once a year once retinopathy is identified.
- Optimize glycemic control, BP, and serum lipid levels (especially in patients with type 2 diabetes) to reduce the risk or slow the progression of diabetic retinopathy.
- All patients with diabetes should be screened for peripheral neuropathy at routine intervals and as needed.
- Patients with known sensory loss or prior ulcerations, amputation(s), or both should have their feet inspected at every visit. All other patients should be examined annually.

- Pharmacologic treatment for diabetic neuropathic pain includes gabapentinoids, serotonin-norepinephrine reuptake inhibitors, sodium channel blockers, and tricyclic antidepressants.
- Signs and symptoms of diabetic autonomic neuropathies should be discussed during a history and physical examination. Diabetic autonomic neuropathies may include:
    - resting tachycardia, orthostatic hypotension, or both
    - hypoglycemia unawareness
    - gastroparesis
    - constipation, fecal incontinence, or diarrhea
    - erectile dysfunction
    - neurogenic bladder
    - sudomotor dysfunction with an increase or decrease in sweating.

Older Adults

- Assess cognitive and psychological function, overall health, risk of complications, ability for self-care, and functional independence at the initial visit, annually, and as needed.
- Hypoglycemia should be avoided and should be managed by adjusting glycemic targets and pharmacologic interventions.
- Simplify treatment plans, as appropriate, to decrease the risk of hypoglycemia and polypharmacy.
- Consider the inclusion of agents that reduce cardiorenal risk for older adults who have type 2 diabetes and have or are at risk of atherosclerotic CVD, heart failure, CKD, or a combination of these.
- Adults with type 1 diabetes should have CGM to reduce the risk of hypoglycemia.
- Diabetes education should be considered for the staff of skilled nursing facilities and long-term care centers to improve the management and care of patients with diabetes.
- Protein intake and other nutritional benefits should be monitored, along with resistance training, weight-bearing exercise (or both) and other regular exercise for those who can engage safely in such activities.
- Patients with type 2 diabetes who are obese or overweight should be assessed for weight loss (such as 5% to 7%) to improve mobility, quality of life, and physical function. Older adults with diabetes are commonly overtreated with medication, and this should be avoided.
- All therapies may be relaxed for end-of-life care. Care should focus on comfort, palliation, and the preservation of dignity and quality of life.

Children and Adolescents

- Education and interventions should be age-appropriate and include individual nutrition therapy, encouragement of physical activity, and strategies to prevent hypoglycemia.
- Carbohydrate intake should be monitored to achieve optimal glycemic control.
- At the initial visit and at all follow-up visits, assess psychosocial status and evaluate stress regarding family and peers; also assess for disturbed eating behaviors.

- Consider screening for thyroid disease, celiac disease, and other autoimmune disorders at the initial visit and as needed.
- Measure BP at every visit and measure lipid levels soon after diabetes is diagnosed and at routine intervals. If abnormal, medical nutrition therapy is recommended.
- Encourage cessation of all tobacco products, e-cigarettes, and alcohol. Screening should be done at the initial diagnosis and routinely.
- Children and adolescents should be screened for microvascular complications at each visit. They should also be screened for nonalcoholic fatty liver disease, obstructive sleep apnea, PCOS (in adolescent girls), CVD, and dyslipidemia annually.
- Screen for prediabetes and type 2 diabetes in appropriate children and adolescents.
- Psychosocial care and behavioral health professionals should be included as part of the treatment team and in the care plan.

Management of Diabetes in Pregnancy

- Beginning at puberty, females with diabetes should be counseled about potential reproduction and preconception during routine diabetes visits and care. Family planning should be included along with contraception consideration.
- Maintain the A1c level at less than 6.5% (48 mmol/mol) before conception to reduce the risk of preeclampsia, congenital anomalies, macrosomia, and additional complications.
- Lifestyle modifications may be sufficient to manage GDM.
- Insulin is the preferred treatment for hyperglycemia in GDM. Insulin does not cross the placenta.
- MetFORMIN should be discontinued once a pregnancy is confirmed or, if being used to treat PCOS, it should be discontinued by the end of the first trimester.
- Low-dose aspirin (100 to 150 mg), started at 12 to 16 weeks gestation, is recommended to lower the risk of preeclampsia for pregnant individuals with type 1 or type 2 diabetes.

Diabetes Care in the Hospital

- For all patients with diabetes or for those with hyperglycemia (blood glucose level greater than 140 mg/dL) admitted to the hospital, perform an A_{1c} test if one has not been performed in the last 3 months.
- Validated or computerized protocols should guide insulin administration.
- Consultation with a diabetes educator or team should be considered for all patients with diabetes who are admitted to the hospital.
- For patients with persistent hyperglycemia at a blood glucose threshold greater than or equal to 180 mg/dl (10 mmol/L), checked two separate times, insulin therapy should be started. Once therapy is started, a glucose target range of 140 to 180 mg/dl (7.8 to 10 mmol/L) is recommended for critical patients or 100 to 180 mg/dL (5.6 to 10 mmol/L) for noncritical patients.
- The preferred treatment for hospitalized noncritically ill patients with poor oral intake or for those taking nothing by mouth (NPO) is basal insulin or basal insulin with bolus correction. For those with adequate oral intake, basal, prandial, and correction insulin is preferred.

- Sole use of sliding-scale insulin is not recommended in the hospital setting.
- The adoption and implementation of a hypoglycemia management protocol is recommended.
- If surgery is necessary, metFORMIN should be held and the blood glucose level monitored every 2 to 4 hours while the patient is NPO.
- For individuals using personal CGM devices, consider continuing CGM use in the hospital setting, as clinically appropriate, with confirmatory POC blood glucose measurements to guide insulin dosing.
    - Although the use of a personal continuous glucose monitor is not FDA approved for inpatient use, such use may be supported during hospitalization when self-management is feasible and supervision is available.
- Diabetes ketoacidosis (DKA) and hyperosmolar hyperglycemic syndrome (HHS)
    - Identify, treat, and correct any underlying causes.
    - The standard of care is continuous IV insulin.
    - Administer a transition dose of subcutaneous basal insulin at least 2 to 4 hours before discontinuation of the IV insulin infusion.
- Discharge
    - Coordinate the following:
        - Perform a medication reconciliation and review any new medications or prescriptions.
        - Review with the patient which practitioner will provide the follow-up visit and assess the patient's level of understanding regarding the diabetes diagnosis, blood glucose self-monitoring, blood glucose home goals, when to call the practitioner, medications and directions for administering them, and proper use and disposal of needles and syringes.
        - Patients should be provided with medication, supplies (such as test strips for blood glucose), medical equipment, and any related education at the time of discharge, as appropriate.
        - Schedule a follow-up appointment with a primary care provider, an endocrinologist, or a diabetes educator.
        - Provide referrals for ongoing outpatient education and follow-up.

Reference

American Diabetes Association Professional Practice Committee (2025). 2. Diagnosis and Classification of Diabetes: Standards of Care in Diabetes-2025. *Diabetes care*, *48*(1 Suppl 1), S27–S49. https://doi.org/10.2337/dc25-S002