Clinical Practice Guideline: **Diabetes/Glucose Screening Procedures**

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GUIDELINES

Practitioners, as appropriate to their education, training, experience, and scope of practice, can provide valuable screening for common risk factors and health conditions. The guidelines provided within this American Specialty Health – Specialty (ASH) Clinical Practice Guideline (CPG) focus on screening procedures for type 2 diabetes and prediabetes.

Among portal-of-entry practitioners, screening at risk and/or symptomatic patients for diabetes and/or glucose imbalances is considered best practices. Providing a direct intervention (e.g., lifestyle and/or dietary changes) for patients for whom the screening results indicated a need for intervention, will depend upon the practitioner's education, training, experience, and scope of practice. In the absence of such a direct intervention, providing a referral intervention (e.g., to the patient's medical practitioner) is considered necessary. The screenings described in this policy may be outside the education, training, experience or scope of some practitioner types. In the context of best practices for these practitioners, a level of awareness that risk factors and/or signs/symptoms of the above conditions are present is required and a subsequent referral for appropriate evaluation is necessary and within the purview of all.

The United States Preventive Services Task Force (USPSTF) makes recommendations about which preventive services should be incorporated routinely into health care and for which particular populations. The guidelines covered in this policy focus on "recommended" screenings by the USPSTF. These are services/screenings that have an A or B. More information can be found in the *Disease Screening Procedures Guidelines* (CPG 172 – S). A comprehensive review of the USPSTF rating process can be found in the *Preventive Care Guidelines* (CPG 140 – S) policy or at the USPSTF website: https://www.uspreventiveservicestaskforce.org/uspstf/grade-definitions.

USPSTF Recommendations (2021): Prediabetes and Type 2 Diabetes Screening

Grade B Recommendation: The USPSTF recommends screening for prediabetes and type 2 diabetes in adults aged 35 to 70 years who have overweight or obesity. Clinicians should offer or refer patients with prediabetes to effective preventive interventions.

Population: This recommendation applies to nonpregnant adults aged 35 to 70 years who are seen in primary care settings who have overweight or obesity (defined as a body mass index ≥ 25 and ≥ 30, respectively) and have no obvious symptoms of diabetes.

Clinicians should consider screening at an earlier age in persons with one or more of the following characteristics: a family history of diabetes, a history of gestational diabetes or polycystic ovarian syndrome, or are members of racial/ethnic groups with a disproportionately high prevalence of diabetes (American Indian/Alaska Native, Asian American, Black, Hispanic/Latino, or Native Hawaiian/Pacific Islander persons) and at a lower BMI (≥23) if the patient is Asian American.

DESCRIPTION/BACKGROUND

According to the Centers for Disease Control and Prevention (CDC), diabetes is the number one cause of kidney failure, lower-limb amputations, and adult-onset blindness. Diabetes is responsible for significant health care costs. After adjusting for population, sex and age differences, average medical expenditures among people diagnosed with diabetes were 2.3 times higher than those without the disease (CDC, 2023). Type 2 diabetes accounts for 90-95% of all diagnosed cases.

Type 2 diabetes has a very long preclinical phase, as many as 10-12 years, and may not produce any overt symptoms during that time. This may allow for the development of microvascular complications, which are more prevalent in people with diabetes and prediabetes. Prediabetes is a condition where the patient's serum glucose level is higher than normal but not high enough to be considered diabetes.

It is critical for both patients with suspected diabetes and prediabetes to be screened for diabetes. Those testing positive for diabetes or prediabetes can significantly impact their health by taking early action with appropriate lifestyle changes and medical interventions, as appropriate, to regulate serum glucose levels. Early treatment can prevent serious complications of diabetes including blindness or kidney damage.

The American Diabetes Association (ADA) 2025 also recommends that providers assess for social determinants of health during clinical encounters to inform treatment decisions

and refer patients to appropriate local community resources. Social determinants of health that have been linked to an increased risk of diabetes include the following:

- Socioeconomic Status: Lower levels of education, income, and occupation can limit access to resources that promote healthy living, such as nutritious food and healthcare.
- Neighborhood and Physical Environment: Living in areas with limited access to healthy food options, safe places for physical activity, and exposure to environmental toxins can increase the risk of diabetes.
- Food Environment: Food insecurity and limited access to affordable, healthy food contribute to poor dietary habits, which are risk factors for diabetes.
- Healthcare Access: Limited access to affordable and quality healthcare can delay the diagnosis and management of diabetes, leading to worse outcomes.
- Social Context: Lack of social support, social cohesion, and social capital can negatively impact health behaviors and stress management, increasing the risk of diabetes.

ASSESSING BLOOD GLUCOSE STATUS

Those with symptoms of diabetes (e.g., polyuria, polydipsia, and polyphagia) or signs/symptoms of possible complications of diabetes should be tested regardless of age or BMI. Indications of possible diabetes complications may include but are not limited to skin ulcers that do not heal or heal slowly; frequent infections; and vascular disease (including coronary artery disease, stroke, and peripheral artery disease).

For asymptomatic individuals, the USPSTF "recommends screening for prediabetes and type 2 diabetes in adults aged 35 to 70 years who have overweight or obesity. People younger than 35 should be screened if they have additional risk factors as identified in the box above.

The American Diabetes Association (ADA) (2025) has slightly different recommendations for consideration of screening criteria for diabetes or prediabetes in asymptomatic adults:

1. Testing for diabetes in asymptomatic adults of any age who have overweight or obesity (BMI >25 kg/m2 or >23 kg/m2 in Asian Americans) and who have one or more additional risk factors for diabetes.
    - First degree relative with diabetes
    - High-risk race/ethnicity (e.g., African American, Latino, Native American, Asian American)
    - History of cardiovascular disease
    - Hypertension (≥130/80 mmHg or on therapy for hypertension)
    - HDL cholesterol level <35 mg/dL (0.9 mmol/L) and/or a triglyceride level >250 mg/dL (2.8 mmol/L)
    - Individuals with polycystic ovary syndrome
    - Physical inactivity

- Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans, metabolic dysfunction–associated steatotic liver disease)

2. People with prediabetes (A1C ≥ 5.7% [≥ 39 mmol/mol], IGT, or IFG) should be tested yearly.
3. People who were diagnosed with gestational diabetes (GDM) should have lifelong testing at least every 1 to 3 years.
4. For all other people, testing should begin at age 35 years.
5. If results are normal, testing should be repeated at a minimum of 3-year intervals, with consideration of more frequent testing depending on initial results and risk status.
6. Individuals in other high-risk groups (e.g., people with HIV, exposure to high-risk medicines, history of pancreatitis, or evidence of periodontal disease) should also be closely monitored.

The ADA 2025 recommendations emphasize that testing for prediabetes and type 2 diabetes should be considered in children and adolescents after the onset of puberty or ≥ 10 years of age (whichever is first) who are overweight or obese (BMI >85th percentile for age and sex, weight for height >85th percentile, or weight >120% of ideal for height), and have one or more additional risk factors for diabetes such as

1. Maternal history of diabetes or gestational diabetes during the child's gestation;
2. Family history of type 2 diabetes in first- or second-degree relative;
3. Race/ethnicity (Native American, African American, Latino, Asian American, Pacific Islander); and/or
4. Signs of insulin resistance or conditions associated with insulin resistance (acanthosis nigricans, hypertension, dyslipidemia, polycystic ovary syndrome, or small-for-gestational-age birth weight).

Testing should be repeated at a minimum of every 3 years if tests are normal. If BMI increases, testing may be required more frequently.

The ADA acknowledges the limited data supporting A1C for diagnosing type 2 diabetes in children and adolescents. Although A1C is not recommended for diagnosis of diabetes in children with cystic fibrosis or symptoms suggestive of acute onset of type 1 diabetes and only A1C assays without interference are appropriate for children with hemoglobinopathies, the ADA continues to recommend A1C for diagnosis of type 2 diabetes in this cohort.

SCREENING TESTS

There are four tests commonly used to screen for diabetes. These screening tests and criteria for diagnoses (for nonpregnant individuals) are outlined below.

Screening Test	Prediabetes Diagnosis	Diabetes Diagnosis
Hemoglobin A1C (A1C)	5.7% – 6.4%	≥ 6.5%
Fasting Plasma Glucose (FPG)*	100 – 125 mg/dL	≥126 mg/dL
2-hour post-load Plasma Glucose (2-hr PG)	140 mg/dl – 199 mg/dL	≥ 200 mg/dL
Random plasma glucose	-	≥ 200 mg/dL

*Fasting is defined as no caloric intake for at least 8 hours.

Although there are advantages and disadvantages to each test, the American Diabetes Association recommends the A1C test to diagnose diabetes. The A1C has several advantages over the FPG and 2-hr PG, including greater practicality (fasting is not required); evidence to suggest better pre-analytical stability; and less day-to-day variance during periods of stress and illness. However, for conditions with abnormal red blood cell turnover (e.g., pregnancy, recent blood transfusion or loss, or certain types of anemia) the glucose-based tests (FPG or 2-hr PG) must be used to diagnose diabetes.

Diabetes is defined as an A1C ≥ 6.5%, or an FPG ≥126 mg/dL or a 2-hr PG ≥200 mg/dL. The ADA also considers a random (non-fasting) PG ≥200 mg/dL positive for patients with classic symptoms of hyperglycemia or hyperglycemic crisis. In the absence of unequivocal hyperglycemia, test results indicating diabetes should be confirmed by repeat testing.

LIFESTYLE INTERVENTIONS TO DECREASE RISK FACTORS

Clinicians should offer or refer patients with prediabetes to effective preventive interventions. Lifestyle intervention studies have shown consistent benefit of lifestyle modifications to prevent or delay progression to diabetes and longer-term follow-up has increased confidence that such interventions can improve clinical outcomes. This body of evidence led the USPSTF to conclude that there is moderate net benefit to measuring blood glucose in adults who are at increased risk for diabetes.

Decreasing risk factors for cardiovascular disease, in general, should be emphasized. This not only decreases risk for cardiovascular disease but also improves control of blood glucose levels. Intensive lifestyle modification programs addressing diet, physical activity and behavioral factors reduce the incidence of diabetes.

One example of a successful lifestyle intervention is the CDC-led National Diabetes Prevention Program, an evidence-based lifestyle change program for preventing type 2 diabetes. This program is modeled after the Diabetes Prevention Program research study

led by the National Institutes of Health (NIH) and supported by CDC. Their research demonstrated how modest behavior changes (e.g., increasing physical activity to ≥ 2 ½ hours each week and improving food choices) helped participants achieve a 5 - 7% loss in body weight. This translated into a 58% reduction in the risk of developing type 2 diabetes by people at high risk for diabetes in this study.

PRACTITIONER SCOPE AND TRAINING

Practitioners should practice only in the areas in which they are competent based on their education, training, and experience. Levels of education, experience, and proficiency may vary among individual practitioners. It is ethically and legally incumbent on a practitioner to determine where they have the knowledge and skills necessary to perform such services and whether the services are within their scope of practice.

It is *best practice* for the practitioner to appropriately render services to a patient only if they are trained, equally skilled, and adequately competent to deliver a service compared to others trained to perform the same procedure. If the service would be most competently delivered by another health care practitioner who has more skill and training, it would be best practice to refer the patient to the more expert practitioner.

Best practice can be defined as a clinical, scientific, or professional technique, method, or process that is typically evidence-based and consensus driven and is recognized by a majority of professionals in a particular field as more effective at delivering a particular outcome than any other practice (Joint Commission International Accreditation Standards for Hospitals, 2020).

Depending on the practitioner's scope of practice, training, and experience, a patient's condition and/or symptoms during examination or the course of treatment may indicate the need for referral to another practitioner or even emergency care. In such cases it is essential for the practitioner to refer the patient for appropriate co-management (e.g., to their primary care physician) or if immediate emergency care is warranted, to contact 911 as appropriate. See the *Managing Medical Emergencies (CPG 159 – S)* policy for more information.

PRACTITIONER RESOURCES

Publicly available resources can be found at:

- American Diabetes Association (ADA)
- Healthy People 2030
- National Diabetes Education Program (NDEP)
- USPSTF Screening Recommendations

MEMBER RESOURCES

Publicly available resources can be found at:

- American Diabetes Association (ADA)
- Centers for Disease Control & Prevention (CDC) – National Diabetes Prevention Program
- Healthfinder.gov
- Medicare.gov – Diabetes Screening, Supplies, & Self-Management Training
- National Diabetes Education Program (NDEP)

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