Diabetes

Reviewed and approved by Clinical Committee on July 18, 2018

Diabetes: Hemoglobin A1c Poor Control

Numerators:

Patients who have received a retinal or dilated eye exam during the measurement year or a negative retinal or dilated eye exam in the year prior to the measurement year; and
Patients with most recent HbA1c > 9.0% or no A1c drawn/result missing.
Lab test must have been done during the measurement period.

Denominator:

Age 18-75 with an active dx of type 1 or 2 diabetes and a visit during the measurement period.

Exclusions:

Patients with a diagnosis of polycystic ovary disease; gestational diabetes; or a diagnosis of secondary diabetes due to another condition.
Source: medical record review.

What is the problem and what is known about it so far?

According to the CDC publication "A Snapshot: Diabetes in the United States" more than 9.3% of the US population are estimated to have diagnosed or undiagnosed diabetes. An additional 37% of Americans aged 20 years or older have prediabetes, which can lead to type 2 diabetes, heart disease, and stroke. Diabetes was the seventh leading cause of death in the US in 2010.[i]

Who should be screened?.[ii]:

The American Diabetes Association 2018 Standards of Medical Care in Diabetes outlines the screening guidelines for adults and children as noted in tables below. Tables 1, 2, and 3 are from the 2018 ADA Standard of Medical Care in Diabetes Abridged for Primary Care Providers.

TABLE 2. Criteria for Testing for Diabetes or Prediabetes in Asymptomatic Adults

1. Testing should be considered in overweight or obese (BMI ≥25 kg/m^2 or ≥23 kg/m^2 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 CVD
   - Hypertension (≥140/90 mmHg or on therapy for hypertension)
   - HDL cholesterol level <35 mg/dL (0.90 mmol/L) and/or a triglyceride level >250 mg/dL (2.82 mmol/L)
   - Women with polycystic ovary syndrome
   - Physical inactivity
   - Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans)
2. Patients with prediabetes (A1C ≥5.7% [39 mmol/mol], IGT, or IFG) should be tested yearly.
3. Women who were diagnosed with GDM should have lifelong testing at least every 3 years.
4. For all other patients, testing should begin at age 45 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.

TABLE 1. 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, results should be confirmed by repeat testing. ‡Only diagnostic in a patient with classic symptoms of hyperglycemia or hyperglycemic crisis. RPG, random plasma glucose.*

TABLE 3. Risk-Based Screening for Type 2 Diabetes or Prediabetes in Asymptomatic Children and Adolescents in a Clinical Setting*

Criteria

- Overweight (BMI >85th percentile for age and sex, weight for height >85th percentile, or weight >120% of ideal for height) A

Plus one or more additional risk factors based on the strength of their association with diabetes as indicated by evidence grades:

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

**Persons aged <18 years.*

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Recommendations for Provider Teams:

- Screen patients for diabetes based on risk factors. Screening should begin at age 45 years. If tests are normal, repeat testing at a minimum of 3-year intervals.
- Provide or refer to Ongoing Self-Management Support or Prevent T2 CDC Program.
- Provide individualized medical nutrition therapy for people with a diagnosis of diabetes or pre-diabetes.
- Encourage regular physical activity for people with a goal of 150 minutes a week.
- Measure blood pressure at every visit. The ADA recommends a target blood pressure <140/90. The AACE recommends that blood pressure control be individualized, but that a target of <130/80 mm Hg is appropriate for most patients.
- Monitor A1c at least twice a year in patients meeting treatment goals or quarterly for patients not at goal or whose therapy has changed.
- Monitor lipids with LDL goal of <100 mg/dL if diabetes alone with no risk factors or < 70 mg/dL with diabetes and one other risk factor. (Note: There is controversy regarding treating to an LDL target in patients. Please refer to ADA Standards of Medical Care for further guidance.)
- Prescribe anti-platelet therapy as a secondary prevention strategy in those with diabetes and a history of ASCVD.
- Screen for hypoglycemia at every visit for patients taking insulin or other diabetes medications.
- Screen for tobacco use (annually).
- Perform foot exam (annually).
- Refer for dilated eye exam (annually, or every 2 years for patients without retinopathy and low risk).
- Screen for depression, anxiety, and disordered eating (annually).
- Administer flu vaccine (annually).
- Administer pneumonia vaccine (at time of diagnosis and/or at age 65).
- Refer to home health to determine eligibility for in-home education and monitoring if patient condition remains unstable and/or there are risk factors such as low health literacy, moderate to severe anxiety/ depression, lack of self-care ability and no willing or able caregiver in the home, or other factors inhibiting patient self-management.

Resources and Tools:

CDC Fact Sheets - https://www.cdc.gov/diabetes/library/factsheets.html

University of Vermont: Office of Primary Care and Area Health Education Centers (AHEC) Program. Vermont Academic Detailing Program (www.vtad.org)–Diabetes: http://www.med.uvm.edu/ahec/vermontacademicdetailing

Vermont Department of Health. Diabetes Prevention and Control: http://healthvermont.gov/prevent/diabetes/diabetes.aspx

American Diabetes Association. Standards of Medical Care in Diabetes-2018 together with the Abridged Standards for Primary Care Physicians: https://professional.diabetes.org/content-page/standards-medical-care-diabetes

Consensus Statement by the American Association of Clinical Endocrinologists and American College of Endocrinology on the Comprehensive Type 2 Diabetes Management Algorithm – 2018 Executive Summary. https://www.aace.com/sites/all/files/diabetes-algorithm-executive-summary.pdf

[i] National Diabetes Statistics Report https://www.cdc.gov/diabetes/data/statistics/statistics-report.html

[ii] Standards of Medical Care in Diabetes – 2018 Abridged for Primary Care Providers https://professional.diabetes.org/content-page/standards-medical-care-diabetes