

Quality Tip – ADA Guideline Updates – 2010

Diagnosis of Diabetes

- **Diagnostic Criteria for DM**
 - **A1c ≥ 6.5% (new)**
 - or
 - FPG ≥ 126 mg/dL – fasting for ≥ 8 hours
 - or
 - 75 gr, 2hr OGTT ≥ 200 mg/dL
 - or
 - Random Glucose ≥ 200 mg/dL + symptoms of hyperglycemia
 - **Repeat testing if uncertain.**
- **Important information:**
 - In 1997 diagnostic criteria for DM based on IFG and IGT were revised, so that IFG and IGT cutoff points reflected early stages of retinopathy.
 - A1c is included as diagnostic criteria this time, because it is felt that A1c assays are now highly standardized and can be uniformly applied.
 - A1c ≥ 6.5% is chosen because of its relation with early stages of retinopathy (just like with IFG and IGT).
 - Point-of-care A1c should not be used at this time for diagnostic purposes.
- **When should we screen for diabetes?:**
 - All patients ≥ 45 years of age.
 - All patients with BMI ≥ 25 kg/m² + any of the following:
 - Hypertension of ≥140/90 mmHg
 - HDL < 35 mg/dL, or Triglycerides > 250 mg/dL
 - Clinical insulin resistance (severe visceral obesity, acanthosis nigricans)
 - History of cardiovascular disease
 - Gestational DM, or delivered a baby > 9 lbs
 - African/Lationo/Native/Asian American or Pacific islander
 - First degree relative with diabetes
 - Physically inactive
 - If testing is normal, then repeat screening in 3 years.

Diagnosis of Pre-Diabetes

- **Categories of “Increased Risk for DM”:**
 - **Patients with A1c = 5.7 – 6.4% are considered at “Increased Risk for DM”(new)**
 - Fasting Glucose = 100-126 mg/dL
 - 2hr OGTT = 140-200 mg/dL
 - Important to note that all 3 tests represent a continuous risk of developing diabetes that extends even below the lower limits
 - **Patients with A1c = 6-6.5% are considered to be at “Very High Risk” for developing diabetes:**
 - 10 x more likely than those with A1c < 6.0%

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Antiplatelet Therapy

- **Primary prevention strategy**
 - Consider aspirin therapy (75–162 mg/day) in DMI or DM2 at increased cardiovascular risk (10-year risk >10%) i.e.
 - Men >50 years of age with at least one additional major risk factor (family history of CVD, hypertension, smoking, dyslipidemia, or albuminuria)
 - Women >60 years of age with at least one additional major risk factor (family history of CVD, hypertension, smoking, dyslipidemia, or albuminuria)
 - **There is not sufficient evidence to recommend aspirin for primary prevention in lower risk individuals**, such as men <50 years of age or women <60 years of age without other major risk factors .
 - Use aspirin therapy (75–162 mg/day) in those with diabetes with a history of CVD [secondary prevention].
 - For patients with CVD and documented aspirin allergy, clopidogrel (75 mg/day) should be used.
 - Combination therapy with ASA (75–162 mg/day) and clopidogrel (75 mg/day) is reasonable for up to a year after an acute coronary syndrome.

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Retinopathy Screening and Treatment

- **General recommendations**
 - To reduce the risk or slow the progression of retinopathy:
 - Optimize glycemic control
 - Optimize blood pressure control
 - **Initial dilated comprehensive eye examination by an ophthalmologist or optometrist**
 - **Type 1 diabetes** ~5 years after the onset of diabetes
 - **Type 2 diabetes** ~shortly after the diagnosis of diabetes
 - **Subsequent examinations**
 - Type 1 and type 2 diabetic patients should be repeated annually
 - Less-frequent exams (every 2–3 years) may be considered following one or more normal eye exams
 - Examinations will be required more frequently if retinopathy is progressing
 - **High-quality fundus photographs can detect most clinically significant diabetic retinopathy.**
 - Interpretation of the images should be performed by a trained eye care provider
 - **Retinal photography**
 - may serve as a screening tool for retinopathy
 - is not a substitute for a comprehensive eye exam
 - **Women with preexisting diabetes who are planning pregnancy or who have become pregnant** should have a comprehensive eye examination and be counseled on the risk of development and/or progression of diabetic retinopathy.
 - Eye examination should occur in the first trimester with close follow-up throughout pregnancy and for 1 year postpartum.
 - **The presence of retinopathy is not a contraindication to aspirin therapy for cardioprotection**, as this therapy does not increase the risk of retinal hemorrhage.

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Detection and Diagnosis of Gestational Diabetes

- Carry out diabetes risk assessment at the first prenatal visit.
- Women at very high risk should be screened for diabetes as soon as possible after the confirmation of pregnancy.
- Criteria for very **high risk** are:
 - Severe obesity
 - Prior history of GDM or delivery of large for gestational-age infant
 - Presence of glycosuria
 - Diagnosis of PCOS
 - Strong family history of type 2 diabetes
- Women with a history of GDM have a greatly increased subsequent risk for diabetes.
- ADA recommendations: Women with GDM should be screened for diabetes 6–12 weeks postpartum using non-pregnant OGTT criteria and follow up with subsequent screening for the development of diabetes or pre-Diabetes .

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Diabetes Care in the Hospital

- **All patients with diabetes admitted to the hospital should:**
 - Have their diabetes clearly identified in the medical record
 - Have an order for blood glucose monitoring, with results available to all members of the health care team
- **Critically ill patients**
 - Insulin therapy should be initiated for treatment of persistent hyperglycemia starting at ≤ 180 mg/dl.
 - Glucose range ~ 140 – 180 mg/dl is recommended for the majority of critically ill patients.
 - These patients require an intravenous insulin protocol that has demonstrated efficacy and safety without increasing risk for severe hypoglycemia.
- **Non-critically ill patients**
 - There is no clear evidence for specific blood glucose goals.
 - If treated with insulin
 - Premeal blood glucose target should generally be < 140 mg/dl and random blood glucose < 180 mg/dl provided these targets can be safely achieved.
 - More stringent targets may be appropriate in stable patients with previous tight glycemic control.
 - Less stringent targets may be appropriate in those with severe comorbidities.
 - Scheduled subcutaneous insulin with **basal/nutritional/correction components** is the preferred method for achieving and maintaining glucose control in non-critically ill patients.
 - Using correction dose or “supplemental” insulin to correct premeal hyperglycemia in addition to scheduled prandial and basal insulin is recommended.
 - Glucose monitoring should be initiated in any patient not known to be diabetic who receives therapy associated with high risk for hyperglycemia, including:
 - High-dose glucocorticoid therapy
 - Enteral or parenteral nutrition
 - Medications such as octreotide or immunosuppressive medications
 - A plan for treating hypoglycemia should be established for each patient.
 - Episodes of hypoglycemia in the hospital should be tracked
- **All patients with diabetes** admitted to the hospital should have an A1C obtained if the result of testing in the previous 2–3 months is not available.
- Patients with hyperglycemia in the hospital who do not have a diagnosis of diabetes should have appropriate plans for follow-up testing and care documented at discharge.

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Strategies for Improving Diabetes Care

- Core elements of Chronic Care Model (CCM) for the provision of optimal care of patients with chronic disease:
 - Delivery system design
 - Self-management support
 - Decision support
 - Clinical information systems
 - Community resources and policies.
- Successful implementation of the CCM includes strategies such as:
 - Redefinition of the roles of the clinic staff
 - Promoting self-management on the part of the patient
 - Collaborative, multidisciplinary teams are best suited to provide such care for people with chronic conditions
 - Reward for the attainment of quality measures developed by programs such as the ADA/National Committee for Quality Assurance Diabetes Provider Recognition Program
 - Adoption of practice guidelines. Guidelines should be readily accessible at the point of service.
 - Use of checklists.
 - Systems changes:
 - automated reminders
 - audit and feedback of process
 - outcome data to providers.
 - Combining continuous quality improvement or other cycles of analysis and intervention with provider performance data.
 - Practice changes:
 - point of care testing of A1C
 - scheduling planned diabetes visits
 - clustering of dedicated diabetes visits within a primary care practice schedule, or group visits and/or visits with multiple health care professionals on a single day.
 - Tracking systems with electronic medical record or patient registry
 - identifies those requiring assessments and/or treatment modifications.
 - could have greater efficacy if they suggested specific therapeutic interventions to be considered for a particular patient at a particular point in time.
 - Availability of case or (preferably) care management services: Nurses, pharmacists, and other nonphysician health care professionals using detailed algorithms working under the supervision of physicians have demonstrated the greatest reduction in A1C and blood pressure.

- Individual initiatives work best when provided as components of a multifactorial intervention.
- Optimal diabetes management requires an organized, systematic approach and involvement of a coordinated team of dedicated health care professionals working in an environment where quality care is a priority.

The above information is derived from the American Diabetes Association's Clinical Practice Guidelines for 2010: *Standards of Medical Care in Diabetes—2010*
http://care.diabetesjournals.org/content/33/Supplement_1.toc