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/Latino/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%
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.
• 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:
  
  o Severe obesity
  o Prior history of GDM or delivery of large for gestational-age infant
  o Presence of glycosuria
  o Diagnosis of PCOS
  o 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.
• Core elements of Chronic Care Model (CCM) for the provision of optimal care of patients with chronic disease:
  o Delivery system design
  o Self-management support
  o Decision support
  o Clinical information systems
  o Community resources and policies.
• Successful implementation of the CCM includes strategies such as:
  o Redefinition of the roles of the clinic staff
  o Promoting self-management on the part of the patient
  o Collaborative, multidisciplinary teams are best suited to provide such care for people with chronic conditions
  o Reward for the attainment of quality measures developed by programs such as the ADA/National Committee for Quality Assurance Diabetes Provider Recognition Program
  o Adoption of practice guidelines. Guidelines should be readily accessible at the point of service.
  o Use of checklists.
  o Systems changes:
    ▪ automated reminders
    ▪ audit and feedback of process
    ▪ outcome data to providers.
  o Combining continuous quality improvement or other cycles of analysis and intervention with provider performance data.
  o 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.
  o 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.
  o 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