



Michigan Quality Improvement Consortium Guideline

Management of Diabetes Mellitus

The following guideline applies to patients with type 1 and type 2 diabetes mellitus. It recommends specific interventions for periodic medical assessment, laboratory tests and education to guide effective patient self-management.

Eligible Population	Key Components	Recommendation and Level of Evidence	Frequency
Patients 18-75 years of age with type 1 or type 2 diabetes mellitus	Periodic assessment	<p>Assessment should include:</p> <ul style="list-style-type: none"> ♦ Height, weight, BMI, blood pressure [A] (adult target of 130-140/80-85mmHg) ♦ Assess cardiovascular risks (smoking, hypertension, dyslipidemia, sedentary lifestyle, obesity, stress, family history, age > 40) ♦ Comprehensive foot exam (visual, monofilament, and pulses) [B] ♦ Screen for depression [D] ♦ Dilated eye exam by ophthalmologist or optometrist [B], or digiscope [B] 	<ul style="list-style-type: none"> ♦ At least annually and more frequently as needed ♦ In the absence of retinopathy repeat in 2 years
	Laboratory tests	<p>Tests should include:</p> <ul style="list-style-type: none"> ♦ A1C [D] ♦ Urine microalbumin measurement [D] ♦ Serum creatinine and calculated GFR [D] ♦ Fasting Lipid Profile [D] ♦ Consider TSH and LFTs [D] 	A1C 2 - 4 times annually based on individual therapeutic goal; other tests at least annually
	Education, counseling and risk factor modification	<ul style="list-style-type: none"> ♦ Comprehensive diabetes self-management education (DSME) from a collaborative team or diabetic educator if available ♦ Education should be individualized, based on the National Standards for DSME¹ [B] and include: <ul style="list-style-type: none"> ♦ Importance of regular physical activity and a healthy diet [A], and working towards an appropriate BMI ♦ Assessment of patient knowledge, attitudes, self-management skills and health status; strategies for making health behavior changes and addressing psychosocial concerns [C] ♦ Description of diabetes disease process and treatment; safe and effective use of medications; prevention, detection and treatment of acute and chronic complications, including recognition of hypoglycemia ♦ Importance of nutrition management and regular physical activity [A] ♦ Role of self-monitoring of blood glucose in glycemic control [A] ♦ Cardiovascular risk reduction ♦ Smoking cessation intervention [B] and secondhand smoke avoidance [C] ♦ Self-care of feet [B]; preconception counseling [D]; encourage patients to receive dental care [D] 	At diagnosis and as needed
	Medical recommendations	<p>Care should focus on smoking, hypertension, lipids and glycemic control:</p> <ul style="list-style-type: none"> ♦ Medications for tobacco dependence unless contraindicated ♦ Treatment of hypertension using up to 3-4 anti-hypertensive medications to achieve adult target of 130-140 systolic and 80-85 diastolic [A] ♦ Prescription of ACE inhibitor or angiotensin receptor blocker in patients with hypertension or albuminuria [A]² ♦ Statin therapy for primary prevention against macrovascular complications in patients with diabetes who are ≥ age 40 or who have an LDL-C ≥100 mg/dl [A]³ ♦ Anti-platelet therapy [A]: low dose aspirin for adults with cardiovascular disease unless contraindicated. ♦ Individualize the A1C goal. Goal for most patients is 7-8%. Mortality increases when A1C is > 9% [B]. ♦ Assurance of appropriate immunization status (Td or Tdap, influenza, pneumococcal vaccine) [C] 	At each visit until therapeutic goals are achieved

¹ See http://care.diabetesjournals.org/content/vol31/Supplement_1/

² Consider referral of patients with serum creatinine value >2.0 mg/dl (adult value) or persistent albuminuria to nephrologist for evaluation.

³ Target LDL-C < 100 mg/dl **[B]**. For patients with overt CVD, a lower LDL-C goal of < 70 mg/dl is an option **[B]**.

Levels of evidence for the most significant recommendations: A = randomized controlled trials; B = controlled trials, no randomization; C = observational studies; D = opinion of expert panel

This guideline lists core management steps. It is based on several sources, including the 2010 American Diabetes Association Clinical Practice Recommendations (www.diabetes.org). Individual patient considerations and advances in medical science may supersede or modify these recommendations.

Approved by MQIC Medical Directors June 2008, June 2010, rev. October 2010