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	Assessment should include: • Height, weight, BMI, blood pressure **[A]** (adult target of < 130/80) • Assess cardiovascular risks (smoking, hypertension, dyslipidemia, sedentary lifestyle, obesity, stress, family history, age > 40) • Comprehensive foot exam (including monofilament testing annually) **[B]** • Screen for depression **[D]** • Dilated eye exam by ophthalmologist or optometrist **[B],** or digiscope **[B]**	• At least annually and more frequently as needed • In the absence of retinopathy repeat in 2 years
	Laboratory tests	Tests should include: • A1C **[D]** • Urine microalbumin measurement **[D]** • Serum creatinine and calculated GFR **[D]** • Fasting lipid profile	A1C 2-4 times annually based on individual therapeutic goal; other tests at least annually.

	Education, counseling and risk factor modification	• 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 DSME[1] **[B]** and include:
		  • 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
		  • 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	**Care should focus on smoking, hypertension, lipids, and glycemic control:** • Medications for tobacco dependence unless contraindicated • Treatment of hypertension using up to 3-4 anti-hypertensive medications to achieve adult target of < 130 systolic **[B]** and < 80 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 daily for primary prevention in adults at increased cardiovascular risk with type 1 **[C]** and type 2 **[A]** diabetes, unless contraindicated • Adjust the plan to eventually achieve normal or near-normal glycemia with an A1C goal for most patients of < 7%. Less stringent treatment goals may be appropriate for patients with a history of severe hypoglycemia, patients with limited life expectancies, very young children or older adults and individuals with comorbid conditions. More stringent treatment goals (i.e., a normal A1C < 6%) for individual patients and in pregnancy. **Note:** Insulin and sulfonureas sometimes result in weight gain. • Assurance of appropriate immunizations status (tetanus, diphtheria, pertussis, 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 nephrologists 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 2008 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 www.mqic.org