Pennsylvania Medical Society

DIABETES CARE RECOMMENDATIONS

PREAMBLE: This document is a summary of the recommendations for diabetes care. Although manifestations of diabetes can vary from patient to patient, it was prepared with the intent to primarily assist physicians in treating patients with type 2 diabetes. As this disease requires a multidisciplinary approach, and in order to satisfy these disciplines, a general approach was favored. This is a collaborative and dynamic document that is largely based upon the most recent American Diabetes Association (ADA) recommendations (www.diabetes.org). The information provided in this document is the result of meetings held through the Pennsylvania Medical Society's (the Society) Medical Directors' Forum (the Forum). The Forum is a coalition of Society physician leadership and medical directors from managed care organizations.

GOALS:

- Intensive control to achieve near-normal glycemia defined by a glycated hemoglobin (HbA1c) level < 7.0%[6]
- Achieve plasma glucose level 70 – 130 mg/dl before meals and < 180 mg/dl at least two hours after meals
- Prevent acute complications (i.e. ketoacidosis, hyperosmolar coma, hypoglycemia)
- Prevent major organ disease (i.e. retinopathy, nephropathy, vasculopathy, neuropathy)
- Lipids: LDL < 100 mg/dl, triglycerides < 150 mg/dl, and HDL > 40 for men mg/dl / > 50 for women mg/dl[7]
- Blood Pressure < 130/80 mmHg[5]
- Regular assessment/treatment of coronary heart disease risk factors
- Regular foot examinations including assessment for peripheral arterial disease and loss of protective sensation
- Annual dilated eye exam by eye care specialist
- Annual influenza immunization
- Pneumococcal immunization
- Consider aspirin use for all age 30 and older, unless contraindicated

SCREENING:

- Testing for diabetes should be performed in all individuals age 45 and above, and if normal, should be repeated at three-year intervals.
- Testing should be considered at a younger age or be carried out more frequently in overweight adults with a BMI ≥ 25 kg/m^2 and certain additional risk factors. Please link to http://care.diabetesjournals.org/content/vol32/Supplement_1/ for details for testing for diabetes in asymptomatic adults.
- Testing every three years should be considered in overweight children age 10 (or at onset of puberty, if it occurs at a younger age) with a BMI > 85th percentile for age and sex who have certain additional risk factors. Please link to http://care.diabetesjournals.org/content/vol32/Supplement_1/ for details for testing for type 2 Diabetes in children.

DIAGNOSIS:

- Fasting plasma glucose ≥ 126 mg/dl. Fasting is defined as no caloric intake for at least the past 8 hours; ***or***
- Symptoms of diabetes plus casual plasma glucose concentration ≥ 200 mg/dl. Casual is defined as any time of day without regard to time since last meal. The classic symptoms of diabetes include polyuria, polydipsia, and unexplained weight loss; ***or***
- 2-hour plasma glucose ≥ 200 mg/dl during an oral glucose tolerance test. The test should be performed as described by World Health Organization, using a glucose load containing the equivalent of 75-g anhydrous glucose dissolved in water.

In the absence of unequivocal hyperglycemia, the diagnostic criteria should be confirmed by repeat testing on a different day. The oral glucose tolerance test is not recommended for routine use. HbA1c is not used for diagnosis.

ASSESSMENT: Ask about symptoms of hypoglycemia, check for peripheral sensory loss, look for signs and symptoms of organ disease, acute complications, hypertension and depressed mood, and reinforce lifestyle interventions at every visit.

MANAGEMENT: Type 1 - Multiple (3-4) injections daily of basal and prandial insulin or continuous insulin via pump, synchronized with diet and physical activity. Please link to http://care.diabetesjournals.org/content/vol32/Supplement_1/ for details for dietary management, weight management and physical activity.

Type 2 - Begin metformin (unless contraindicated) and lifestyle changes at the time of diagnosis. Additional oral agents and/or insulin therapy may be needed later. Bariatric surgery should be considered for certain adults. Please link to http://care.diabetesjournals.org/content/vol32/Supplement_1/ for details on lifestyle interventions and metabolic management.

Specialist involvement is encouraged upon hospital admissions, evidence of major organ disease, persistent elevation of HbA1c, consideration and management of an external insulin pump, creatinine levels ≥ 1.5 mg/dl for women and ≥ 2.0 mg/dl for men, recurrent hypoglycemia, or foot examination when indicated.

DISCLAIMER: These recommendations are intended to assist the clinician in the diagnosis and treatment of diabetes, and not intended to replace medical judgment of the physician. This material was prepared by the Pennsylvania Medical Society and is distributed by Quality Insights of Pennsylvania, under contract with the Centers for Medicare and Medicaid Services (CMS). The views presented do not necessarily reflect those of CMS.

5/09

DIABETES MELLITUS FLOW SHEET

Pennsylvania Medical Society

NAME ______________________ SEX ☐ M ☐ F ID or SS#: ______________ DOB ______________

ALLERGIES____

Record date of visit at top of column and results of any ordered test in the appropriate box below. Place a check mark in appropriate space below date for each item reviewed.

ANNUAL VISIT INTERVENTION - DATE	/ /	/ /	/ /	/ /
Complete History & Physical Exam **Annual** (including ROS, risk factors, physical activity, diet history, and frequency of hypoglycemia) Initial visit and annual at discretion of clinician. Follow-up of referrals				
Foot Exam[1] **At Least Annually** Comprehensive exam: inspection, testing for loss of protective sensation (including monofilament) and assessment of foot pulses – all without shoes and socks				
Dilated Eye Exam[2] **Annual** TYPE 1: Annual beginning within 5 years after onset TYPE 2: At time of diagnosis and annual				
Microalbuminuria[3] **Annual** TYPE 1: Annual beginning 5 years from onset TYPE 2: At time of diagnosis and annual				
Immunizations Influenza vaccine **Annual**				
Pneumococcal vaccine **As Recommended** (By the Advisory Committee on Immunization Practices)				
Adherence to Aspects of Self-Care **Annual** • Nutrition Counseling[4]				
• Review of Self-Management Skills				
• Review of Physical Activity Plan				
• Review of Tobacco Use				
• Review of Alcohol Use				
• Preconception/Pregnancy				
• Psychosocial/Psychological Adjustment				
• Sexuality/Impotence				

EVERY VISIT INTERVENTION - DATE	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Weight **Every Visit**																
Blood Pressure (< 130/80 mmHg)[5] **Every Visit**																
Review of the Management Plan **Every Visit**																
Review Medications (including aspirin) **Every Visit**																
HbA1c (< 7.0%)[6] **Every 3 or 6 mos.**																
LDL (< 100 mg/dl)[7] **At Least Annually**																
Triglycerides (< 150 mg/dl) **At Least Annually**																
HDL (> 40 men / > 50 women mg/dl) **At Least Annually**																
TSH **At Least Annually**																
Serum Creatinine **At Least Annually**																

Comments

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[1] Patients with neuropathy or other high-risk conditions should have examination of their feet at every diabetic follow-up visit (www.bphc.hrsa.gov/leap).
[2] If retinopathy is progressing, do exams more frequently.
[3] Measurement of the albumin-to-creatinine ratio in a random spot urine collection (preferred method). In the treatment of micro and macro albuminuria either **ACE inhibitors** or **ARBs** should be used unless contraindicated.
[4] Daily dietary protein intake restricted to 0.8 -1.0 g/kg in patients with earlier stages of chronic kidney disease (CKD); and 0.8 g/kg in patients with later stages of CKD.
[5] If the patient has co-existing hypertension, it is recommended they be treated with either **ACE inhibitors** or **ARBs** unless contraindicated.
[6] Patients who are meeting treatment goals and who have stable glycemic control should be tested every 6 mos. Patients whose therapy has changed or who are not meeting glycemic goals or have unstable glycemic control should be tested every 3 mos. The A1C goal for the individual patient is as close to normal as possible without significant hypoglycemia.
[7] Diabetics not achieving target LDL should receive statin treatment unless contraindicated. If known CAD, goal of < 70 mg/dl is an option.