

Guidelines for Management of the Elderly with Diabetes in Long-Term Care Facilities



Introduction

High Risk for Diabetes-related Complications

The elderly in long-term care facilities such as nursing homes or assisted living centers are at high risk for developing diabetes-related complications such as infections, non-healing wounds, amputations, myocardial infarction, strokes, and particularly, electrolyte depletion and dehydration that lead to high hospitalization rates in this population.

The elderly are often unable to detect and report problems due to age-related factors such as decreased cognition, sensation, mobility, communication, thirst response, that are typically associated with aging. Diabetes-related complications appear differently in the elderly, especially the frail. Often symptoms such as urinary frequency, nocturia or incontinence, volume depletion or dehydration, excessive skin alterations (ulcers), infections, or delayed wound healing, dental caries, periodontal disease, burning mouth, foot ulcers or deformities, and increased pain perception, rapid weight alteration, urinary frequency are symptoms that can be attributed to the aging process or noted as insignificant are often not associated with symptoms of complications secondary to diabetes.

GUIDELINES FOR DIABETES MANAGEMENT		INDIVIDUALIZE CARE ACCORDING TO: PREFERENCES, FUNCTIONAL AND MEDICAL STATUS, AND PROGNOSIS OF PATIENT
	Adapted from American Medical Directors Association (2002), British Diabetic Association Report (1999) & Pandya, AMDA Clinical Practice Guidelines Steering Committee	
Evaluation Diabetes-Related of Complications	Glycemic Control	Pre-prandial and post-prandial glucose levels, A1c
	Assess Cardiovascular Disease Risk Factors or Conditions	Assess and treat atherosclerotic heart & cerebrovascular disease and/or cardiovascular complications Order electrocardiogram, echocardiogram, chest X-ray, arterial doppler studies of the legs, cognitive testing, computed tomography (CT), and brain magnetic resonance imaging (MRI) Consider prescribing: enteric-coated aspirin, clopidogrel or aspirin/extended release dipyridamole, beta-blockers

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	Assess Peripheral or Autonomic Neuropathy	Foot deformity, gait impairment
	Psychological Assessment	Unrecognized depression, cognitive impairment
	Determine Severity of Complications	CBC, basic serum chemistry, renal and hepatic function, careful review of facility glucose logs (Not necessary to do A1c for treatment regimen change)
	Obtain History	Recent hospital records, community physicians & family members
Health Care Provider	Guidelines to notify health care provider should be established within institution and for patient	<p>Glucose <60mg/dl or <75mg/dl with symptomatology of hypoglycemia (See “Hypoglycemia” in Diabetes Tool Kit)</p> <p>Marked changes in glucose: If >250mg/dl along with change in status, condition</p> <p>Glucose >300mg/dl for 3 consecutive days (Unless represents improvement to status or orders note method of management)</p> <p>Difficulty with oral intake for > 2 days or more accompanied with fever, lethargy, abdominal pain, hypotension, respiratory distress, etc.</p>

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	<p>See Algorithms:</p> <p>Glycemic Control for Type 2 Diabetes in Children & Adults</p> <p>Insulin for Type 1 Diabetes in Children and Adults</p> <p>Insulin for Type 2 Diabetes in Children and Adults</p> <p>Initiation of Insulin Therapy for Type 2 Diabetes in Children and Adults: A Simplified Approach</p> <p>IV Insulin Infusion Protocol for Critically Ill Adult Patients in the ICU Setting</p> <p>ICU Insulin Orders</p> <p>Insulin Pump Therapy</p>	<p>Anti-Diabetes Agents</p> <p>Metformin: Consider if obese, not recommended over age 80, use only with normal liver, renal function, do not use with CHF, acute illness</p> <p>Secretagogues, Sulfonylureas: Consider for non-obese or mildly obese Consider for insulin resistance, obese patient</p> <p>Thiazolidinediones: Not used with Class III, IV CHF Normal liver function</p> <p>Alpha-Glucosidase Inhibitors: For patients near A1c goal (milder diabetes) and/or post-prandial hyperglycemia</p> <p>Incretins: No information at this time for use in the elderly population</p>

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<p>Prevention & Treatment of Complications</p>	<p>Hypoglycemia (See “Hypoglycemia,” Section, 8.1, in Diabetes Tool Kit, TDC)</p> <p>Elderly (particularly frail) may exhibit atypical symptoms of hypoglycemia such as: disorientation, incoordination, altered personality, falls for unknown cause.</p> <p>Morbidity is heightened with nocturnal hypoglycemia, cognitive and communication problems, chronic cardiac and liver disease, and adrenal or pituitary insufficiency.</p>	<p>Treat with carbohydrate in the form of glucose, sucrose tablet or juice combined with light snack containing protein: Oral glucose paste, intramuscular glucagon, intravenous 50% dextrose</p> <p>Consider and assess for risks of hypoglycemia</p> <p>High doses, rapid acting insulin (with delayed meal consumption)</p> <p>Inconsistent calorie intake, hypoglycemia unawareness</p> <p>Insulin & Hypoglycemia:</p> <p>To decrease risk of hypoglycemia:</p> <p>Avoid prolonged use of “sliding-scale insulin” (graded increases in short- or rapid-acting insulin for every 50 to 100 mg/dl rise in blood glucose, usually administered before meals and at bedtime); increases morbidity, nursing time, not shown to improve metabolic control</p> <p>Sliding scale should be reserved for short-term glucose control post illness or surgery</p> <p>Fixed daily doses of insulin are recommended once daily insulin requirements are noted</p> <p>Endocrinologist consultant recommended for labile diabetes or for those on insulin pump</p>

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	<p>Foot Care</p> <p>See Foot Care Materials:</p> <p>Foot Screening Mapping Examples</p> <p>Diabetic Foot Screen</p> <p>Diabetic Foot Exam</p> <p>Diabetic Foot Care/Referral</p> <p>High Risk Scenario & Ulcer Management</p> <p>Recommendations for Treatment of Painful Peripheral Diabetic Neuropathy</p>	<p>Assess skin and soft-tissue for alterations, sensation, color, temperature, circulation, presence of neuropathy, foot deformity, gait</p> <p>Order protective footwear with accommodating insoles</p> <p>Assure that feet are examined during all scheduled visits</p> <p>Teach preventive foot care to patients, families, nursing assistants</p> <p>If foot at risk: Order Routine Podiatric care; daily foot care by patient and caregivers</p> <p>With mild infection or ulcer consider local dressings; baseline X-ray for bone integrity or osteomyelitis; podiatry or wound care referral as needed (so that wounds are treated, reassessed, and debrided on site if at all possible).</p> <p>Limb-threatening ulcer or infection: consider hospitalization; referral to podiatry or vascular surgery</p>

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<p>Eye Disease (See Chronic complications sections in Diabetes Tool Kit, TDC, Section, 9.1)</p> <p>Oral care See Diabetes and Gum Disease, H9.13</p> <p>Hypertension See Algorithm: Hypertension for Diabetes in Adults</p> <p>Diabetic nephropathy</p> <p>Dyslipidemia See Algorithm: Lipid Treatment for Type 1 and Type 2 Diabetes in Adults</p> <p>Macrovascular Risk Reduction in Diabetes: Antiplatelet Therapy</p>	<p>Assessment of pain, infections, visual disturbance</p> <p>Annual dilated eye examination if appropriate</p> <p>Diabetes, hypertension, and proteinuria control prevention</p> <p>Evaluate oral cavity for pain, signs of infection, eating, swallowing disorders.</p> <p>Consider dietitian consult, prophylactic antibiotics, and/or dental services</p> <p>Consider angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs)</p> <p>Consider dietitian & nephrologist consultation</p> <p>Consider protein-restricted diet</p> <p>Utilize multiple methods to control of blood glucose and hypertension: angiotensin-converting enzyme inhibitors, angiotensin receptor blockers</p> <p>Consider dietitian consult</p> <p>Important to maintain control of lipids, blood pressure, blood glucose</p> <p>Utilized lipid-lowering medication as applicable and appropriate</p> <p>Note: Dietary restriction is not recommended in frail elderly patients</p>	
Immunization	Consider influenza & pneumococcal vaccine	
An Interdisciplinary Approach	<p>Health Care Provider Assessment and Team Intervention to evaluate functional and medical status, and rehabilitation needs</p> <p>Team members needed include: consultations from dietitian, pharmacist, physical therapist, activity therapist, podiatrist, mental health professional as needed</p>	

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<p>Medical Nutrition Therapy</p>	<p>Dietitian Consult & Assessment Warranted</p> <p>No “ADA” diet recommended; Assess for common problems such as, chewing difficulty, decreased appetite, undernourished, anorexia, depression, dependency, chewing difficulty, and chronic gastrointestinal complaints.</p> <p>See Algorithm: Nutrition Recommendations and Interventions for Diabetes</p> <p>Diabetes Medical Nutrition Therapy & Prevention</p>	<p>“No concentrated sweets”: or “no added sugar” diets are inappropriate and do not contribute to good outcomes (<i>J Am Dietetic Assoc</i> 2001;101:1463-1466) and affect quality of life.</p> <p>Avoid calorie restricted diets particularly in those with major infections, major surgical procedures with multiple complications incurred</p> <p>Avoid fat and sugar-free restriction, except for obese and/or dyslipidemic residents: decreases palatability of food</p> <p>Meals should be prepared considering cultural, religious themes (Consider eating habits, food preferences, and food brought in by family members)</p> <p>Balanced meals and snacks with consistent carbohydrate content should be consumed at consistent times of the day</p> <p>Lean meats, nuts, eggs, fish, (6–8 servings/oz., 1 oz. Meat, fish, poultry, cheese</p> <p>Low & Non Fat Milk , Yogurt (2–3 servings, 1 cup milk, yogurt</p> <p>Dark, bright colored vegetables (6 servings ½ cooked, 1 cup raw)</p> <p>Dark Colored Fresh fruit (2 servings- small, size of tennis ball)</p> <p>Whole enriched fortified grains, beans and strachy vegetables (5–6 servings)</p> <p>Exercise regimens should be individualized with attention to diabetes related complications, preventing worsening of glycemic status, hypoglycemia and adjusting oral medication and/or insulin therapy according to optimize glucose and prevent hypoglycemia</p> <p>Special formulas are expensive, often unnecessary; the health care provider should pay close attention to glucose logs while making periodic pharmacological regimen adjustments</p>

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Personal Care	Personal hygiene, skin, oral & foot care 20-40% Have neuropathy, peripheral vascular disease, or both	Caregivers are needed for basic daily, mobility, toileting care to prevent ulcers or infected feet
	References	<p>American Medical Directors Association. (2002). Managing diabetes in the long-term care setting, Columbia (MD): American Medical Directors Association (AMDA);</p> <p>Pandya, N. (2003) Long-term care guidelines for diabetes management, Clinical Practice Guidelines Steering Committee, Albuquerque, NM, AMDA, Caring for the Ages, 4(2).</p> <p>British Diabetic Association Report. (1999). Guidelines of practice for residents with diabetes in care homes, A report prepared by a Working Party of the British Diabetic Association on behalf of the Diabetes Care Advisory Committee.</p>

Key Points About Diabetes in LTC

- ◆ Diabetes management must be individualized: patients’ preferences, medical and functional status, and prognosis should be taken into consideration.
- ◆ Strict dietary restrictions should be replaced with a diet plan that incorporates eating habits and food preferences.
- ◆ Weight loss and increased activity may not be possible for many patients, and attempts to implement this may delay proper treatment.
- ◆ The physician is responsible for controlling blood glucose with pharmacological means if possible, to match food consumption.
- ◆ A thorough clinical evaluation of the patient is essential to determine the burden of diabetes and to formulate a treatment plan.
- ◆ An interdisciplinary effort is required to manage this complex disease.
- ◆ Daily attention to oral care and skin care may prevent complications overall. Specifically nutritional problems, pressure sores, foot ulcerations, and deep infections may be eliminated.
- ◆ Patient-specific treatment goals and reasons for not following recommended treatments should be documented in the medical record.
- ◆ Glycemic goals should be liberalized for the patient at risk of frequent hypoglycemia and for the patient who is at the end of life.