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# Hypoglycemia Risk Management in Diabetes

## Diabetes Management Considerations for Older Adults

**Diabetes is a highly prevalent health condition in the aging population. According to the American Diabetes Association (ADA)**, over 29% of people over the age of 65 years have diabetes. The number of older adults living with diabetes is expected to increase rapidly in the coming decades as the population ages and the effects of increasing obesity rates manifest in this population.

Diabetes management in older adults requires consideration and regular assessment of medical, psychological, functional, and social domains. When assessing older adults with diabetes, it is important to accurately categorize the type of diabetes, diabetes duration, the presence of complications and comorbidities, the individual's capacity for self-management and availability of support systems, treatment burden, and treatment-related concerns, such as fear of **hypoglycemia, polypharmacy**, and financial barriers.

The 4Ms framework provides a helpful conceptual model to address person-specific issues that may affect diabetes management in older individuals and offers a framework to establish individualized treatment goals and approaches.

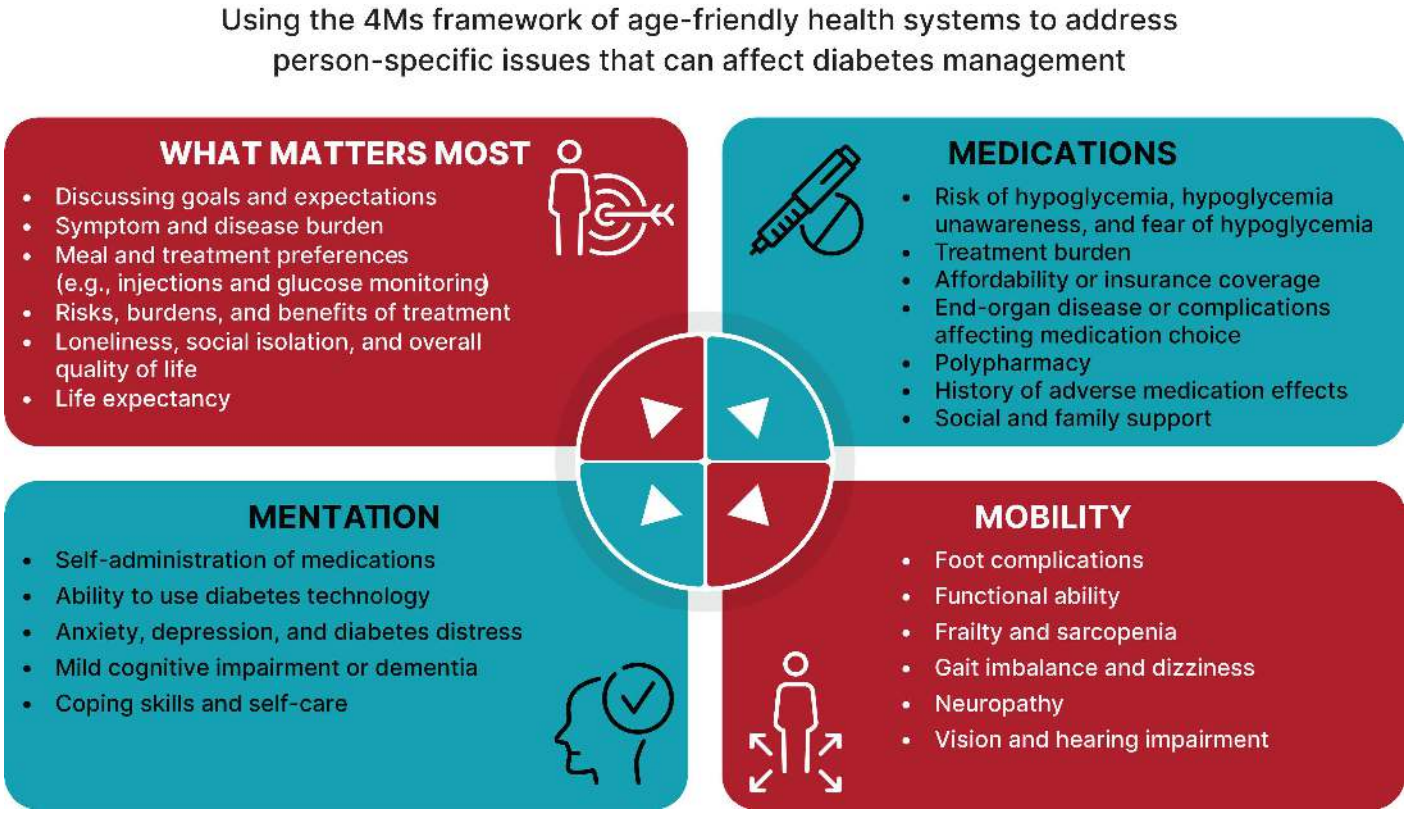


*Figure 13.1 ADA Standards of Care in Diabetes: Older Adults – 2026*

# Determining Glycemic Goals for Older Adults

For 2026, the American Diabetes Association (ADA) emphasizes **individualizing glycemic targets** and increasing the use of technology to mitigate hypoglycemia risk in older adults. Providers should prioritize simplifying regimens and avoiding overtreatment for those with complex health needs to reduce symptomatic hyperglycemia and hypoglycemia.

This article will review the ADA's latest recommendations and definitions concerning treatment goals and focus on managing hypoglycemia risk in community settings.

| Patient Characteristics/ Health Status | Rationale | Reasonable A1C goal‡ |
|---|---|---|
| Healthy (few coexisting chronic illnesses, intact cognitive and functional status). | Longer remaining life expectancy. | <7.0–7.5% (53–58 mmol/mol) |
| Complex/intermediate (multiple coexisting chronic illnesses* or two or more instrumental ADL impairments or mild-to-moderate cognitive impairment). | Variable remaining life expectancy, high treatment burden, hypoglycemia vulnerability, individual preference. | <8.0% (64 mmol/mol) |
| Very complex/poor health (LTC or end-stage chronic illnesses** or moderate-to-severe cognitive impairment or two or more ADL impairments). | Limited remaining life expectancy makes benefit minimal. | Avoid reliance on A1C; glucose control decisions should be based on avoiding hypoglycemia and symptomatic hyperglycemia. |

*Table 13.2 Framework for considering treatment goals for glycemia in older adults with diabetes*

The above table adapted from the ADA guidelines provides a decision-making framework for determining diabetes treatment goals in older adults, based on their health and functional status.

**Simplification of glucose-lowering regimens** can be achieved by either lowering the dose or discontinuing some medications, while monitoring glycemic response.

Re-evaluating glycemic goals through shared decision-making; de-intensifying, simplifying, or modifying treatments; and reassessing treatment burden has demonstrated to be safe and beneficial approaches in older adults. As patients' disease burden progresses, the benefit of strict glycemic control diminishes.

The clinical pharmacist involved in care is an excellent resource to consult in the simplification of diabetes regimens and utilization of safer therapeutic options.

# Hypoglycemia Risk Assessment

Older adults in community care and PALTC settings are especially vulnerable to hypoglycemia. They have a disproportionately high number of health conditions that can increase hypoglycemia risk: impaired cognitive and renal function, slowed hormonal regulation and counter-regulation, suboptimal hydration, variable appetite and nutritional intake, requirement for feeding assistance, polypharmacy, and slowed intestinal absorption.

Intensive glycemic management in older adults, particularly those with complex health status, with medication plans that increase the risk of hypoglycemia through use of insulin and/or sulfonylureas, is considered overtreatment and may increase the risk of mortality.

| Clinical and biological risk factors | |
|---|---|
| **Other risk factors** | **Major risk factors** |
| ■ Multiple recent episodes of level 1 hypoglycemia<br>■ Basal insulin therapy<br>■ Age ≥75 years<br>■ Female sex<br>■ High glycemic variability<br>■ Polypharmacy<br>■ Cardiovascular disease<br>■ Chronic kidney disease (eGFR <60 mL/min/1.73 m2 or albuminuria)<br>■ Neuropathy<br>■ Retinopathy<br>■ Major depressive disorder<br>■ Severe mental illness<br>■ Gastroparesis<br>■ β-Blocker therapy<br>■ Alcohol or substance use disorder | ■ Recent (within the past 3–6 months) level 2 or 3 hypoglycemia<br>■ Intensive insulin therapy<br>■ Impaired hypoglycemia awareness<br>■ Kidney failure<br>■ Cognitive impairment or dementia<br>■ History of metabolic surgery |

*Table 6.5 Assessment of hypoglycemia risk*

**Rates of hypoglycemia are highest for individuals treated with intensive insulin therapy** (including multiple daily injections of insulin, continuous subcutaneous insulin infusion, or automated insulin delivery systems), followed by basal insulin, then sulfonylureas or meglitinides. Combining treatment with insulin and sulfonylureas further increases hypoglycemia risk.

# Hypoglycemia Classification & Monitoring

In older adults, hypoglycemia symptoms are often "masked" or difficult to recognize due to age-related physiological changes, cognitive impairment, and medication effects. The ADA's classification for hypoglycemic events with common symptoms provided below:

| Glycemic Criteria/Description | |
|---|---|
| Level 1 | Glucose <70 mg/dL (<3.9 mmol/L) and ≥54 mg/dL (≥3.0 mmol/L)<br>■ Shakiness, irritability, fatigue, headache, heart palpitations, sweating, and hunger |
| Level 2 | Glucose <54 mg/dL (<3.0 mmol/L)<br>■ This is the threshold where neuroglycopenic symptoms (such as confusion or dizziness) typically begin. It requires immediate action to correct low blood glucose |
| Level 3 | A severe event characterized by altered mental and/or physical status requiring assistance for treatment of hypoglycemia, irrespective of glucose level. |

*Table 6.4 Classification of hypoglycemia*

**Hypoglycemia has a broad range of negative health consequences.** Level 3 hypoglycemia may be recognized or unrecognized and can progress to loss of consciousness, seizure, coma, or death.

Level 2 or 3 hypoglycemic events should trigger a re-evaluation of the individual's diabetes treatment plan, with consideration of deintensification of therapy within individualized glycemic goals.

The ADA in recent years has added several recommendations for leveraging diabetes care technology, specifically continuous glucose monitors (CGM) and insulin delivery devices to improve glycemic control and reduce hypoglycemia events, even in older adults.

CGMs are currently recommended for older adults with type 1 diabetes and type 2 diabetes on insulin therapy to improve glycemic outcomes, reduce hypoglycemia, and reduce treatment burden.

# Sample Hypoglycemia Management Protocol for Long-Term Care or Assisted Living

## RECOGNITION AND ASSESSMENT

Hypoyglycemia- symptomatic or asymptomatic

blood glucose < 70 mg/dl

Signs / Symptoms of Hypoglycemia

| Autonomic Symptoms | Neuroglycopenic Symptoms |
|---|---|
| ■ Tremor<br>■ Palpitations<br>■ Anxiety / Agitation<br>■ Sweating<br>■ Hunger<br>■ Numbness / Tingling<br>■ Facial Pallor | ■ Dizziness<br>■ Weakness<br>■ Drowsiness<br>■ Confusion<br>■ Altered Mental Status<br>■ Severe: Seizure / Non-Responsive |

If Hypoglycemia is Suspected:

1. Do a STAT finger stick blood glucose level
2. Assess mental status (alert, drowsy, uncooperative, unconscious)

## TREATMENT AND INTERVENTIONS

1. If resident is on an insulin pump, suspend the insulin pump until the blood glucose (BG) is >100 mg/dL. After suspending insulin pump, treat hypoglycemia (see table). Check BG every 15 minutes. (BG lowering will be dependent on individual responsivity)
2. If resident is not using an insulin pump, treat hypoglycemia (see table)
3. Once acute hypoglycemia has resolved, notify the provider responsible for glucose management immediately and document in resident's medical record

Blood glucose (BG) <70 mg/dL and patient is conscious and able to take nutrition orally

| Immediate Action/Treatment | Repeat | Follow-up Treatment |
|---|---|---|
| Give 15 grams of carbohydrates:<br>■ ½ cup fruit juice or regular soda<br>■ 1 TBSP honey, sugar, syrup, or jelly<br>■ 3 glucose tablets<br>■ 1 tube dextrose gel<br>■ 1 packet glucose powder<br>■ 4-5 saltine crackers<br><br>*Staff to remain with resident at all times | Repeat BG and re-treat every 15 minutes until BG >70 mg/dL without symptoms. | If more than 1 hour until next meal/snack, give 15 grams of carbohydrates with ~5 grams protein:<br><br>e.g., ½ sandwich with 1 TBSP peanut/nut butter*, 3 graham crackers with 1 TBSP peanut/nut butter * |

Blood glucose (BG) <70 mg/dL and resident is UNABLE OR UNWILLING to consume nutrition orally

| Immediate Action/Treatment | Repeat | Follow-up Treatment |
|---|---|---|
| Give glucagon<br>■ 1 mg subcutaneously<br>■ 3 mg intranasally<br>■ 1 mg intramuscularly<br><br>Turn resident on their side to prevent aspiration.<br><br>*Staff to remain with resident at all times. | In 15 minutes, if the resident is able and willing to consume nutrition, repeat finger stick BG, and re-treat every 15 minutes until BG >70 mg/dL without symptoms.<br><br>If the resident is not able or willing to consume nutrition within 15 minutes, give another dose of glucagon, and call for emergency help, ie. 911. | If more than 1 hour until next meal/snack, give 15 grams of carbohydrates with ~5 grams protein:<br><br>e.g., ½ sandwich with 1 TBSP peanut/nut butter*, 3 graham crackers with 1 TBSP peanut/nut butter *. |

Nutrition: Carbohydrate and protein sources are examples and not meant to be all inclusive.

*If nut allergy is present, an alternative source of nutrition could be cheese and deli meat.

^Use ready to use glucagon. If not available, use glucagon that requires reconstitution.

## CLINICAL FOLLOW-UP AND MONITORING

Discuss with provider and interdisciplinary care team the following:

- Resident's A1C goal. In long-term care, goals are often not necessary but instead limiting hypoglycemia and hyperglycemia (BG >250 mg/dL) should be priority.
- Frequency of hypoglycemia episodes.
- Potential causes of hypoglycemia (e.g., decreased oral nutrition intake, medication error, activity level)
- Medication list for medications that could be contributing to hypoglycemia. The most common antidiabetic agents are insulin (all types) and sulfonylureas (glipizide, glyburide, glimepiride).
- Medication adjustments, implementation, and monitoring.
- Need for an order for glucagon for the management of severe hypoglycemic events.
- In states where emergency kits are permitted, review the availability and expiration auditing procures of glucagon for emergency use.

*adapted with permission from the American Society of Consultant Pharmacists (ASCP)

# References:

1. Older Adults (Section 13): American Diabetes Association Professional Practice Committee. 13. Older Adults: Standards of Care in Diabetes—2026. Diabetes Care 2026;49(Supplement_1):S259–S279. DOI: 10.2337/dc26-S013.
2. Glycemic Goals (Section 6): American Diabetes Association Professional Practice Committee. 6. Glycemic Goals, Hypoglycemia, and Hyperglycemic Crises: Standards of Care in Diabetes—2026. Diabetes Care 2026;49(Supplement_1):S124–S149. DOI: 10.2337/dc26-S006.