

# Screening and Management of Hyperglycemia in the Geriatric Population



Geriatric is defined as age 65+ years<sup>1</sup>

**Screening Recommendations for IFG, IGT & DM**

**FPG Annually<sup>2</sup>:**

if above 100 mg/dL confirm with repeat fasting glucose. Avoid OGTT if possible<sup>2</sup>

if below 100 and high risk based on multiple risk factors and/or metabolic syndrome consider checking postload glucose<sup>2</sup>

**Diabetes Management**

**Goals of Therapy:** consider comorbidities before setting targets<sup>1</sup>:

**A1c** < 7% if attainable without significant hypoglycemia<sup>3</sup>

**BP** <130/80 mmHg

**LDL** <100 mg/dL (<70 if clinical vascular disease present)

**Aspirin therapy** (if no contraindications-older adults are more susceptible for GI bleeds)

**Smoking cessation**

**Cardiovascular Risk Reduction**

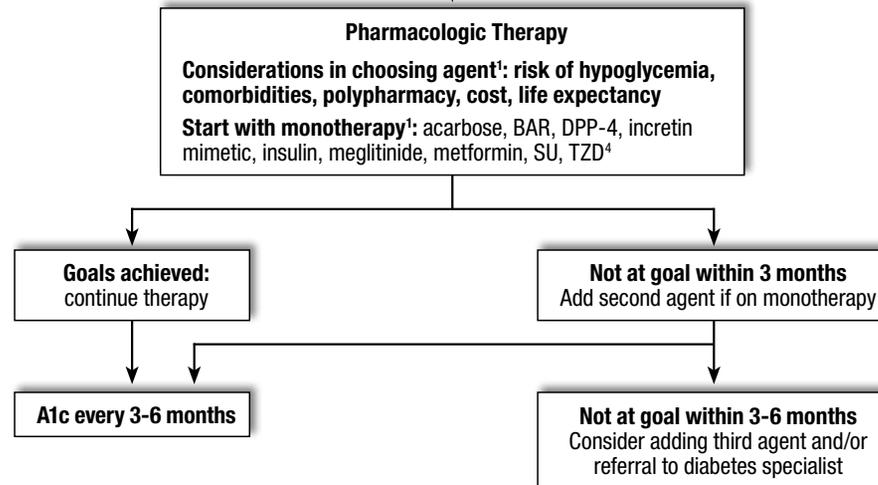
- Assess fasting lipids → Refer to TDC Algorithm on Lipid Management; use fibrates in caution due to renal insufficiency & consider 24 hour urine for Creatinine Clearance
- Obtain baseline EKG
- Consider stress testing based on appropriate evaluation of comorbidities & life expectancy
- Treat BP to goal
- Initiate ACE inhibitor or ARB if indicated
- Aspirin therapy if no contraindication

## Diabetes Management

**Initial Intervention:**

- 1) When considering interventions, consider the following: life expectancy, comorbidities and specific geriatric syndromes such as cognitive impairment, history of falls, & sensory impairment
- 2) Diabetes Education: Blood glucose monitoring: establish daily glucose pattern (if appropriate and patient/caregiver able) using preprandial and 2 hours postprandial glucose checks; Lifestyle (exercise, weight control); Medical Nutrition Therapy (See TDC Algorithm & Toolkit)
- 3) Cardiovascular Risk Reduction [see CV risk reduction on left below]
- 4) If lean body habitus, consider diagnosis of Type 1 DM and consider measuring ICA & GAD antibodies and C-peptide. If positive antibodies or low C-peptide then consider insulin therapy.
- 5) Consider initiation of pharmacologic monotherapy at this time if A1c > 7-7.5% [see pharmacologic therapy below]

Glucose goals not met within 3-6 months



**Footnotes:**

- 1 Chronologic and physiologic age may diverge after age 65 so patients need to be assessed individually. The presence of comorbidities impacts therapeutic approach: Life expectancy, CHF, Renal disease, Cognitive impairment, Depression, Incontinence, Injurious falls, Persistent pain, Hip fracture, Malignancy, Nutritional Status and Polypharmacy (see TDC Diabetes Toolkit). Certain individuals aged < 65 years may benefit from this approach. If a more aggressive approach is desired please see TDC Algorithm for Glucose Control for Type 2 DM in Children and Adults and Diabetes Toolkit.
- 2 Fasting may miss people who have postload hyperglycemia. If the person has the Metabolic Syndrome with FPG below 126 mg/dl, consider also obtaining a postload glucose level. For postload glucose a 2 hour postprandial is preferred. Avoid OGTT if possible due to associated risks in this population. Postprandial glucose and/or postprandial urinalysis for glycosuria is less sensitive but have a place within certain screening programs where other methods are not practical. IGT is a 2 hour postload of 140-199 mg/dL. DM is a 2 hour postload of > 200 mg/dL.
- 3 Consider an individual target of <6% if attainable without significant hypoglycemia (Please see TDC Algorithm for Glucose Control for Type 2 DM in Children and Adults). If unable to reach <7% without hypoglycemia then target is < 8%
- 4 SUs not preferred due to risk of hypoglycemia; if an SU is used then it is recommended to avoid use of glyburide and chlorpropamide. TZDs must be used with caution in people with CAD or CHF. Refer to TDC Insulin Algorithm for insulin use.

**Abbreviations**

AGI	Alpha-Glucosidase Inhibitors
ACE inhibitor	Angiotensin Converting Enzyme Inhibitor
ARB	Angiotensin Receptor Blocker
BAR	Bile Acid Resin (colesevelam)
CAD	Coronary Artery Disease
DPP-4	Dipeptidyl peptidase-4 Inhibitor
FPG	Fasting Plasma Glucose
IFG	Impaired Fasting Glucose
IGT	Impaired Glucose Tolerance
GAD*	Glutamic Acid Decarboxylase
ICA*	Islet Cell Antibodies
OGTT	Oral Glucose Tolerance Test
SU	Sulfonylurea
TZD	Thiazolidinedione

\*note: ICA and GAD antibodies usually take 1-2 weeks to be reported. If result is positive then patient has autoimmune mediated diabetes and insulin needs to be considered and oral agents may need to be discontinued

Hypoglycemia: Autonomic hypoglycemic warning signs may not be recognized in older adults due to changes in counter regulatory hormone response. Symptoms of hypoglycemia are often mistaken for co-existing medical conditions including postural hypotension, Parkinson's, dementia, traumatic brain injury or CVA. Patients that cannot communicate verbally with caregivers are at greater risk.

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