

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

# HT AND DM TX IN OLDER ADULT

# DM

- Diabetes is a highly prevalent health condition in the aging population.
- Over **onequarter** of people over the age of 65 years have diabetes and **one-half** of older adults have prediabetes
- The number of older adults living with these conditions is expected to increase rapidly in the coming decades.
- Diabetes in older adults is a highly heterogeneous condition
- improvements in insulin delivery, technology, and care over the last few decades have led to increasing numbers of people with childhood and adult-onset type 1 diabetes surviving and thriving into their later decades

# CONSEQUENCES OF DIABETES IN THE ELDERLY

- DM doubles the risk of functional deterioration, especially in frail elderly and noncontrol older patients:
- • **Contributes to the onset or worsening of geriatric syndromes**
  - • *Cognitive impairment and dementia (13% vs 8%)*
  - • *Depression (23% vs 19%)*
  - • *Urinary incontinence (women: 35% vs 25%; men 21% vs 13%)*
  - • *Falls (30% vs 19%)*
  - • *Persistence of pain*
  - • *Vision (34% vs 21%) and/or hearing loss (50% vs 38%)*
- • **Frailty (and sarcopenia): HA1c<6.5%, frailty in 9%; >6.5% frailty in 16%**
- • **Increases vulnerability to other comorbidities**
- • **Increases hospitalization episodes**
- • **Increases need for prolonged institutionalization**

# RECOMMENDATIONS FOR DIAGNOSIS

- screening by fasting plasma glucose (FPG) or glycosylated hemoglobin (HbA1c) is recommended but taking into account some limitations
- FPG may remain unchanged during the initial phase while postprandial glucose is already elevated; in case of a high suspicion of prediabetes or diabetes, HbA1c should be measured
- Comorbidities can alter the lifespan of circulating red blood cells; thus, the measurement of HbA1c may not be accurate enough in the geriatric population
- For example, HbA1c may be falsely decreased when regenerative anemia, recent bleeding, or hemodialysis occurs, and falsely elevated in chronic renal insufficiency
- Repeat screening every 2 years is generally recommended
- Performance of an oral glucose overload test is useful in case of prediabetes

# ■ CLINICAL PRESENTATION

- Manifestations tend to follow an insidious and atypical with paucity of clinical expression or even without symptoms
- Functional deterioration is the most common clinical manifestation
- Symptoms of hyperglycemia are lessened by physiological changes of aging such as
  - *the decline of GFR, poor perception of thirst, and an increased renal threshold for glucose*

- Diabetes can be asymptomatic in up to 50% of patients
- symptoms are nonspecific such as fatigue or lethargy, and can be mistaken
- Focusing on the diagnosis of other disorders may delay the identification of diabetes in the elderly
- Diabetes acute complications such as non ketotic hyperosmolar hyperglycemia can be the first presentation

Consider the assessment of :

*medical, psychological, functional  
(selfmanagement abilities), and social  
domains in older adults with diabetes*

To provide a framework to determine goals and  
therapeutic approaches for diabetes  
management



## ■ Screen for

- *geriatric syndromes (e.g., cognitive impairment, depression, urinary incontinence, falls, persistent pain, and frailty)*
- *polypharmacy in older adults with diabetes,*

may affect diabetes self-management and diminish quality of life

# NEUROCOGNITIVE FUNCTION

- Screening for early detection of mild cognitive impairment or dementia should be performed for adults 65 years of age or older at the initial visit, annually, and as appropriate

- The presentation of cognitive impairment ranges from subtle executive dysfunction to memory loss and overt dementia.
- People with diabetes have higher incidences of all-cause dementia, Alzheimer disease, and vascular dementia than people with normal glucose tolerance
- **Poor glycemic management** is associated with a decline in cognitive function, and **longer duration of diabetes** is associated with worsening cognitive function

- In observational studies as well as post hoc analyses from randomized clinical trials, certain glucose lowering drugs, such as
  - *metformin,*
  - *thiazolidinediones,*
  - *and glucagon-like peptide 1(GLP-1) receptor agonists*

have shown small benefits on slowing progression of cognitive dysfunction

- Cardiovascular risk factors are also associated with an increased risk of cognitive decline and dementia.
- Control of blood pressure and cholesterol lowering with statins have been associated with a reduced risk of incident dementia
- Recently, the FDA has approved two new anti-amyloid monoclonal antibodies for the treatment of early Alzheimer disease
- Whether these drugs will be useful in other populations including older adults with diabetes remains to be determined.

Annual screening is indicated for adults 65 years of age or older for early detection of mild cognitive impairment or dementia

additionally be considered when an individual presents with a :

- *significant decline in clinical status due to increased problems with self-care activities and medication management, such as errors in calculating insulin dose,*
- *difficulty counting carbohydrates, skipped meals, skipped insulin doses, and difficulty recognizing, preventing, or treating hypoglycemia*

# HYPOGLYCEMIA

- older adults with diabetes have a greater risk of hypoglycemia, especially when treated with
  - *hypoglycemic agents (e.g., sulfonylureas, meglitinides, and insulin), than younger adults, episodes of hypoglycemia should be addressed at routine visits.*
- For older adults with type 1 diabetes, continuous glucose monitoring is recommended to reduce hypoglycemia.

# HYPOGLYCEMIA

- higher risk of hypoglycemia for many reasons, including
  - erratic meal intake,
  - insulin deficiency necessitating insulin therapy,
  - progressive renal insufficiency



- For older adults with type 2 diabetes on insulin therapy, continuous glucose monitoring should be considered to improve glycemic outcomes and reduce hypoglycemia.
- For older adults with type 1 diabetes, consider the use of **automated insulin delivery (AID) systems** and other **advanced insulin delivery devices such as connected pens** to reduce risk of hypoglycemia, based on individual ability and support system

- The DIAMOND (Multiple Daily Injections and Continuous Glucose Monitoring in Diabetes) study demonstrated
  - *in adults ≥60 years of age with either type 1 or type 2 diabetes using multiple daily injections, CGM use was associated with improved A1C and reduced glycemic variability*

- The Older Adult Closed Loop (ORACL) trial in 30 older adults (mean age 67 years)

with type 1 diabetes found that an automated insulin delivery (AID) strategy was associated with significant improvements in time in range compared with sensor augmented pump therapy

# TREATMENT GOALS

## Recommendations

- Older adults with diabetes who are otherwise healthy with few and stable coexisting chronic illnesses and intact cognitive function and functional status should have lower glycemic goals (such as A1C <7.0–7.5% )
- Older adults with diabetes and intermediate or complex health are clinically heterogeneous with variable life expectancy.
  - *Selection of glycemic goals should be individualized,*
  - *less stringent goals (such as A1C <8.0%) for those with significant cognitive and/or functional limitations, frailty, severe comorbidities, and a less favorable risk-to-benefit ratio of diabetes medications.*

- Older adults with very complex or poor health receive minimal benefit from stringent glycemic control, and clinicians should avoid reliance on glycemic goals and instead focus on avoiding hypoglycemia and symptomatic hyperglycemia
- Screening for diabetes complications should be individualized in older adults with diabetes. Particular attention should be paid to complications that would lead to impairment of functional status or quality of life
- Treatment of hypertension to individualized goal levels is indicated in most older adults with diabetes.

# Treatment of other cardiovascular

- should be individualized in older adults with diabetes,
- Lipid-lowering therapy and antiplatelet agents may benefit those with life expectancies at least equal to the time frame of primary prevention or secondary intervention trials
- balance of risks and benefits of an individual's diabetes medications, including disease-specific benefits (such as reducing symptomatic heart failure) and burdens such as hypoglycemia risk, tolerability, difficulties of administration, and financial cost

- In addition, attention to oral health, foot care, fall prevention, and early detection of depression will improve quality of life.

Table 13.1—Framework for considering treatment goals for glycemia, blood pressure, and dyslipidemia in older adults with diabetes

Characteristics and health status of person with diabetes	Rationale	Reasonable A1C goal*	Fasting or preprandial glucose	Bedtime glucose	Blood pressure	Lipids
Healthy (few coexisting chronic illnesses, intact cognitive and functional status)	Longer remaining life expectancy	<7.0–7.5% (<53–58 mmol/mol)	80–130 mg/dL (4.4–7.2 mmol/L)	80–180 mg/dL (4.4–10.0 mmol/L)	<130/80 mmHg	Statin, unless contraindicated or not tolerated
Complex/intermediate (multiple coexisting chronic illnesses† or two or more instrumental ADL impairments or mild to moderate cognitive impairment)	Variable life expectancy. Individualize goals, considering: <ul style="list-style-type: none"><li>• Severity of comorbidities</li><li>• Cognitive and functional limitations</li><li>• Frailty</li><li>• Risk-to-benefit ratio of diabetes medications</li><li>• Individual preference</li></ul>	<8.0% (<64 mmol/mol)	90–150 mg/dL (5.0–8.3 mmol/L)	100–180 mg/dL (5.6–10.0 mmol/L)	<130/80 mmHg	Statin, unless contraindicated or not tolerated
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	100–180 mg/dL (5.6–10.0 mmol/L)	110–200 mg/dL (6.1–11.1 mmol/L)	<140/90 mmHg	Consider likelihood of benefit with statin

Table 13.1—Framework for considering treatment goals for glycemia, blood pressure, and dyslipidemia in older adults with diabetes

Older Adults: Standards of Care in Diabetes - 2024. Diabetes Care 2024;47(Suppl. 1):S244-S257



---

# Lifestyle Management

Optimal nutrition and protein intake is recommended for older adults with diabetes; regular exercise, including aerobic activity, weight-bearing exercise, and/or resistance training, should be encouraged in all older adults with diabetes who can safely engage in such activities.

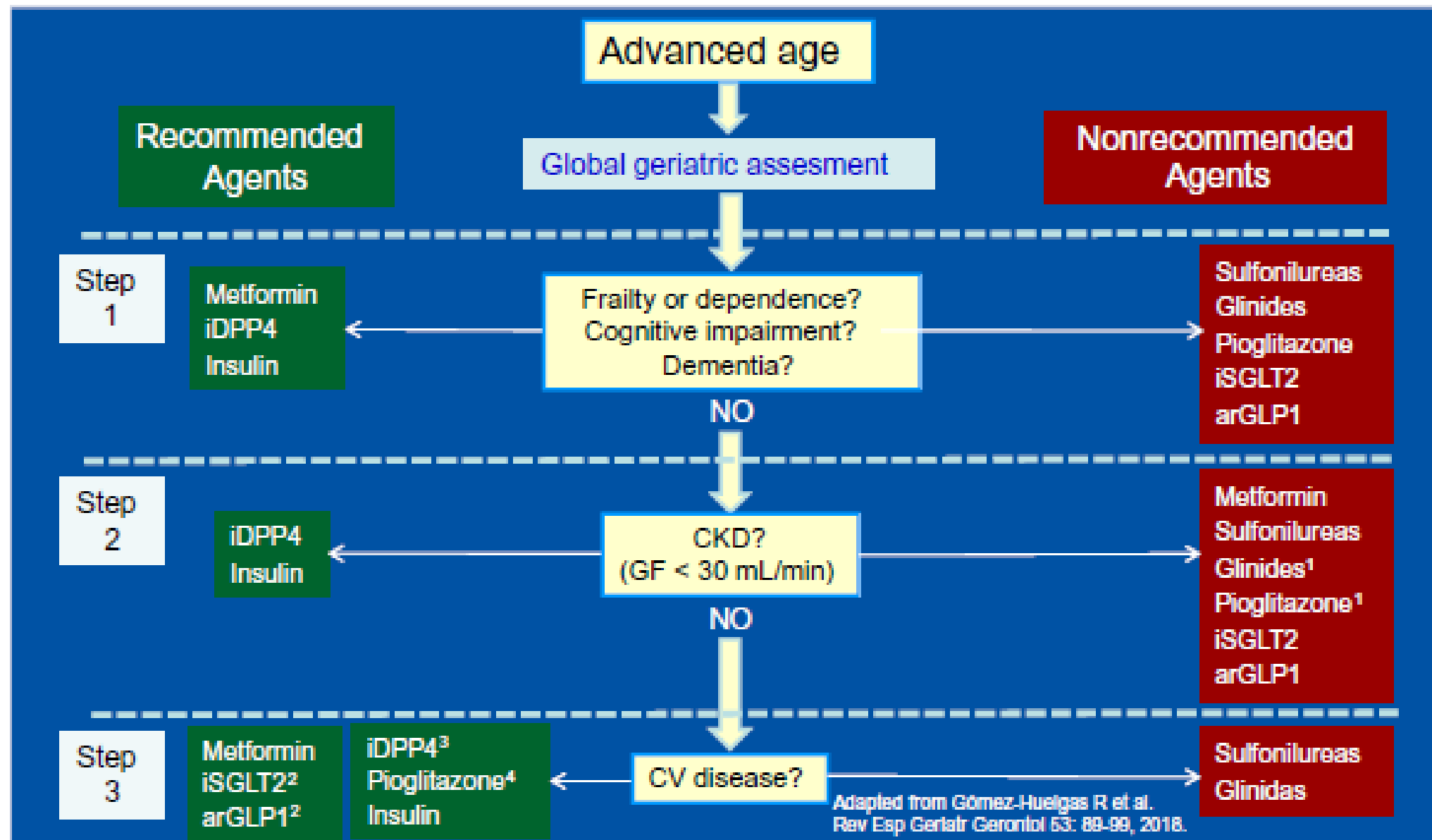
For older adults with type 2 diabetes, overweight/obesity, and capacity to safely exercise, an intensive lifestyle intervention focused on dietary changes, physical activity, and modest weight loss (e.g., 5–7%) should be considered for its benefits on quality of life, mobility and physical functioning, and cardiometabolic risk factor control.

# Pharmacologic Therapy

- ❑ In older adults with type 2 diabetes, medications with low risk of hypoglycemia are preferred, especially for those with hypoglycemia risk factors.
- ❑ Overtreatment of diabetes is common in older adults and should be avoided
- ❑ In older adults with diabetes, deintensify hypoglycemia-causing medications (e.g., insulin, sulfonylureas, or meglitinides) or switch to a medication class with low hypoglycemia risk for individuals who are at high risk for hypoglycemia, using individualized glycemic goals.
- ❑ In older adults with diabetes, deintensify diabetes medications for individuals for whom the harms and/or burdens of treatment may be greater than the benefits, within individualized glycemic goals.

- ❖ Simplification of complex treatment plans (especially insulin) is recommended to reduce the risk of hypoglycemia and polypharmacy and decrease the treatment burden if it can be achieved using the individualized glycemic goals.
- ❖ In older adults with type 2 diabetes and established or high risk of atherosclerotic cardiovascular disease, heart failure, and/or chronic kidney disease, the treatment plan should include agents that reduce cardio renal risk, irrespective of glycemia.
- ❖ Consider costs of care and coverage when developing treatment plans in order to reduce risk of cost-related barriers to medication taking and self-management behaviors.

## Treatment of Type 2 Diabetes in Older Adults, Algorithm



## Simplification of Complex Insulin Therapy

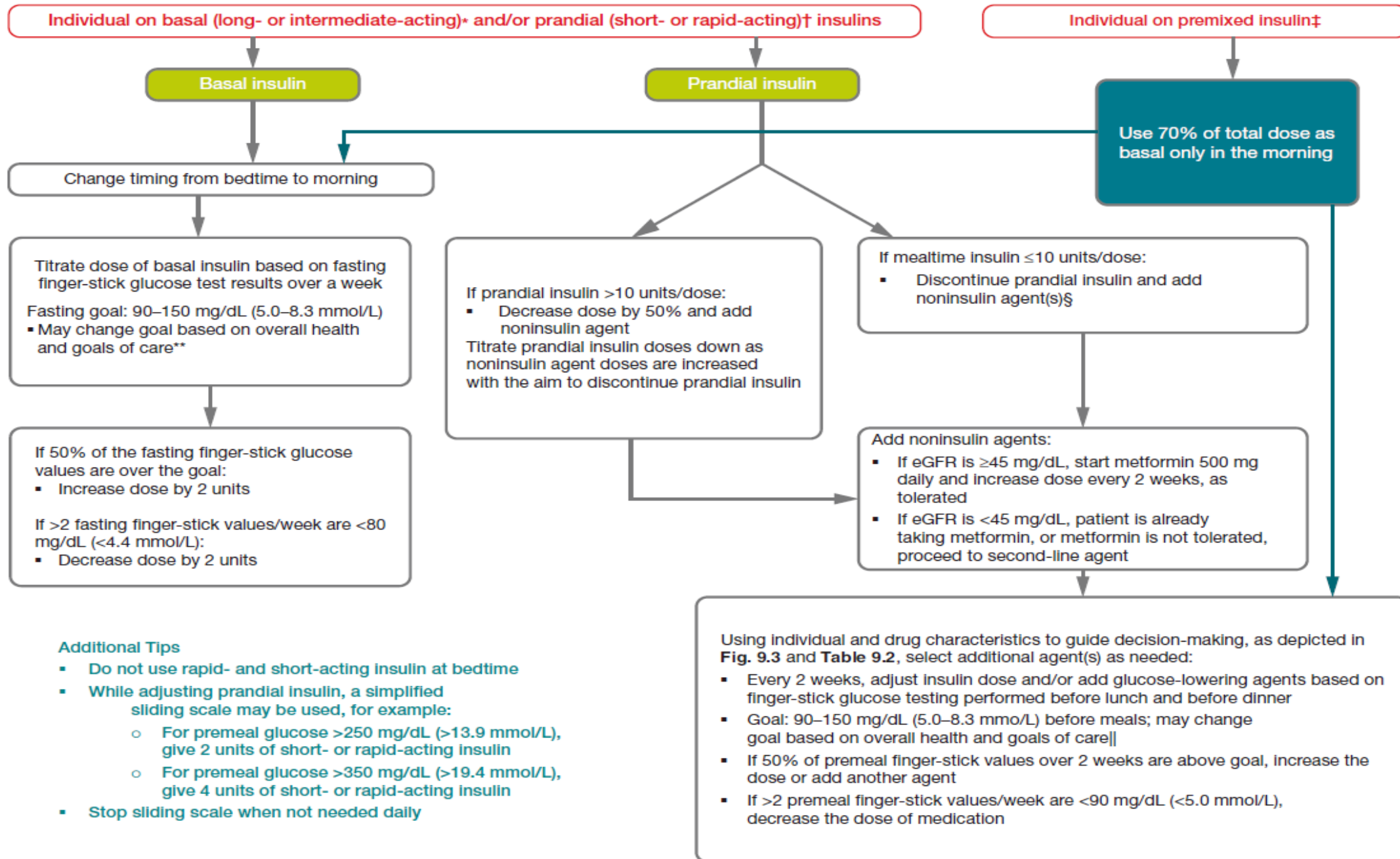


Figure 13.1—  
Algorithm to  
simplify insulin  
regimen for  
older patients  
with type 2  
diabetes.

**Table 13.2—Considerations for treatment plan simplification and deintensification/deprescribing in older adults with diabetes**

Characteristics and health status of person with diabetes	Reasonable A1C/ treatment goal	Rationale/considerations	When may medication plan simplification be required?	When may treatment deintensification/deprescribing be required?
Healthy (few coexisting chronic illnesses, intact cognitive and functional status)	<7.0–7.5% (<53–58 mmol/mol)	<ul style="list-style-type: none"> <li>• Individuals can generally perform complex tasks to maintain good glycemic management when health is stable</li> <li>• During acute illness, individuals may be more at risk for administration or dosing errors that can result in hypoglycemia, falls, fractures, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• If severe or recurrent hypoglycemia occurs in individuals on insulin therapy (regardless of A1C)</li> <li>• If wide glucose excursions are observed</li> <li>• If cognitive or functional decline occurs following acute illness</li> </ul>	<ul style="list-style-type: none"> <li>• If severe or recurrent hypoglycemia occurs in individuals on noninsulin therapies with high risk of hypoglycemia (regardless of A1C)</li> <li>• If wide glucose excursions are observed</li> <li>• In the presence of polypharmacy</li> </ul>
Complex/intermediate (multiple coexisting chronic illnesses or two or more instrumental ADL impairments or mild to moderate cognitive impairment)	<8.0% (<64 mmol/mol)	<ul style="list-style-type: none"> <li>• Comorbidities may affect self-management abilities and capacity to avoid hypoglycemia</li> <li>• Long-acting medication formulations may decrease pill burden and complexity of medication plan</li> </ul>	<ul style="list-style-type: none"> <li>• If severe or recurrent hypoglycemia occurs in individuals on insulin therapy (even if A1C is appropriate)</li> <li>• If unable to manage complexity of an insulin plan</li> <li>• If there is a significant change in social circumstances, such as loss of caregiver, change in living situation, or financial difficulties</li> </ul>	<ul style="list-style-type: none"> <li>• If severe or recurrent hypoglycemia occurs in individuals on noninsulin therapies with high risk of hypoglycemia (even if A1C is appropriate)</li> <li>• If wide glucose excursions are observed</li> <li>• In the presence of polypharmacy</li> </ul>
Community-dwelling individuals receiving care in a skilled nursing facility for short-term rehabilitation	Avoid reliance on A1C, glucose goal 100–200 mg/dL (5.55–11.1 mmol/L)	<ul style="list-style-type: none"> <li>• Glycemic management is important for recovery, wound healing, hydration, and avoidance of infections</li> <li>• Individuals recovering from illness may not have returned to baseline cognitive function at the time of discharge</li> <li>• Consider the type of support the individual will receive at home</li> </ul>	<ul style="list-style-type: none"> <li>• If treatment plan increased in complexity during hospitalization, it is reasonable, in many cases, to reinstate the prehospitalization medication plan during the rehabilitation</li> </ul>	<ul style="list-style-type: none"> <li>• If the hospitalization for acute illness resulted in weight loss, anorexia, short-term cognitive decline, and/or loss of physical functioning</li> </ul>

**Table 13.2—Considerations for treatment regimen simplification and deintensification/deprescribing in older adults with diabetes. (1 of 2)**



Very complex/poor health (LTC or end-stage chronic illnesses or moderate to severe cognitive impairment or two or more ADL impairments)	Avoid reliance on A1C and avoid hypoglycemia and symptomatic hyperglycemia	<ul style="list-style-type: none"> <li>• No benefits of tight glycemic management in this population</li> <li>• Hypoglycemia should be avoided</li> <li>• Most important outcomes are maintenance of cognitive and functional status</li> </ul>	<ul style="list-style-type: none"> <li>• If on an insulin plan and the individual would like to decrease the number of injections and finger-stick blood glucose monitoring events each day</li> <li>• If the individual has an inconsistent eating pattern</li> </ul>	<ul style="list-style-type: none"> <li>• If on noninsulin agents with a high hypoglycemia risk in the context of cognitive dysfunction, depression, anorexia, or inconsistent eating pattern</li> <li>• If taking any medications without clear benefits</li> </ul>
At the end of life	Avoid hypoglycemia and symptomatic hyperglycemia	<ul style="list-style-type: none"> <li>• Goal is to provide comfort and avoid tasks or interventions that cause pain or discomfort</li> <li>• Caregivers are important in providing medical care and maintaining quality of life</li> </ul>	<ul style="list-style-type: none"> <li>• If there is pain or discomfort caused by treatment (e.g., injections or finger sticks)</li> <li>• If there is excessive caregiver stress due to treatment complexity</li> </ul>	<ul style="list-style-type: none"> <li>• If taking any medications without clear benefits in improving symptoms and/or comfort</li> </ul>

Table 13.2—  
Considerations  
for treatment  
regimen  
simplification  
and  
deintensification  
/deprescribing  
in older adults  
with diabetes.

---

# Treatment in Skilled Nursing Facilities and Nursing Homes

- Consider diabetes education/ training for the staff of long-term care and rehabilitation facilities to improve the management of older adults with diabetes.
- careful assessment to establish individualized glycemic goals and to make appropriate choices of glucose-lowering agents and devices based on their clinical and functional status.



For hypoglycemia, the following alert strategy could be considered:

1. Call health care professional immediately in cases of low blood glucose levels ( $<70$  mg/dL [ $<3.9$  mmol/L]).
  - treatment of hypoglycemia should not be delayed.
  - should also be called if two or more blood glucose values  $>250$  mg/dL are observed within a 24-h period and are accompanied by a significant change in status.
2. Call as soon as possible when
  - a) glucose values are 70–100 mg/dL (3.9–5.6 mmol/L) (treatment plan may need to be adjusted),
  - b) glucose values are consistently  $>250$  mg/dL ( $>13.9$  mmol/L) within a 24-h period,
  - c) glucose values are consistently  $>300$  mg/dL ( $>16.7$  mmol/L) over 2 consecutive days,
  - d) any reading is too high for the glucose monitoring device, or
  - e) the person is sick, with vomiting, symptomatic hyperglycemia, or poor oral intake.

# End-of-Life Care

**1. A stable individual:** Continue with the person's previous medication plan, with a focus on the management of hyperglycemia using blood glucose testing, keeping levels below the renal threshold of glucose, and hyperglycemia-mediated dehydration. There is no role for A1C monitoring

**2. An individual with organ failure:** Preventing hypoglycemia is of greatest significance. Dehydration must be prevented and treated.

In people with type 1 diabetes, insulin administration may be reduced as the oral intake of food decreases but should not be stopped.

For those with type 2 diabetes, agents that may cause hypoglycemia should be reduced in dose. The main goal is to avoid hypoglycemia, allowing for glucose values in the upper level of the desired goal range

**3. A dying individual:** For people with type 2 diabetes, the discontinuation of all medications may be a reasonable approach, as these individuals are unlikely to have any oral intake. In people with type 1 diabetes, there is no consensus, but a small amount of basal insulin may maintain glucose levels and prevent acute hyperglycemic complications.

# Ht in older patent

- The number of adults 60–79 years is estimated to rise from 760 million in 2015 to 1,646 million in 2050 or from 10.4% to 17.0% of the world's population
- The number of adults  $\geq 80$  years is projected to grow from 126.6 million in 2015 to 430.3 million in 2050 or from 1.7% to 4.4% of the world's population

# Increase in Numbers of Older Adults with Hypertension

- ~65% of adults 60–79 years and 80% of adults  $\geq 80$  years have hypertension defined by  $\geq 140/\geq 90$  mmHg or pharmacotherapy for hypertension,
  - *then the number of adults 60–79 years with hypertension would rise from roughly 494 million in 2015 to 1.07 billion in 2050.*
- Concurrently, the number of adults  $\geq 80$  years with hypertension could rise from 101 million in 2015 to 344 million in 2050
- In so, the number of older adults with hypertension in 2050 would exceed the total number of adults 30–79 years with hypertension globally in 2010

- Death from ischemic heart disease and stroke approximately double each decade from 40–49 through 80–89 years .
- The risk of fatal ischemic heart disease and stroke double for each 20 mmHg increase in systolic BP above 115 mmHg
- CVDE(cardiovascular disease event) in adults  $\geq 80$  years would rise from 4 million in 2015 to 13.8 million in 2050

# Lifestyle Changes in Older Adults with Hypertension

- Dietary changes without weight loss, weight loss, and physical activity.
- Caution is advised with weight loss interventions in older individuals as significant reduction of muscle mass, strength, and bone mineral density can occur.
- Sodium Restriction:
  - *Salt-sensitivity is associated with age related increases of BP, and salt-sensitivity increases with age*
- Mediterranean-style Diet is moderate in sodium (< 170 mmol) and adherence to this diet can lower systolic BP 5.5 mmHg and decreases arterial stiffness in adults 65–79 years old after one year

- Weight Loss:

- *Among obese adults in TONE (n = 585, mean age 66 years), the relative hazard ratio for the primary outcome was reduced 30%*
  - with ~ 4 kg weight loss, 40% with sodium restriction, and 53% for weight loss and sodium restriction combined
  - The authors concluded that reducing sodium intake and weight were feasible, effective, and safe lifestyle interventions for older persons with hypertension, recognizing participants were healthy

- The 2023 ESH Guideline did not recommend weight loss for adults  $\geq 80$  years old unless obesity was severe, or the individual was robust given concerns of sarcopenia and malnutrition

# Physical Activity

- A systematic review and meta-analysis assessed the effects of aerobic and resistance physical activity on the BP of adults  $\geq 60$  years .
- Among more than 2200 individuals in the report, exercise lowered BP  $\sim 5.7/3.7$  mmHg.
- Resistance exercise lowered BP roughly  $0.7/0.7$  mmHg more than aerobic activity.
- Moderate- and high-intensity aerobic exercise are recommended for BP reduction but may not be possible or preferred by many older adults
- Other data suggest that low-intensity physical activity is similarly as effective as moderate- and high-intensity physical activity for diabetes prevention



# Pharmacotherapy of Hypertension in Older Adults

- The Hypertension Guidelines recommend the same classes of antihypertensive agents irrespective of age with preference for calcium channel blockers, thiazide-type diuretics, and renin-angiotensin system blockers, absent compelling indications for other drug classes
- The 2017 ACC/AHA Guideline is cautious in recommending initial single pill combinations for older adults.
- The 2023 ESH Guideline cautiously recommends initial single-pill combinations for older adults with systolic BP 140–159 but is without reservation for older adults with systolic BP  $\geq 160$  mmHg

# Start Low and Go Slow

- start low and go slow is pervasive when initiating and intensifying antihypertensive pharmacotherapy for older adults with hypertension
- Initiating treatment with combination therapy rather than monotherapy is associated with better hypertension control at 6 months

# three sample treatment regimens are provided

- **The first regimen** uses standard or half-maximal doses of a thiazide-type diuretic, angiotensin receptor blockers (ARB) and dihydropyridine calcium channel blocker (dCCB) added sequentially at monthly intervals,
  - each of which would lower systolic BP ~ 9 mmHg or 27 mmHg total
  - ARB and dCCB doses are doubled on the next monthly visit if BP is uncontrolled, which should lower systolic BP 4–6 mmHg.
  - Chlorthalidone is doubled to the maximum recommended dose of 25 mg at month 5 for an additional 3–5 mmHg reduction in systolic BP or roughly 35–40 mmHg total.
  - Hydrochlorothiazide at 25 and 50 mg, and indapamide 1.25 and 2.5 mg are roughly equally as effective to chlorthalidone 12.5 and 25 mg, respectively.

- the second regimen lower systolic BP ~ 43 mmHg within 6 months with four antihypertensive drug classes,
- the third regimen would lower systolic BP ~ 33 mmHg with three drug classes.
- After initiating antihypertensive treatment, monthly follow- up visits with intensification of antihypertensive pharmacotherapy when BP is uncontrolled will increase the probability of controlling hypertension within 6 months
- Clinical judgment is required to determine if intensification of pharmacotherapy should be accelerated or delayed based on factors including distance from target BP, absolute risk for CVDE, and risk or occurrence of adverse effects.

# Periodic Reassessment of Comorbid Conditions, Physical and Cognitive Status, and Hypertension Target

- Comorbid conditions increase strongly as a function of age including dementia, frailty, coronary heart disease, congestive heart failure, stroke, and chronic kidney disease.
- annual assessment appropriate for many older individuals.
- More frequent assessment is appropriate when major, life-changing events occur, often marked by hospital or emergency department admission.

# Key Clinical Points on Hypertension Management in Older Adults

- As the global population ages, most clinicians will be seeing significantly more older adults with hypertension in their practices.
- The benefits of intensive antihypertensive therapy outweigh risks in older adults with good cognitive function and absent moderate and severe frailty
- Hypertension in older adults is a women's health equity issue as women live longer than men and prevalent hypertension increases more and control falls more with age women.
- Comprehensive assessment of cognitive and physical function is important in determining treatment intensity in a shared decision in older adults with hypertension. Periodic reassessment thereafter will inform whether changes in treatment intensity are warranted

- In healthy older adults with hypertension, both sodium reduction and weight reduction are successful lifestyle interventions for improved BP control.
- The adage "start low and go slow" contributes to clinical inertia in managing BP among older adults. Monthly reviews with treatment intensification if BP remains controlled are appropriate absent mitigating factors such as significant orthostatic hypotension and frailty.
- Clinicians can play an important role in promoting healthy aging in younger and middle age adults to reduce cardiovascular risk and preserve benefits of intensive treatment at older ages.
- Recent evidence suggests that antihypertensive treatment in midlife essentially eliminates the excessive age-related risk of cognitive decline

- Older Adults: Standards of Care in Diabetes—2024, Diabetes Care 2024;47(Suppl. 1):S244–S257 | <https://doi.org/10.2337/dc24-S>Current Hypertension Reports (2024) 26:157–167
- <https://doi.org/10.1007/s11906-023-01289-7> IMPLEMENTATION TO INCREASE BLOOD PRESSURE CONTROL: WHAT WORKS? (J BRETTLER AND K REYNOLDS, SECTION EDITORS)013



سیاس از توجه شما