CONSIDERATIONS FOR MANAGING DIABETES IN OLDER ADULTS

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Learning Objectives

- Discuss the management of and goal setting for older patients with diabetes.
- Explain comprehensive cardiovascular risk factor modification for older patients with diabetes.
- Describe risk factors for hypoglycemia and utility of glucagon products for older patients with diabetes.

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EPIDEMIOLOGY

In older adults

Prevalence of Type 2 Diabetes (T2DM)

- ✓ 29.2%, or 15.9 million seniors (diagnosed and undiagnosed) over the age of 65, have diabetes
- ✓ About half of older adults have prediabetes
- ✓ If diagnosed *before* age 65:
  - ✓ Higher A1C's
  - ✓ More likely to use insulin
  - ✓ Retinopathy is more common
- ✓ If diagnosed *after* age 65:
  - ✓ Lower A1C
  - ✓ Less likely to use of insulin

1. Centers for Disease Control and Prevention. National Diabetes Statistics Report website. https://www.cdc.gov/diabetes/data/statistics-report/index.html. Accessed 7/1/22.
2. https://www.diabetes.org/about-us/statistics/about-diabetes

Prevalence of Type 2 Diabetes (T2DM)

- ✓ Older adults have the highest rates of:
  - ✓ Lower-extremity amputation
  - ✓ MI
  - ✓ Visual impairment
  - ✓ ESRD
- ✓ Patients with T2DM who are ≥ 75 years old, have double the rate of ED visits for hypoglycemia.

Kirkman MS, Briscoe VJ, Clark N, et al. Diabetes in older adults. *Diabetes Care.* 2012;35(12):2650-2664.

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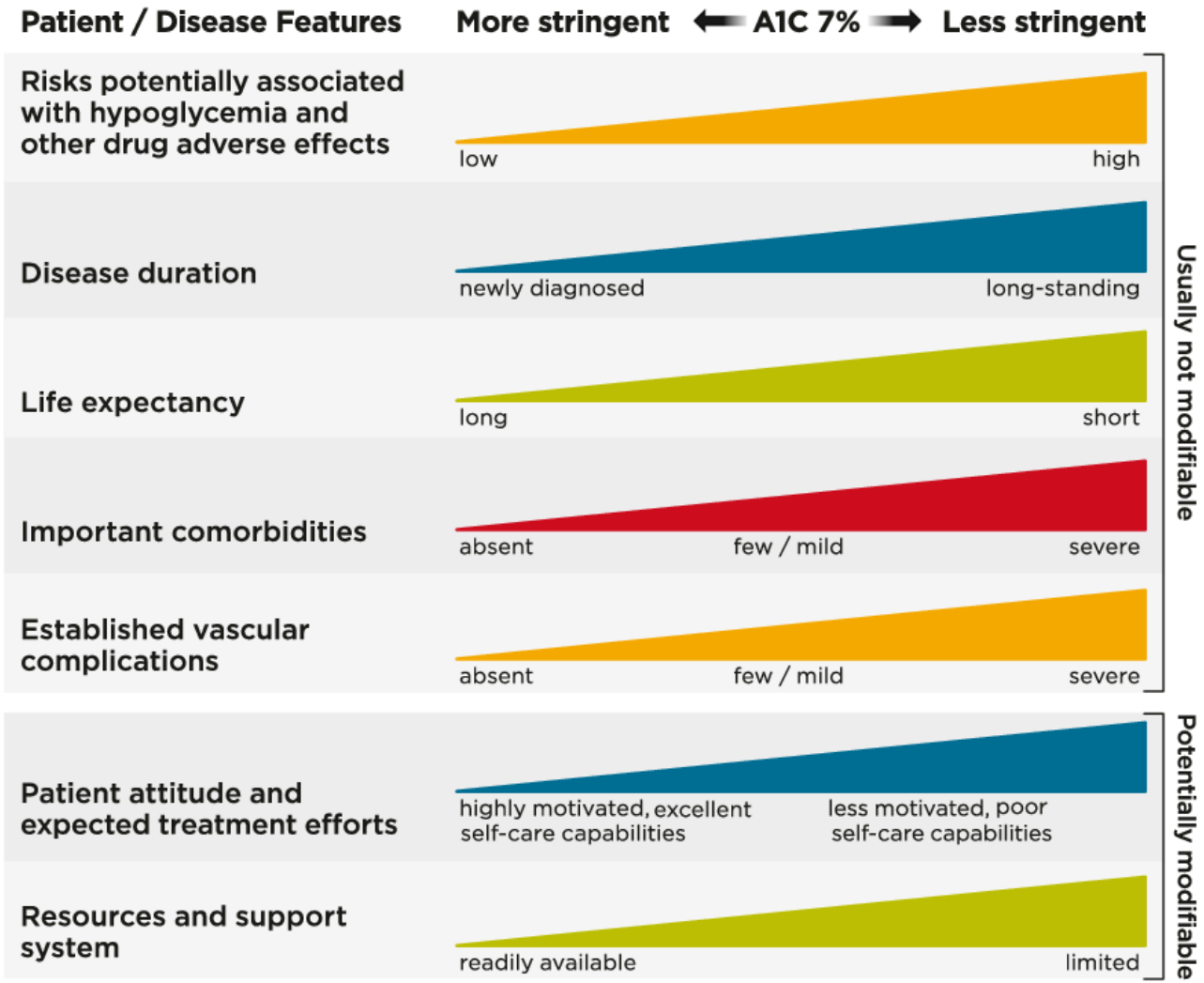
MANAGEMENT & GOAL SETTING

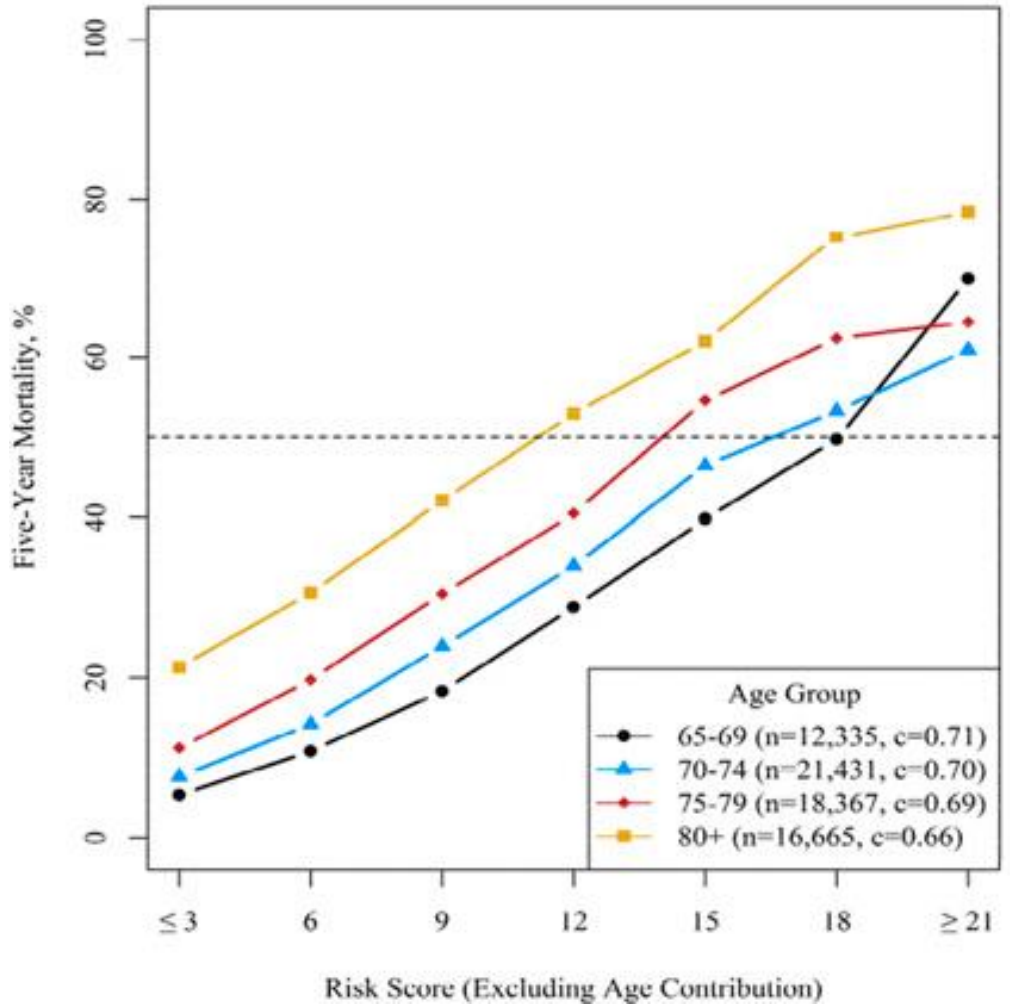
learning objective #1

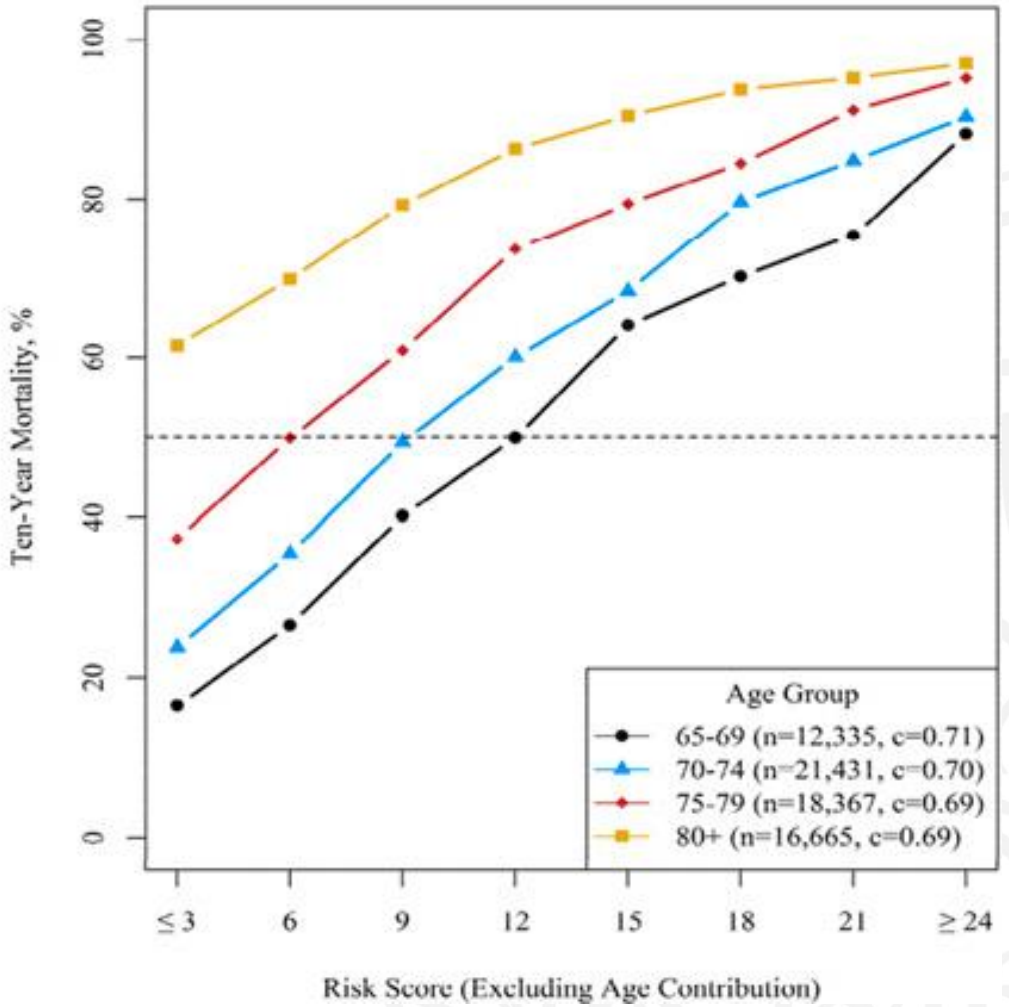
Approach to Individualization of Glycemic Targets



Glycemic Targets: Standards of Medical Care in Diabetes - 2022. Diabetes Care 2022;45(Suppl. 1)

Life Expectancy and Risk of Mortality





Griffith KN, Prentice JC, Mohr DC, Conlin PR. Predicting 5- and 10-Year Mortality Risk in Older Adults With Diabetes. *Diabetes Care.* 2020;43(8):1724-1731.

Diabetes Treatment Goals in Older Patients

Health Status	A1C Goal	Fasting Glucose	Bedtime Glucose
Healthy • Few comorbidities and • Intact cognitive and functional status	< 7 – 7.5%	80 – 130 mg/dL	80 – 180 mg/dL
Complex/Intermediate • Multiple comorbidities or • 2+ instrumental ADL impairments or • Mild/moderate cognitive impairment	< 8.0%	90 – 150 mg/dL	100 – 180 mg/dL
Very complex/Poor health • LTC or • End-stage chronic disease or • Moderate/severe cognitive impairment or • 2+ instrumental ADL impairments	Avoid reliance on A1C; avoid hypoglycemia	100 – 180 mg/dL	110 – 200 mg/dL

Older Adults: Standards of Medical Care in Diabetes—2022. Diabetes Care. 2021;45(Supplement_1):S195-S207.

AGP Report

- Time in Range
- Ambulatory Glucose Profile (AGP)
- Daily Glucose Profiles

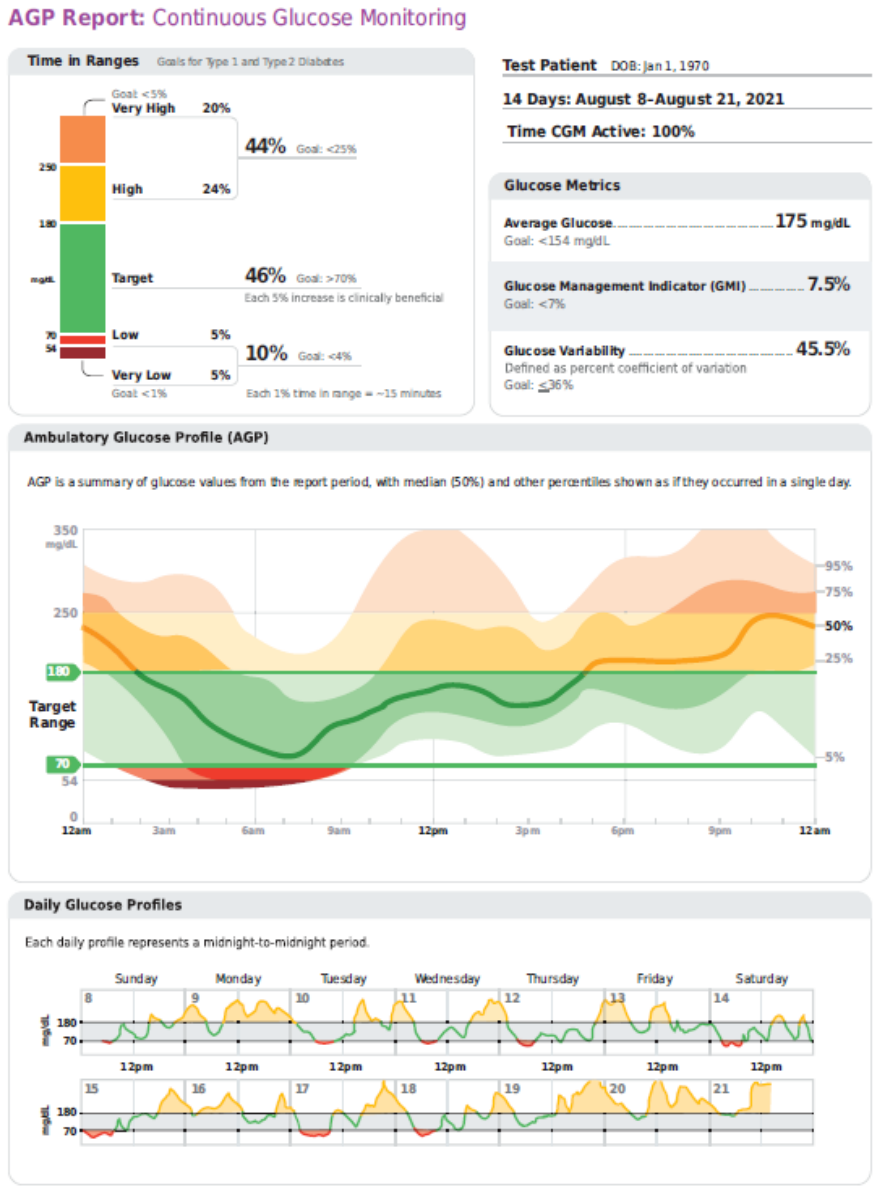
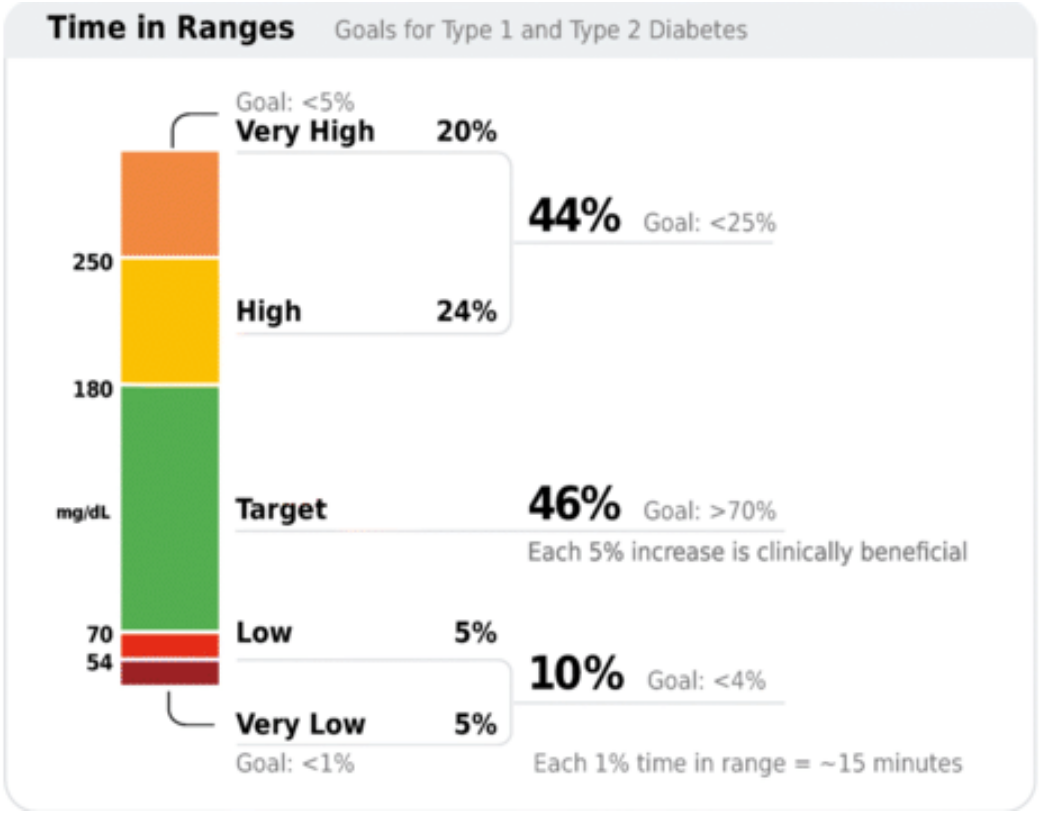


Figure 6.1—Key points included in standard ambulatory glucose profile (AGP) report. Reprinted from Holt et al. (33).

Glycemic Targets: *Standards of Medical Care in Diabetes - 2022*. *Diabetes Care* 2022;45(Suppl. 1)

Time in Range



Test Patient DOB: Jan 1, 1970

14 Days: August 8–August 21, 2021

Time CGM Active: 100%

Glucose Metrics

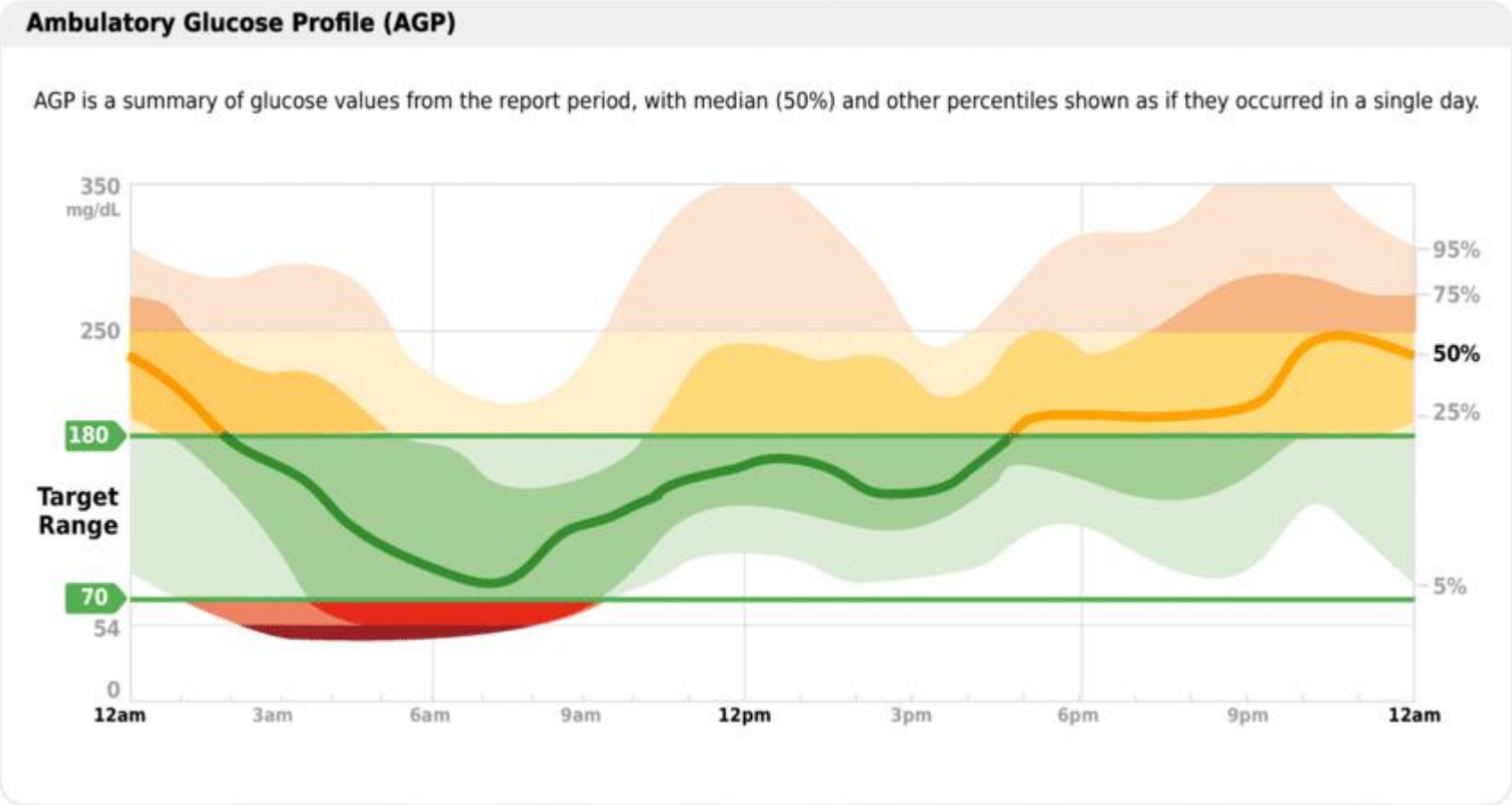
Average Glucose ..... **175 mg/dL**
Goal: <154 mg/dL

Glucose Management Indicator (GMI) **7.5%**
Goal: <7%

Glucose Variability **45.5%**
Defined as percent coefficient of variation
Goal: ≤36%

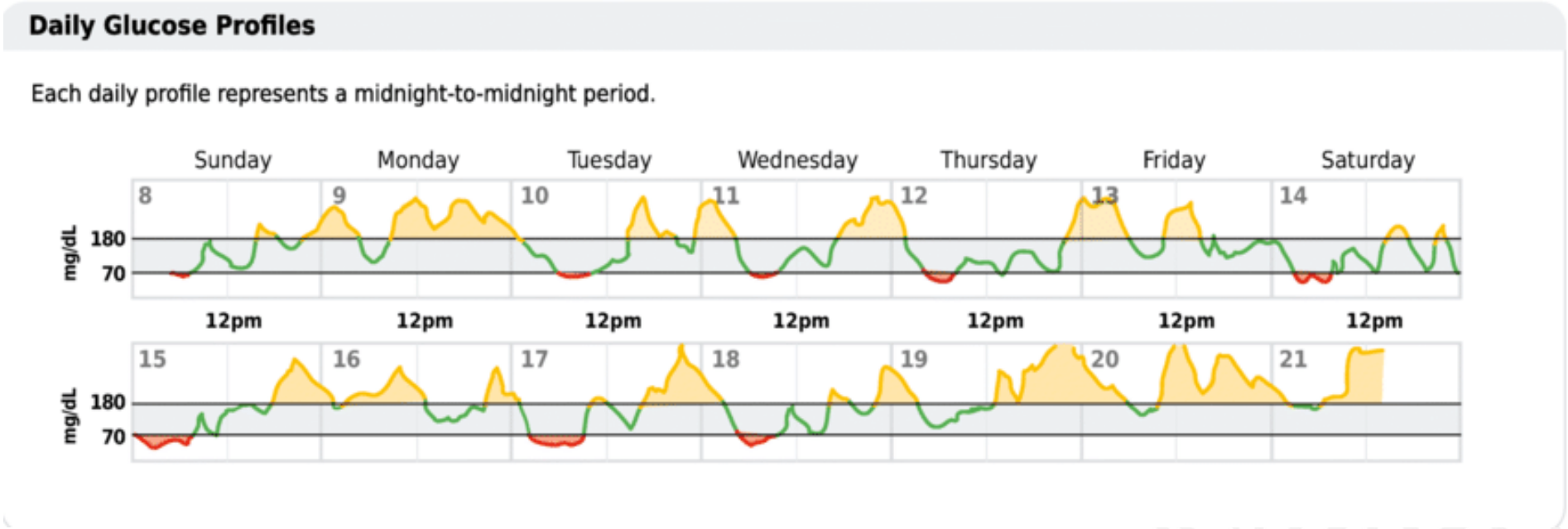
Glycemic Targets: *Standards of Medical Care in Diabetes - 2022*. *Diabetes Care* 2022;45(Suppl. 1)

Ambulatory Glucose Profile



Glycemic Targets: *Standards of Medical Care in Diabetes - 2022*. *Diabetes Care* 2022;45(Suppl. 1)

Daily Glucose Profile



Glycemic Targets: *Standards of Medical Care in Diabetes - 2022*. *Diabetes Care* 2022;45(Suppl. 1)

Lifestyle Management

- **Optimal nutrition and protein intake is recommended**
  - Frailty and sarcopenia risk can ↑
- **Regular exercise**
  - Aerobic activity
  - Weight-bearing exercise and/or resistance training
- **Those with T2DM who are overweight/obese and can safely exercise**
  - Intense lifestyle intervention with modest weight loss goals of 5-7%

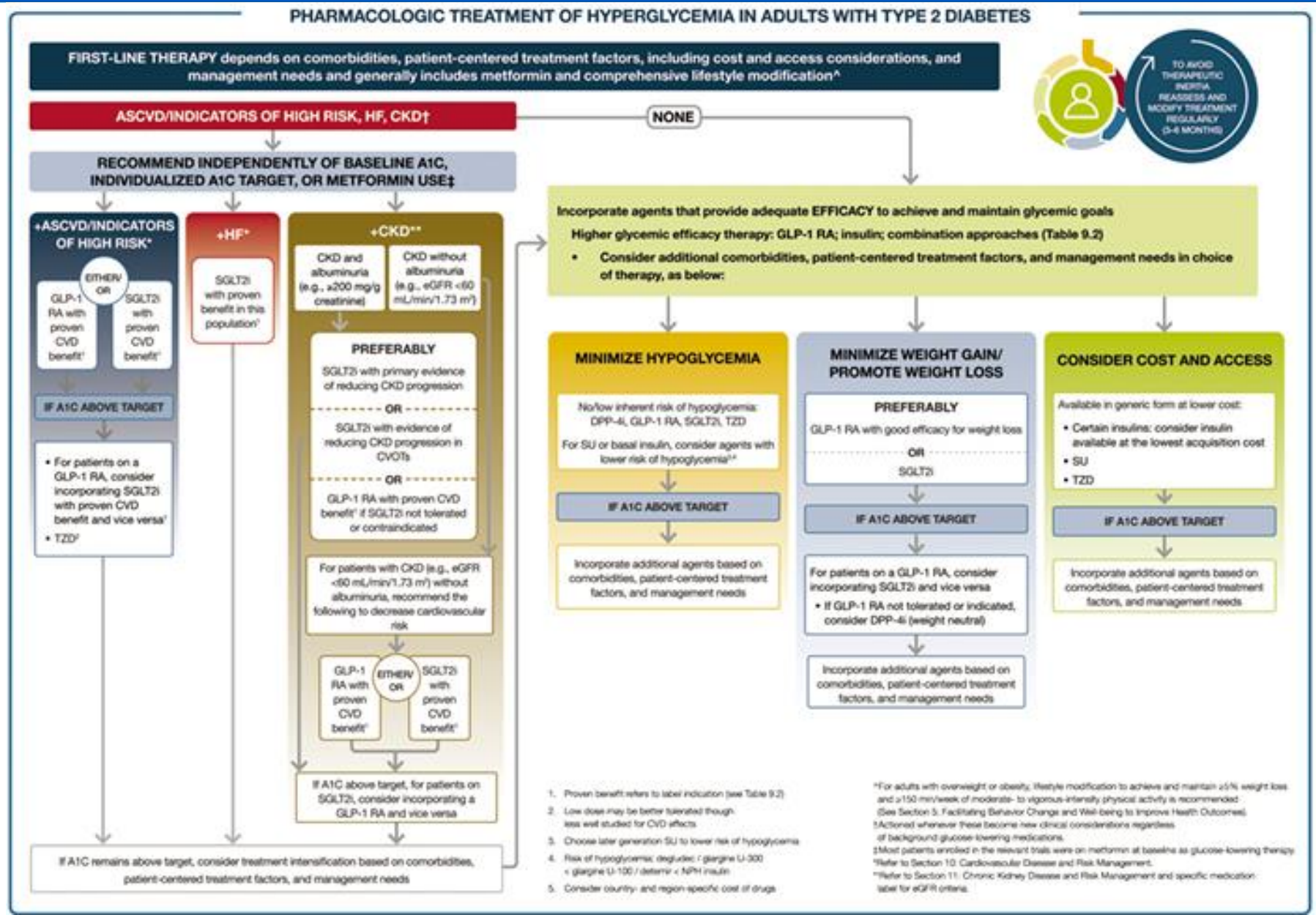
Older Adults: Standards of Medical Care in Diabetes—2022. Diabetes Care. 2021;45(Supplement_1):S195-S207.

Pharmacologic Therapy

GUIDING PRINCIPLES

1. Choose medications with low risk of *hypoglycemia*.
2. De-intensify/simplify complex regimens to reduce the risk of *hypoglycemia*.
3. Consider cost and insurance coverage to avoid nonadherence.

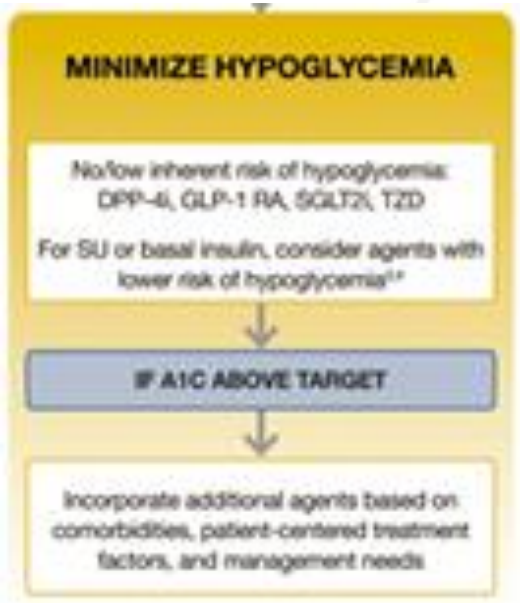
Older Adults: Standards of Medical Care in Diabetes—2022. Diabetes Care. 2021;45(Supplement_1):S195-S207.



Pharmacologic Approaches to Glycemic Management: *Standards of Medical Care in Diabetes - 2022*. *Diabetes Care* 2022;45(Suppl. 1):S125-S143

Minimize Hypoglycemia

- Medication classes with no/low risk of hypoglycemia:
  - DPP-4i
  - GLP-1 RA
  - Metformin
  - SGLT2i
  - TZD
- Medication classes with moderate risk of hypoglycemia:
  - Secretagogues
  - Basal insulin



Pharmacologic Approaches to Glycemic Management: *Standards of Medical Care in Diabetes - 2022*. *Diabetes Care* 2022;45(Suppl. 1):S125-S143

Dipeptidyl peptidase-4 inhibitors (DPP-4i)

- Low risk of hypoglycemia 👍
- Few side effects 👍
- Costly $$$ 👎
- No CV risk reduction 👎
- Efficacy: *Intermediate*
  - A1C lowering ~0.75% 👎

Medication Options:

- Alogliptin (Nesina)
- Linagliptin (Tradjenta®)
- Saxagliptin (Onglyza®)
- Sitagliptin (Januvia®)

Pharmacologic Approaches to Glycemic Management: *Standards of Medical Care in Diabetes - 2022*. *Diabetes Care* 2022;45(Suppl. 1):S125-S143

Glucagon-like peptide-1 receptor agonist (GLP-1 RA)

- Low risk of hypoglycemia 👍
- ASCVD benefit 👍
- Slows CKD progression 👍
- Weight loss 👍
- Costly $$$ 👎
- Significant GI side effects 👎
- Injectable 👎
- Efficacy: *High*
  - A1C lowering ~1-2% 👍

Medication Options:

- Dulaglutide (Trulicity®)*^
- Exenatide ER (Bydureon®)
- Liraglutide (Victoza®)*^
- Lixisenatide (Adlyxin®)
- Semaglutide SQ (Ozempic®)*^
- Semaglutide PO (Rybelsus®)

*with proven ASCVD benefit
^with proven CKD benefit

Pharmacologic Approaches to Glycemic Management: *Standards of Medical Care in Diabetes - 2022*. *Diabetes Care* 2022;45(Suppl. 1):S125-S143

Glucose-dependent insulinotropic polypeptide (GIP)/ Glucagon-like peptide-1 receptor agonist (GLP-1 RA)

- Low risk of hypoglycemia 👍
- ASCVD benefit ??
- Slows CKD progression ??
- Weight loss 👍
- Costly $$$ 👎
- Significant GI side effects 👎
- Injectable 👎
- Efficacy: *High*
  - A1C lowering ~2-2.4% 👍

Medication Option:

- Tirzepatide (Mounjaro®)

1. SURPASS-2. N Engl J Med. 2021;385(6):503-515
2. SURMOUNT-1. N Engl J Med. 2022;387(3):205-216

Biguanide

- Low risk of hypoglycemia 👍
- Weight loss 👍
- Cheap 👍
- Significant GI side effects 👎
- Efficacy: *High*
  - A1C lowering ~1-2% 👍

- **<u>Medication Option:</u>**
- Metformin IR (Glucophage®)
- Metformin ER (Glucophage®)
- Metformin ER MOD (Glumetza®) 👎
- Metformin ER OSM (~~Fortamet~~) 👎

Pharmacologic Approaches to Glycemic Management: *Standards of Medical Care in Diabetes - 2022*. *Diabetes Care* 2022;45(Suppl. 1):S125-S143

Sodium-glucose cotransporter-2 inhibitor (SGLT2i)

- Low risk of hypoglycemia
- ASCVD benefit
- HF benefit
- Slows CKD progression
- Weight loss
- Costly $$$
- Numerous side effects
- Efficacy: *Intermediate*
  - A1C lowering ~1-1.5%

Medication Options:

- Canagliflozin (Invokana®)*+^
- Dapagliflozin (Farxiga®)+^
- Empagliflozin (Jardiance®)*+^
- Ertugliflozin (Steglatro®)+

*with proven ASCVD benefit
^with proven CKD benefit
+with proven HF benefit

Pharmacologic Approaches to Glycemic Management: *Standards of Medical Care in Diabetes - 2022*. *Diabetes Care* 2022;45(Suppl. 1):S125-S143

Thiazolidinediones (TZD)

- Low risk of hypoglycemia 👍
- Cheap 👍
- No ASCVD, HF or CKD benefits 👎
- Weight gain 👍👎
- Cautionary use in HF, osteoporosis, falls/fractures, and macular edema 👎
- Efficacy: *High*
  - A1C lowering ~1-2% 👍

Medication Options:

- ~~Rosiglitazone (Avandia)~~
- Pioglitazone (Actos®)

Pharmacologic Approaches to Glycemic Management: *Standards of Medical Care in Diabetes - 2022*. *Diabetes Care* 2022;45(Suppl. 1):S125-S143

Insulin Secretagogues

- High risk of hypoglycemia 👎
- Cheap 👍
- No ASCVD, HF or CKD benefits 👎
- Weight gain 👍👎
- Efficacy: *High*
  - A1C lowering ~1-2% 👍

Medication Options:

Sulfonylureas

- Glyburide (Glynase®)
- Glipizide (Glucotrol®)
- Glimepiride (Amaryl®)

Meglitinides

- Nateglinide (~~Starlix~~)
- Repaglinide (~~Prandin~~)

Pharmacologic Approaches to Glycemic Management: *Standards of Medical Care in Diabetes - 2022*. *Diabetes Care* 2022;45(Suppl. 1):S125-S143

Basal Insulin

- Risk of hypoglycemia 👎
- Costly $$$ 👎
- No ASCVD, HF or CKD benefits 👎
- Weight gain 👍👎
- Requires good visual & motor skills and cognitive ability 👎
- Efficacy: *High*
  - A1C lowering unlimited 👍

Medication Options:

Long-acting insulin analogues

- Insulin glargine (Lantus®, Toujeo®, Basaglar®)
- Insulin glargine-yfgn (Semglee®)
- Insulin detemir (Levemir®)
- Insulin degludec (Tresiba®)

Intermediate-acting human insulin

- NPH (Novolin-N® and Humulin-N®)

Pharmacologic Approaches to Glycemic Management:
Standards of Medical Care in Diabetes - 2022. *Diabetes Care* 2022;45(Suppl. 1):S125-S143

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CARDIOVASCULAR RISK FACTOR MODIFICATION

learning objective #2

Cardiovascular Treatment Goals in Older Patients

Health Status	Blood pressure	Lipids
Healthy • Few comorbidities and • Intact cognitive and functional status	< 140/90 mmHg	Statin unless CI or not tolerated
Complex/Intermediate • Multiple (≥3) comorbidities or • 2+ ADL impairments or • Mild/moderate cognitive impairment	< 140/90 mmHg	Statin unless CI or not tolerated
Very complex/Poor health • LTC or • End-stage chronic disease or • Moderate/severe cognitive impairment or • 2+ ADL impairments	< 150/90 mmHg	Consider likelihood of benefit with statin

Older Adults: Standards of Medical Care in Diabetes—2022. Diabetes Care. 2021;45(Supplement_1):S195-S207.

Hypertension Management in Older Patients

- Relax BP goals
- Encourage home BP monitoring
- Rely on:
  - Thiazides
  - ACEIs
  - ARBs
  - CCBs
- Confirm adherence before increasing doses or adding therapy

Consider Nuances When Managing Hypertension in Older Adults. Pharmacist's Letter. https://pharmacist.therapeuticresearch.com/. September 2019. Accessed July 13, 2022.

Hypertension Management in Older Patients

- Closely monitor sodium, potassium and renal function
- Ask about side effects
- Avoid NSAIDs
- Stay hydrated
- At least one medication should be taken at bedtime, remaining can be give QAM

1. Consider Nuances When Managing Hypertension in Older Adults. Pharmacist's Letter. https://pharmacist.therapeuticresearch.com/. September 2019. Accessed July 13, 2022.
2. Hermida RC, et al. Bedtime hypertension treatment improves cardiovascular risk reduction: the Hygia Chronotherapy Trial. *Eur Heart J.* 2020;41(48):4565-4576.

Hypertension Management in Older Patients

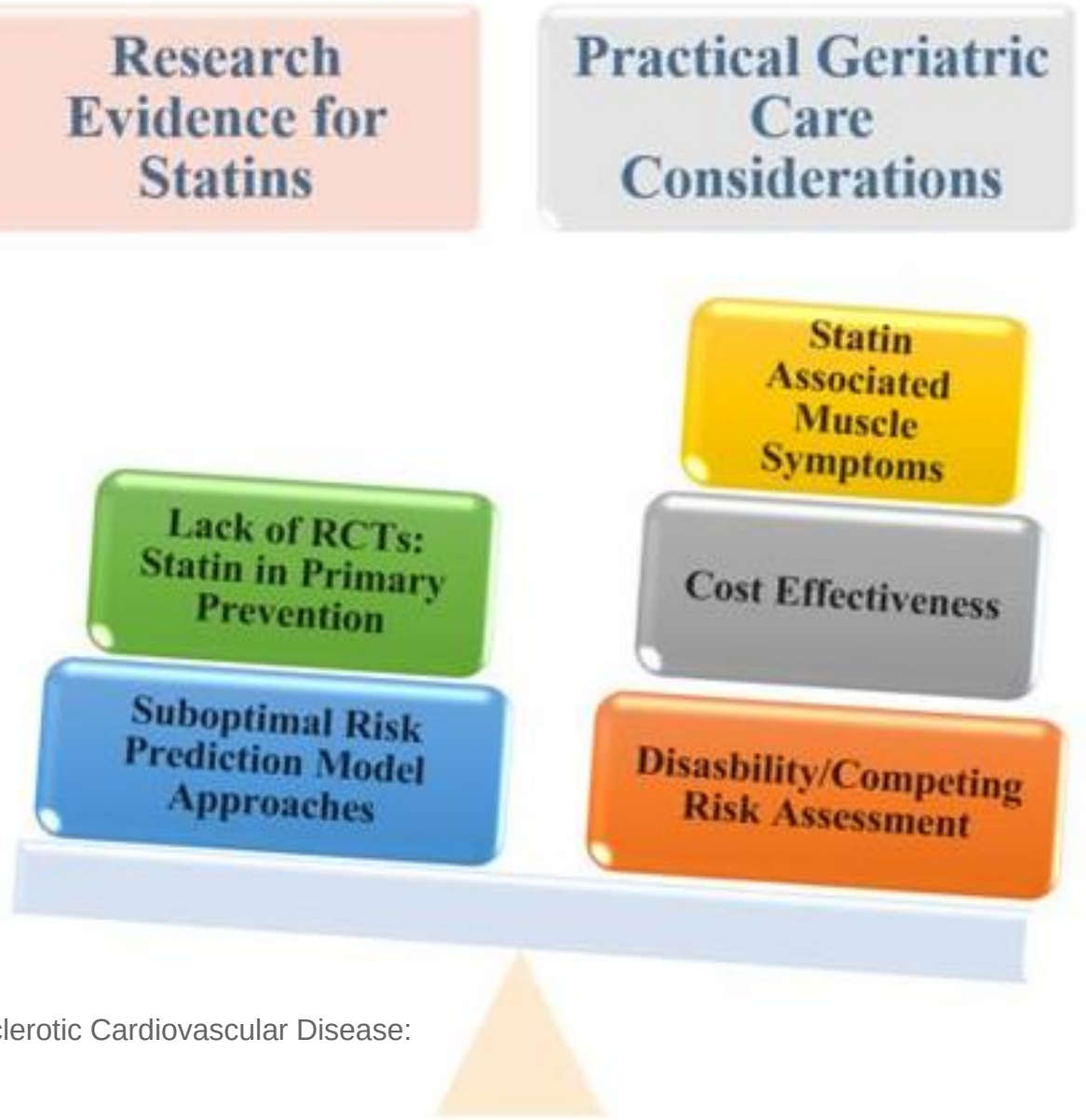
- Avoid *Potentially Harmful Drugs in the Elderly* (Beers List)
  - Alpha-blockers ➔ orthostatic hypotension
  - Amiloride & triamterene [when CrCl <30 mL/min] ➔ renal impairment
  - Clonidine
  - Guanfacine
  - Methyldopa
  - Reserpine >0.1mg/d

    ➔
    - Orthostatic hypotension
    - Bradycardia
    - CNS adverse effects
  - Nifedipine, short-acting ➔ hypotension, MI

Potentially Harmful Drugs in the Elderly: Beers List. Pharmacist's Letter. https://pharmacist.therapeuticresearch.com/. March 2019. Accessed July 13, 2022.

Lipid Management in Older Patients

Barriers of statin use in older adults



Saeed A, Mehta LS. Statin Therapy in Older Adults for Primary Prevention of Atherosclerotic Cardiovascular Disease: The Balancing Act. 2020. Oct. 1, 2020

Lipid Management in Older Patients

PROSPER	Ridker et al.	Orkaby et al.	Zhou et al.
• Pravastatin • Ages 70 – 82 y • No baseline ASCVD ✓↓ LDL 34% ✓↓ MI & CV death ✓Ø stroke reduction	• JUPITER & HOPE-3 • Rosuvastatin • No baseline ASCVD ✓↓ composite outcome by 26%	• All statins • US veterans (mean age 81 y) • No baseline ASCVD ✓↓ all-cause & CV death	• ASPREE • Age > 70 y • No baseline ASCVD ✓Ø disability-free survival, death, or dementia ✓↓ physical disability

1. Shepherd, et al. *Lancet.* 2002;360(9346):1623-1630
2. Ridker, et al. *Circulation.* 2017;135(20):1979-1981
3. Orkaby AR, et al. JAMA. 2020;324(1):68-78
4. Zhou, et al. J Am Coll Cardiol 2020;76:17-27

Use of statins in Older Patients

- Diabetes risk ➔
  - Statin use is associated with diabetes risk, however…
  - Odds ratio is 1.09
    - So, after 4 years, in 255 patients, 1 case of a new diabetes diagnosis, but 5.4 vascular events would be avoided.
- Cognitive function ➔
  - No differences seen between statin and placebo

Saeed A, Mehta LS. Statin Therapy in Older Adults for Primary Prevention of Atherosclerotic Cardiovascular Disease: The Balancing Act. 2020. Oct. 1, 2020

Aspirin use in older patients

- USPSTF recommends
  - aged 40 to 59 who are at a higher risk for cardiovascular disease (CVD) without a history of CVD should consider using aspirin.
  - Therefore, do not use aspirin for primary prevention in patients ≥ 60 years old.
- ADA recommends
  - Generally, not recommended in age >70 for primary prevention
  - ASPREE (aspirin vs placebo)
    - CV: 10.7 vs 11.3 (HR 0.95 [95% CI 0.83–1.08])
    - Major hemorrhage: 8.6 vs 6.2 (HR 1.38 [95% CI 1.18–1.62]; P < 0.001)
  - Patients with documented ASCVD, use of aspirin for secondary prevention has far greater benefit than risk.

1. JAMA. 2022;327(16):1577-1584. doi:10.1001/jama.2022.4983
2. Diabetes Care December 2021, Vol.45, S144-S174. doi:https://doi.org/10.2337/dc22-S010
3. McNeil JJ, et al. Effect of Aspirin on All-Cause Mortality in the Healthy Elderly. N Engl J Med. 2018;379(16):1519-1528.

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HYPOGLYCEMIA AND GLUCAGON

learning objective #3

Assessing HYPOglycemic risk

- Age > 80 years
- T1DM of > 20 yr duration
- Insulin treatment
- Use of insulin secretagogues
- h/o severe hypoglycemia
- Hypoglycemic unawareness
- Reduced renal function
- Hepatic insufficiency
- Alcohol use
- Poor nutritional status
- Unpredictable food intake
- Polypharmacy
- Frailty/poor visual-motor skills
- Cognitive dysfunction or dementia
- Depression

1. Diabetes Care 2022;45(Suppl. 1):S46–S59
2. Bansal N, et al. Management of diabetes in the elderly. *Med Clin North Am. Mar 2015;99(2):351-77.*

HYPOglycemia

- Severe hypoglycemia is associated with reduced cognitive function…
- Patients with cognitive function have more severe hypoglycemia…

Diabetes Care 2022;45(Suppl. 1):S46–S59

HYPOglycemia Classification

Table 6.4—Classification of hypoglycemia

	Glycemic criteria/description
Level 1	Glucose <70 mg/dL (3.9 mmol/L) and ≥54 mg/dL (3.0 mmol/L)
Level 2	Glucose <54 mg/dL (3.0 mmol/L)
Level 3	A severe event characterized by altered mental and/or physical status requiring assistance for treatment of hypoglycemia

Reprinted from Agiostratidou et al. (72).

Diabetes Care 2022;45(Suppl. 1):S83-S96.

HYPOglycemia: Clinical Manifestations

Level 1 (< 70 mg/dL & ≥ 54 mg/dL)

Symptoms

- Nervousness
- Anxiety
- Palpitations
- Hunger
- Tremors
- Nausea
- Angina
- Irritability
- Numbness/ tingling

Signs

- Pallor
- Diaphoresis
- Tachycardia

Level 2 (< 54 mg/dL)

Symptoms

- Sudden fatigue
- Weakness
- Feeling of coldness
- Transient hemiplegia
- Dizziness
- Headache
- Impaired mentation

Signs

- Confusion
- Amnesia
- Drowsiness
- Belligerence
- Irrationality
- Aphasia
- Seizures
- Coma
- Death

1. Diabetes Care 2022;45(Suppl. 1):S83-S96
2. Bansal N, et al. Management of diabetes in the elderly. *Med Clin North Am. Mar 2015;99(2):351-77.*

Other medication considerations

- Beta-blockers
- SSRIs
- ACE Inhibitors
- Quinolones
- Tramadol
- Quinine

1. Diabetes Care 2022;45(Suppl. 1):S46–S59
2. Ben Salem C, et al. Drug-induced hypoglycaemia: an update. *Drug Saf.* Jan 1 2011;34(1):21-45
3. Fournier J-P, et al. *JAMA internal medicine.* 2015;175(2):186-193.

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HYPOglycemia Treatment

Rule of 15

1. Confirm BG with fingerstick
2. Consume 15g CHO
3. Wait 15min, then re-check BG
4. Follow up with substantial snack

	3–4 glucose tablets or liquid Follow package directions, dose may vary slightly	Monosaccharide: Commercially available over the counter. Contains pure glucose. *Preferred treatment because of rapid absorption (ADA, 2017).
	½ cup of fruit juice 1 tablespoon honey	Monosaccharide: Contains fructose rather than glucose
	1 cup nonfat milk	Disaccharide: Contains lactose, rather than glucose
	4–6 oz sweetened (nondiet) soda	Usually sucrose—disaccharide of glucose and fructose
	4–5 hard candies	Potential choking hazard and difficult to ingest rapidly. Not preferred treatment. "Fruit snacks" may contain fiber that delays absorption.

HOME HEALTHCARE NOW

Diabetes Care 2022;45(Suppl. 1):S46–S59 |Freeland B. Hypoglycemia in Diabetes Mellitus. Home Healthcare Now. 2017;35(8)

Glucagon

Glucagon

Powder for solution for injection

- GlucoGen® HypoKit
- Glucagon Emergency Kit

Intranasal

- Baqsimi® 3mg

Solution for injections

- Gvoke® HypoPen
- Gvoke® PFS

Dasiglucagon

Auto-injector

- Zegalogue® 0.6mg/0.6mL

Prefilled Syringe

- Zegalogue® 0.6mg/0.6mL

Hawkes CP, De Leon DD, Rickels MR. Novel Preparations of Glucagon for the Prevention and Treatment of Hypoglycemia. *Current diabetes reports.* 2019;19(10):97.

Glucagon (GlucoGen® HypoKit)

- Store for up to 24 months (or to expiration date) at a temperature not to exceed 77°F
- Protect from light by keeping in original packaging
- **Administration**: powder that requires dilution with a syringe and needle to add diluent. Then dose is drawn up and injected as IM or SC
- Usual dose 1mg, use 0.5mg in children <25 kg (or if weight unknown and <6 years of age)

1. Preventing and Managing Hypoglycemia in Patients with Diabetes. Pharmacists Letter. https://pharmacist.therapeuticresearch.com.
2. https://www.glucagenhypokit.com/. Accessed on 7/15/22.

Glucagon (Baqsimi®)

- Store in its shrink-wrapped tube to protect it from moisture, avoid temps > 86°F
- 24-month shelf-life from date of manufacture
- Single, ready-to-use intranasal powder. Approved for ≥4 years of age
- **Administration:** insert the device tip into one nostril, then depress the plunger until the green line on the plunger is no longer visible
- Inhaling is not required
- Nasal congestion or use of decongestants does not affect absorption

1. Preventing and Managing Hypoglycemia in Patients with Diabetes. Pharmacists Letter. https://pharmacist.therapeuticresearch.com.
2. https://www.baqsimi.com/hcp. Accessed on 7/15/22.

Glucagon (Gvoke HypoPen®)

- Store in sealed pouch at room temperature
- Shelf-life is ≤24 months from date of manufacture
- **Administration:** prefilled autoinjector for SC administration (lower abdomen, outer thigh, or outer upper arm); push down for five seconds
- A window on the injector turns red when the dose has been fully administered
- Dispensed as 0.5mg/0.1mL or 1mg/0.2mL
- Each box contains 2 doses

1. Preventing and Managing Hypoglycemia in Patients with Diabetes. Pharmacists Letter. https://pharmacist.therapeuticresearch.com.
2. https://gvokeglucagon.com/hcp/dosing. Accessed on 7/15/22.

Glucagon (Gvoke PFS®)

- Store in sealed pouch at room temperature
- Shelf-life is ≤24 months from date of manufacture
- **Administration:** traditional prefilled syringe for SC administration
- Remove the cap ➔ pinch the skin at the injection site ➔ insert the needle into the skin at a 90-degree angle ➔ push the plunger
- Dispensed as 0.5mg/0.1mL or 1mg/0.2mL
- Each box contains 2 doses

1. Preventing and Managing Hypoglycemia in Patients with Diabetes. Pharmacists Letter. https://pharmacist.therapeuticresearch.com.
2. https://gvokeglucagon.com/hcp/dosing. Accessed on 7/15/22.

Dasiglucagon (Zegalogue®) Autoinjector

- Store in refrigerator
- Can store for up to 12 months at room temperature
  - Do not return to the refrigerator once it has been removed
- Keep in original packaging to protect from light
- Single-dose prefilled autoinjector SC administration
- 0.6mg dose ages ≥ 6 years old
- **Administration:** push the autoinjector on the skin until the yellow needle guard is fully pressed down (there may be a click) and holding for ten seconds
- Window turns red when dose has been delivered

1. Preventing and Managing Hypoglycemia in Patients with Diabetes. Pharmacists Letter. https://pharmacist.therapeuticresearch.com.
2. https://www.zegalogue.com/devices-and-storage/. Accessed on 7/15/22.

Dasiglucagon (Zegalogue®) Prefilled Syringe

- Store in refrigerator
- Can store for up to 12 months at room temperature
  - Do not return to the refrigerator once it has been removed
- Keep in original packaging to protect from light
- Single-dose prefilled syringe SC administration
- 0.6mg dose ages ≥ 6 years old
- **Administration:** remove the cap ➔ pinch the skin ➔ insert at a 45° angle ➔ push the plunger

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When to recommend glucagon…

- Patients at risk for Level 2 or 3 hypoglycemia
- All T1DM patients
- Older patients on insulin or sulfonlyureas
- Older patients with cognitive impairment

Diabetes Care 2022;45(Suppl. 1):S83-S96.

QUESTIONS?

Thank you!

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