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Diabetes in the Elderly

Disclosure

- Dr. Mulhausen is employed by Iowa Total Care, a Centene Health Plan.
- Dr. Mulhausen led the American Geriatrics Society's *Choosing Wisely®* Initiative.

Objectives

- Reference and use the AGS and the AMDA-PALTC *Choosing Wisely®* resources in the care of your older adult patients with diabetes.
- Reference and Use the American Diabetes Associations: Older Adults: Standards of Medical Care in Diabetes - 2020.
- Tailor your treatment programs for diabetes to meet the unique needs of your older adult patients.
- Consider the role of lifestyle medicine in the management of your aging patients with Type 2 Diabetes mellitus.

How are we going to do this?

- Review the AGS and the AMDA-PALTC *Choosing Wisely®* Choices relevant to Diabetes care
- Review the ADA Standards for Older Adults
- Highlight and review the Choices relevant to care of residents with dementia.

"Choices" we will review

Avoid	Avoid using medications other than metformin to achieve hemoglobin A1c <7.5% in most older adults; moderate control is generally better.
Don't use	Don't use sliding scale insulin (SSI) for long-term diabetes management for individuals residing in the nursing home.

Choosing Wisely®:

An initiative of the ABIM Foundation

As much as 30% of care delivered in the US may be duplicative or unnecessary[1]

Choosing Wisely® aims to promote conversations between physicians and patients by helping patients choose care that is:

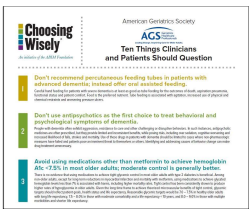
- Supported by the Evidence
- Not duplicative of other tests or procedures already received
- Free from harm
- Truly necessary

1. IOM Best Care at Lowest Cost, The National Academies Press

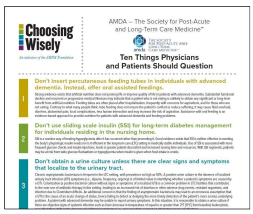
Choosing Wisely: Impact

Two Choice Lists to know for Geriatric Care

http://www.choosingwisely.org/wp-content/uploads/2015/02/AGS-Choosing-Wisely-List.pdf



http://www.choosingwisely.org/wp-content/uploads/2015/02/AMDA-Choosing-Wisely-List.pdf



Choose to avoid overtreatment in older adults

AMDA	Don't use sliding scale insulin (SSI) for long-term diabetes management for individuals residing in the nursing home.
AGS	Avoid using medications other than metformin to achieve hemoglobin A1c <7.5% in most older adults; moderate control is generally better.
ADA	Overtreatment of diabetes is common in older adults and should be avoided
SGIM	Don't recommend daily home finger glucose testing in patients with Type 2 diabetes mellitus not using insulin.

What's the Challenge?

- High variability in physiological and functional reserve
- Increased vulnerability to adverse effects of therapy.
- Diminished potential to receive benefits of glycemic control
- Increasing levels of comorbidity
- Individualized care is difficult

Summary of the Evidence

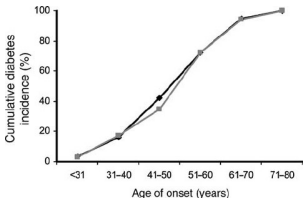
Benefits of Target A1C < 7.5%

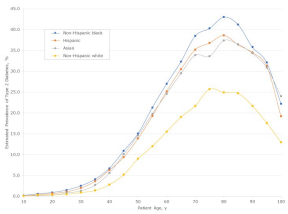
- Retinopathy prevention ~ 8 years
- Mortality reduction ~ 10 – 19 years
- Greatest benefit in
  - Newly Diagnosed and Younger

Harms of Target A1C < 7.5%

- 1% increase in death over 3.5 years
- 5% increase in hypoglycemia events
- Increase in Hospitalizations
- Harms increase with age and comorbidity burden

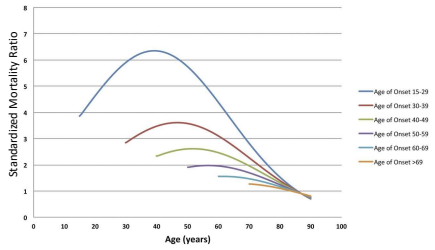
Age, Onset, and Prevalence of T2DM





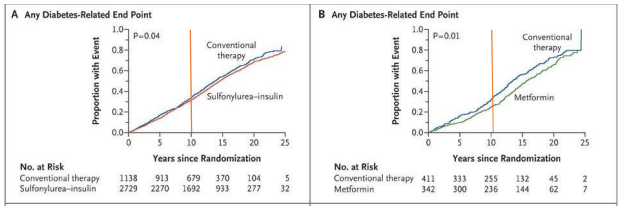
Diabetologia 2007 50(6):1209-17

Age of Onset and Risk of Mortality



Diabetes Care 2016 May; 39(5): 823-829.

Benefits: The UKPDS



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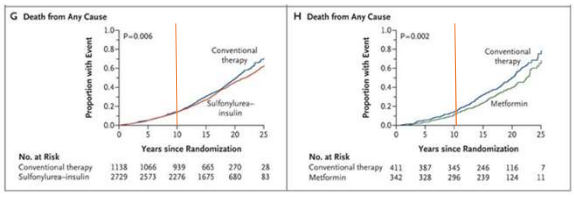


The Clinical Trial Is Open. The Elderly Need Not Apply.

David Plunkert

- UKPDS inclusion criteria
  - –Newly diagnosed diabetes
  - –26-65 years of age at baseline
- Applying UKPDS exclusions, 49% of patients with new onset diabetes would be excluded
- Among 7 major trials of glucose lowering, 39% of type 2 population would be excluded

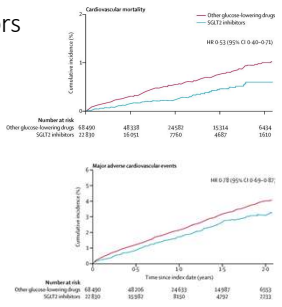
"In short, RCTs comparing tight glycemic control with conventional therapy in DM2 have shown no difference in the incidence of stroke, amputation, blindness, or renal failure."

JAGS 60:1571–1575, 2012

Side Bar: GLP-1 receptor agonists and SGLTP2 Inhibitors

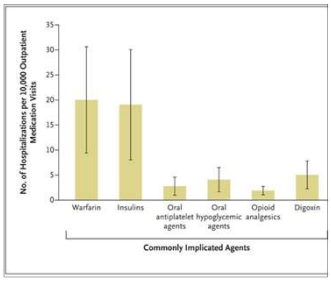
- GLP-1 receptor agonists as a class reduce the risk of major adverse cardiovascular events (RR 0·88; 95% CI 0·84–0·92)
- SGLT2 inhibitors as a class reduced the risk of major adverse cardiovascular events (RR 0·87; 95% CI 0·82–0·93)
- Distinct from Tight Glycemic Control

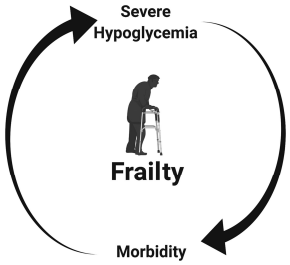
Lancet Diabetes & Endocrinology. 2020; 8(3):192-205



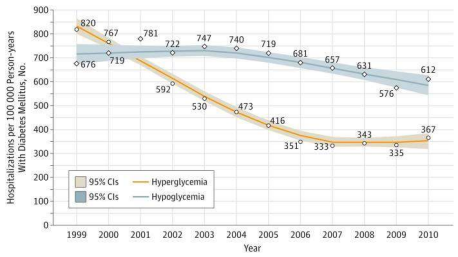
Lancet Diabetes & Endocrinology. 2017; 5(9):709-717

Harms





Older Adult Admissions: Hypo > Hyper



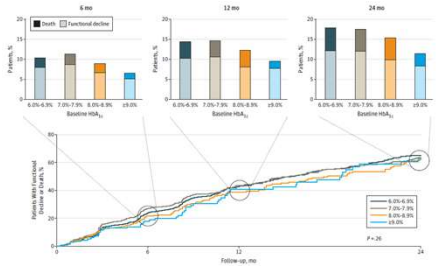
JAMA Intern Med. 2014; 174(7): 1116-1124

Harms

ACCORD Trial*	Mean Age 62	The use of intensive therapy to target normal glycated hemoglobin levels for 3.5 years resulted ***in greater mortality than standard therapy*** and did not significantly reduce major cardiovascular events.
ADVANCE Trial¥	Mean Age 66	…after 5 years, 97.1% of participants with intensive control and 95.9% with standard control did not develop macroalbuminuria. ***Severe hypoglycemia was more frequent in the intensive-control group*** than in the standard-control group: (hazard ratio 1.86 [1.42–2.40]; P < 0.001). **More patients undergoing intensive control were hospitalized** for any cause: (hazard ratio, 1.07; 95% CI, 1.01 to 1.13; P=0.03).

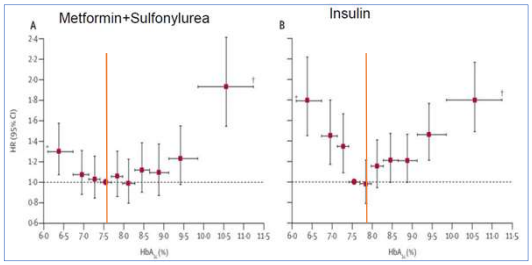
*N Engl J Med 2008;358:2545–2559
¥ N Engl J Med 2008;358:2560–2572

The Nursing Home Population



JAMA Intern Med. 2017;177(1):130-132.

A1C and Mortality



Currie C, Lancet. 2010; 375(9713):481-489

ADA Older Adults: Standards of Medical Care in Diabetes – 2020
18 Principles for Older Adult Care

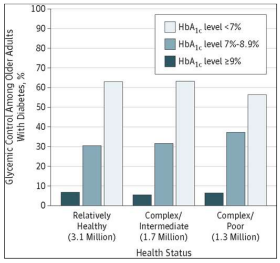
- 12.1 Screen for geriatric syndromes [Grade B]
- 12.4 Hypoglycemia should be avoided in older adults with diabetes [Grade B].
  - Adjust glycemic targets
  - Adjust pharmacologic agents
- 12.6 Glycemic goals for some older adults might reasonably be relaxed as part of ***individualized care***. [Grade C]
- 12.11 In older adults with type 2 diabetes at increased risk of hypoglycemia, medication classes with low risk of hypoglycemia are preferred. [Grade B]

Diabetes Care 2020;43(Suppl. 1):S152–S162

Comparison of Guidelines

European Diabetes Working Party for Older People		American Geriatrics Society		Department of Veterans Affairs		American Diabetes Association	
Description of patient stratum	A1C goal	Description of patient stratum	A1C goal	Description of patient stratum	A1C goal	Description of patient stratum	A1C goal
Without major comorbidities	7.0-7.5%	Healthy	7.0-7.5%	None or very mild microvascular complications; life expectancy of 10-15 years	<7.0%	Healthy (few co-existing chronic illnesses; intact cognitive and functional status)	<7.5 %
Frail patients (dependent; multi-system disease; care home residency, including those with dementia)	7.6-8.5%	Moderate comorbidities	7.5-8.0%	Long duration of diabetes (>10 years); requires combination drug regimen including insulin	<8.0%	Complex/intermediate (examples: multiple co-existing chronic illnesses*, ≥2 instrumental ADL impairments, or mild-moderate cognitive impairment)	<8.0 %
		Multiple comorbidities	8.0-9.0%	Advanced microvascular complications and/or major comorbid illness; life expectancy <5 years	8.0-9.0%	Very complex/poor health (examples: long term care, end stage chronic illnesses†, moderate-severe cognitive impairment, or ≥2 ADL dependencies)	<8.5 %‡

Care Goals: Failure of Individualization



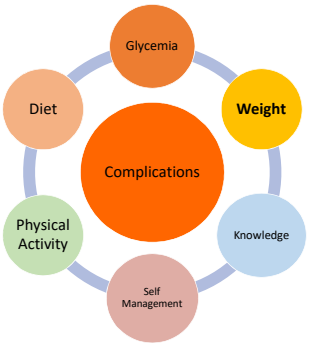
Drug Summary: Managing T2DM in Older Adults

- Avoid Hypoglycemia. It's worse than modest hyperglycemia.
- Individualize A1C treatment goals. Lower isn't always better.
- If individualization is problematic, moderate A1C control is generally better than tight glycemic control.

ADA Older Adults: Standards of Medical Care in Diabetes – 2020
Recommendation 12.12
The Real Missed Opportunity

- Optimal nutrition and protein intake is recommended for older adults;
- Regular exercise,
- Including aerobic activity and resistance training, should be encouraged in ***all*** older adults who can safely engage in such activities.

It's Complicated



Lifestyle, Diabetes, and Healthy Aging

- Diabetes Prevention Programs
- Natural Movement and Physical Activity
- Diabetes Self Management Education
- Strong Relationships and Social Supports
- Health Coaching
- Plant Slant in Diet with 80% Rule
- Environmental and Community Support for Aging Functional Change

Summary

- Use the AGS and the AMDA-PALTC *Choosing Wisely*® resources in the care of your older adult patients with diabetes.
- Use the American Diabetes Associations: Older Adults: Standards of Medical Care in Diabetes - 2020.
- Tailor your treatment programs for diabetes to meet the unique needs of your older adult patients.
- Promote a Lifespan approach to Healthy Aging and Use Lifestyle Medicine in the management of your aging patients with Type 2 Diabetes mellitus.