



Older Adults and Diabetes
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Diabetes in the Elderly Objectives




- ▶ Overview
- ▶ Individualizing goals
- ▶ Strategies to maximize quality of life
- ▶ Self-management considerations
- ▶ Diabetes Educator as advocate




Poll Question 1

▶ What percent of the population over the age of 65 has type 2 diabetes?



- A. 9.3%
- B. 18%
- C. 26%
- D. 34%



Older People and Diabetes Stats

- ▶ Rate of older population with diabetes growing rapidly in coming decades.
- ▶ Diabetes prevalence to double in next 20 years, in part due to the aging population
- ▶ 26% of Americans age 65 or older have diabetes (11.8 million seniors)
- ▶ **20%** of new cases occur in ages 65–79
- ▶ Adults 75+ highest rates of complications: myocardial infarction, amputations, visual impairment, kidney disease.



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Life Span of Older Adults in United States

<u>Age Years</u>	<u>Additional yrs of Life Expected</u>
▶ 60	21.4
▶ 65	17.7
▶ 70	14.3
▶ 75	11.2
▶ 80	8.5
▶ 85	6.3
▶ 90	4.5
▶ 95	3.3
▶ 100	2.5



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Older Patients

- ▶ Are often
 - ▶ Undertreated and
 - ▶ Overtreated



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When does old age start?



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When Does Old Age Start?

- ▶ "The aging process is a biological reality which has its own dynamic, largely beyond human control.
- ▶ Age is also subject to the constructs of each society. (WHO)
- ▶ In the developed world, 60 or 65, is said to be the beginning of old age (retirement)
- ▶ In developing world, old age is seen to begin at the point when active contribution is no longer possible." (Gorman, 2000).



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Consider the Individual

- ▶ **Start with a thorough assessment**
During the initial interview, ask questions to reveal medical, functional, mental and social domains.
- ▶ This will help to provide a framework to determine realistic targets and best treatment approaches.



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Consider the Individual

- ▶ Eval ability to afford diabetes medication, food and shelter.
- ▶ Well phrased questions can provide opportunities for sharing and collaborative problem solving



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Poll Question 2

- ▶ An 83 year old patient's daughter ask you about what particular issues to watch for with her mother? Which of the following is most important to monitor for her older mother with diabetes?
- ▶ A. Hypoglycemia
- ▶ B. Ability to email others
- ▶ C. Keeping morning BG 80-130
- ▶ D. Making sure she has a 30gm snack at night



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Pay Particular Attention

- ▶ Screening for diabetes complications should be individualized in older adults, but particular attention should be paid to complications that would lead to functional impairment.



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Functional Considerations – Older Adults with Diabetes

- ▶ Peripheral Neuropathy in 50-70%
 - ▶ Postural instability which limits physical activity
- ▶ Falls and Fractures –higher risk w/ diabetes
 - ▶ Women at risk for hip and humeral fractures
 - ▶ Consider physical therapy, balance practice
- ▶ Polypharmacy – 6 or more drugs daily
 - ▶ Affordability, interactions, increased risk of falling
- ▶ Visual impairment in 20%
- ▶ Hearing impairment twice as common



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Older Adult Assessment

- ▶ Take note of initial presentation
 - ▶ Mobility and gait
 - ▶ Skin integrity and tone
 - ▶ Oral care, teeth, breath
 - ▶ How are they dressed?
 - ▶ Sneak a peak at their feet
 - ▶ Affect
 - ▶ Who they bring/not bring to appt
 - ▶ Other



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Treatment Goals based on:

- ▶ Length of time living with diabetes (new onset, undiagnosed for many years or longer history)
- ▶ Presence or absence of complications
- ▶ Comorbidities
- ▶ Degree of frailty
- ▶ Cognitive function
- ▶ Life expectancy (often longer than expected)
- ▶ Functional status



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Poll Question 3

▶ RT, is a healthy 74 year old who is on metformin 1000mg BID. He has had diabetes for 11 years. His latest A1c was 7.3% What is your response?



- ▶ A. Good job, let's get the A1c less than 7%
- ▶ B. Have you been snacking more than usual?
- ▶ C. What do you think about your A1c level?
- ▶ D. Let's add on another medication to get your A1c to target.



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Healthy & Good Functional Status

- ▶ Set more intensive goals if:
 - ▶ Good cognitive and physical function
 - ▶ Expected to live long enough to reap benefits of intensive management,
- ▶ Ongoing follow-up to eval safety



Goals:

- ▶ Reasonable A1c goal <7.5%,
- ▶ Fasting BG 90 – 130
- ▶ Blood Pressure < 140/90
- ▶ Statin unless contraindicated or not tolerated



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Poll Question 4

▶ HR is a 78 year old with a stroke and limited cognition. She has had diabetes for 8 years and is on intensive insulin therapy: Humalog coverage at meals and Lantus at night. Her A1c is 6.2%. She has a part time care taker. What do you suggest?



- ▶ A. Evaluate food intake
- ▶ B. Discuss de-intensifying insulin regimen
- ▶ C. Move Lantus to morning
- ▶ D. Stop insulin and start on oral medications



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Patients with Complications and Reduced Functionality - Less Intense Goals

- ▶ For patients with
 - ▶ advanced diabetes complications,
 - ▶ life-limiting illnesses
 - ▶ substantial cognitive, functional impairment.
- ▶ Less likely to benefit from reduced risk of microvascular complications
- ▶ At higher risk of hypoglycemia, hypotension and adverse effects from polypharmacy



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Patients with Complications and Reduced Functionality - Less Intense Goals

- ▶ Adjusted based on shared - decision making and safety.
- ▶ Keep it realistic
- ▶ Consider DE-Intestisification
- ▶ Goals:
 - ▶ Reasonable A1c goal <8.0%
 - ▶ Fasting BG 90 – 150
 - ▶ Blood Pressure < 140/90
 - ▶ Statin unless contraindicated or not tolerated



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Very Complex Pts with Poor Health

- ▶ For patients with:
 - ▶ limited life expectancy and end stage chronic illnesses
 - ▶ moderate-to-severe chronic functional or cognitive issues
- ▶ Focus on quality of life and avoidance of hypo & hyperglycemic crisis.
- ▶ Goals:
 - ▶ Reasonable A1c goal <8.5%,
 - ▶ Fasting BG 100 – 180
 - ▶ Blood Pressure < 150/90
 - ▶ Consider likely benefit of statin unless contraindicated or not tolerated



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Shared Decision Making

- ▶ For all these situations, a patient-centered approach and shared decision making can help establish goals and treatment strategies that are reasonable for the patient, family and provider.



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ADA Recommendations - Depression

- ▶ Older Adults (65 years of age) with diabetes should be considered a high-priority population for depression screening and treatment.



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Poll question 5

- ▶ Which of the following is true about diabetes and depression in older adults?
 - ▶ A. Most older adults with diabetes are depressed.
 - ▶ B. Older adults with diabetes are at low risk for depression.
 - ▶ C. Older adults should be evaluated for depression
 - ▶ D. Alcoholism is the most common symptom of depression in older adults



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Psychosocial Issues
“Integrity vs. Despair”

- ▶ 15-20% of older adults w/ DM have depression
- ▶ Assess for s/s of depression
- ▶ Assess other factors that may impact QOL
 - ▶ lack of income
 - ▶ isolation
 - ▶ loss of spouse
 - ▶ limited mobility
 - ▶ alcohol abuse



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Depression Assessment

- ▶ **Depression:**
 - Over the last 2 weeks, have you felt down, depressed or hopeless?
 - Over the last 2 weeks, have you felt little pleasure in doing things?
- ▶ **Depression**
 - ▶ Pt. Health Questionnaire (PHQ-9) in resources page
 - ▶ Beck Depression Inventory (BDI)
 - ▶ Symptom Checklist (SCL-90)
 - ▶ Referral to Mental Health:
 - ▶ Refer to therapy (list ready!)
 - ▶ Pharmacologic TX
Anti-depressants: (2-8 weeks to work)



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Cognitive Impairment

- ▶ Poor glycemic control is associated with a decline of cognitive function
- ▶ Longer duration of diabetes worsens cognitive function
 - ▶ Dementia
 - ▶ Alzheimer's
- ▶ **Treatment:**
 - ▶ Refer to specialist for assessment
 - ▶ Achieve optimal BG control
 - ▶ Pharmacist to evaluate drug safety and potential drug interactions
 - ▶ Keep physically active



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CV Risk Reduction – Older Adults

- ▶ When treating Cardiovascular risk factors consider time frame of benefit and the individual patient.
- ▶ Hypertension treatment is indicated in virtually all older adults
- ▶ Lipid-lowering and aspirin therapy may benefit those with longer life expectancy



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Goals – Keeping it in Perspective

- ▶ Greater reductions in death and complications may result from CV risk factor reduction than tight BG control alone
- ▶ Strong evidence to treat HTN
- ▶ Less evidence for lipid lowering and aspirin therapies
- ▶ Research ongoing



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ADA Recommendations – Long Term Care Facilities

- ▶ Patients with diabetes residing in long-term care facilities need:
 - ▶ careful assessment to establish glycemic goals
 - ▶ make appropriate choices of glucose-lowering agents based on their clinical and functional status.
 - ▶ Evaluation of frequency of BGM



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Long Term Care Consideration

- ▶ Staff training - Consider diabetes education for long-term care facilities to improve care
- ▶ Nutrition – at high risk for under-nutrition.
 - ▶ Tailor diet to culture, preferences and personal goals
- ▶ Hypoglycemia – more vulnerable to hypo
 - ▶ Due to multiple comorbidities
- ▶ Ongoing eval
 - ▶ Federal guidelines – MD must assess pt every 30 days for 1st 90 days, then once every 60 days
 - ▶ Pt may be experiencing hypo/hyper without tx change



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Poll question 6

- ▶ When should an older adult contact their provider?
 - ▶ A. If blood sugars are above 180 twice a week.
 - ▶ B. If blood sugars go below 70 one time.
 - ▶ C. If morning blood sugars are consistently 100 - 130
 - ▶ D. If post meal blood sugar goes above 300 once



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Hypo and When to Contact Provider

- ▶ Avoid hypoglycemia in older adults with diabetes.
- ▶ Screen for hypo on regular basis
- ▶ Prevent and determine cause
- ▶ Make needed med /food adjustment
- ▶ When to Contact Provider – Hypo/Hyper Guidelines:
 - ▶ BG < 70 - Call provider immediately
 - ▶ If BG 70 – 100
 - ▶ BG > 250 within 24 hr period
 - ▶ BG > 300 on 2 consecutive days, unusually high BG
 - ▶ Pt sick, risk of dehydration and/or hyperglycemic crises



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Reducing Risk of Hypo

- ▶ Evaluate Kidney function
 - ▶ If creat >1.4, GFR < 60
 - ▶ Give long acting insulin in morning
 - ▶ Made need lower dinner bolus insulin
 - ▶ Avoid long acting sulfonylureas –
 - glipizide best choice in am
 - ▶ Hypoglycemia awareness and action
 - ▶ Activity
 - ▶ Nutritional status
 - ▶ Ongoing monitoring and problem solving



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ADA Recommendations – End of Life

- ▶ Overall comfort, prevention of distressing symptoms, and preservation of quality of life and dignity are primary goals for diabetes management at the end of life.



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ADA Recommendations – Palliative Care

- ▶ In older adults with diabetes,
 - ▶ strict blood pressure control may not be necessary, and withdrawal of therapy may be appropriate.
 - ▶ Similarly, the intensity of lipid management can be relaxed, and withdrawal of lipid-lowering therapy may be appropriate.
 - ▶ Avoid glucose extremes to prevent hypoglycemia or hyperglycemic crisis.



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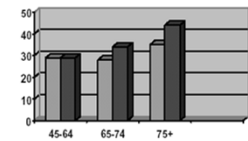
Older Adults – Individualized Assessment

- ▶ Social support
 - ▶ Who do they live with?
 - ▶ Anyone helping with self-care?
- ▶ Finances
 - ▶ Housing, food, transportation
- ▶ Activity, Nutrition
- ▶ Medications
 - ▶ Types
 - ▶ Can they afford?



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Physical Inactivity for U.S. Men and Women, 2000 (Percent Inactive)



Men
 Women

Diabetes Educational Services
 Published by Beverly Thomason on 17 May 13 at 7:55am

On average, older dog owners walk more and score better on stress tests and other measures of psychological well-being. There is even some suggestion in the scientific literature that owning a dog is associated with a lower risk of various diseases (perhaps from that extra exercise) and faster recovery times when disease does occur.

Walking Fido Is Doggone Good for Your Health
 Most of benefits unveiled for older folks, researchers find
SCIENCEHEALTHY.COM



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Poll question 7

- ▶ JR tells you she is avoiding carbs to get her A1c less than 6.5. She is 76 and her BMI is 22. She is on no medication. What is the best approach?
- ▶ A. Instruct her to eat a minimum of 45 gms of carb per meal.
 - ▶ B. Explore her reasons for avoiding carbs
 - ▶ C. Gently suggest she start diabetes medications.
 - ▶ D. Give her handouts on healthy carbs.



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Physical Activity Benefits for Older Adults



- ▶ Lower overall mortality.
- ▶ Lower risk of
 - ▶ coronary heart disease.
 - ▶ colon cancer.
 - ▶ diabetes.
 - ▶ high blood pressure
 - ▶ obesity.
 - ▶ falls and injury
 - ▶ Alzheimer's
- ▶ Improves
 - ▶ Mood, relieves depression
 - ▶ Improved QOL / function
 - ▶ Function in persons with arthritis
 - ▶ Mental clarity

National Institute on Aging



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Go4Life

- ▶ Google Go4Life
- ▶ Exercise ideas
- ▶ Videos
- ▶ Resources



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Nutrition Considerations for Older Adults



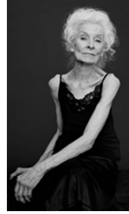
- ▶ Asses for underweight
- ▶ Smaller more frequent meals
- ▶ Fortify usual foods
- ▶ Adding liquid nutrition supplement
- ▶ Identifying community resources (meals on wheels, Senior Centers, etc.)
- ▶ Encourage fluid intake
- ▶ Snacks as needed
- ▶ Cultural preferences and palatability



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Older Adults at Risk for Malnutrition

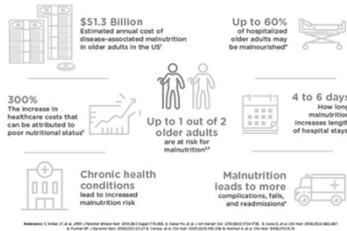
- ▶ Due to:
 - ▶ Altered taste and smell
 - ▶ Swallowing difficulties
 - ▶ Oral/dental issues
 - ▶ Functional difficulties shopping for/preparing food
 - ▶ Anorexia
 - ▶ Overly restrictive eating patterns - carb deprivation
 - ▶ Self-imposed or provider/partner directed



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MALNUTRITION: AN OLDER-ADULT CRISIS

WWW.DEFATHMALNUTRITION.TODAY



Alliance for Aging Research

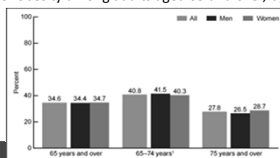
Just 3 steps can help improve older-adult malnutrition care:



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Obesity and Older Adults

- ▶ Obesity prevalent
- ▶ Increases decline in physical function
- ▶ Increases frailty
- ▶ Encourage strategies that combine physical activity, nutrition therapy to promote wt loss
- ▶ Prevalence of obesity among adults aged 65 and over, by sex: U.S., 2007–2010. CDC



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Medication Factors to Consider

- ▶ Construct a tailored care plan
- ▶ Social difficulties and living situation
- ▶ Assess affordability
- ▶ Get meds from one pharmacy
- ▶ Keep list of meds on hands



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Poll question 8

- ▶ KT has an A1c of 7.4%, GFR 30, and had tried to get blood glucose down through exercise and diet. What medication would help get her A1c to target safely?



- ▶ A. Januvia (sitagliptin)
- ▶ B. Metformin
- ▶ C. Invokana (canagliflozin)
- ▶ D. Glyburide



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Medications – Insulin Sensitizers

- ▶ Metformin 1st Line agent in older adults
 - ▶ Close monitoring of GFR and Creatinine required, particularly if older than 80 yrs
 - ▶ Temporarily hold during acute illness which may compromise renal and liver function
 - ▶ Caution in thinner, frail patients
 - ▶ Use long acting version to decrease N/V
- ▶ TZDs (Actos and Avandia)
 - ▶ Generally not recommended
 - ▶ Avoid these for those with or at risk for
 - ▶ CHF
 - ▶ Fractures



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New Metformin GFR Guidelines

The labeling recommendations on how and when kidney function is measured in patients receiving metformin will include the following information:

- Before starting metformin, obtain the patient's eGFR.
- Metformin is contraindicated in patients with an eGFR below 30 mL/minute/1.73 m².
- Starting metformin in patients with an eGFR between 30-45 mL/minute/1.73 m² is not recommended.
- Obtain an eGFR at least annually in all patients taking metformin. In patients at increased risk for the development of renal impairment such as the elderly, renal function should be assessed more frequently.
- In patients taking metformin whose eGFR later falls below 45 mL/minute/1.73 m², assess the benefits and risks of continuing treatment. Discontinue metformin if the patient's eGFR later falls below 30 mL/minute/1.73 m².
- Discontinue metformin at the time of or before an iodinated contrast imaging procedure in patients with an eGFR between 30 and 60 mL/minute/1.73 m², in patients with a history of liver disease, alcoholism, or heart failure, or in patients who will be administered intra-arterial iodinated contrast. Re-evaluate eGFR 48 hours after the imaging procedure; restart metformin if renal function is stable.



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Medications - Secretagogues

▶ Sulfonylureas

- ▶ Glipizide, Glimepiride, Glyburide
 - ▶ Cause hypo, use cautiously
 - ▶ Review signs of hypo, treatment and follow-up
 - ▶ Associated with 5-7 lb wt gain
 - ▶ Glyburide contraindicated (hypo)
- ▶ BG monitoring a must
- ▶ If experiencing hypo, contact provider to decrease dose



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Medications – Incretin based therapy

- ▶ GLP-1 Receptor Agonists - Injectables
 - ▶ Byetta, Bydureon, Victoza, Tanzeum, Trulicity
 - ▶ Cost may be barrier
 - ▶ Need to be able to inject
 - ▶ Consider nausea and potential weight loss

▶ DPP-IV Inhibitors - oral

- ▶ Januvia, Onglyza, Tradjenta, Nesina
- ▶ Cost may be barrier
- ▶ Very few side effects
- ▶ Saxagliptin (Onglyza) and alogliptin (Nesina)
 - ▶ CHF Warning - 2016 FDA review these medicines may increase the risk of heart failure, particularly in patients who already have heart or kidney disease.



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Medications – SGLT-2 Inhibitors

▶ Benefits of these Glucoretics

- ▶ Can lower weight / BP
- ▶ Invokana, Farxiga, Jardiance
- ▶ Jardiance lowers all cause mortality by over 30%



▶ Considerations

- ▶ Cost may be a barrier
- ▶ Monitor GFR – no recommended if kidney failure
- ▶ Can cause hypotension, electrolyte imbalances
- ▶ Increased risk of genital infections
- ▶ Long term experience in older adults limited



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Medications - Insulin

Considerations

- ▶ Cause hypo, use cautiously
- ▶ Review ability give appropriate dose and problem solving for high or low blood sugars
- ▶ Can be helpful for leaner adults
- ▶ Regular BG monitoring a must
- ▶ Eval injection site and dosing
- ▶ Evaluate affordability
 - ▶ Reli-On Insulin, Meter, Syringes at Walmart
 - ▶ Reli-On Insulin \$25 a bottle



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Blood Glucose Testing

- ▶ Can they use their meter?
- ▶ Results in log book?
- ▶ Do they understand significance of BG?
- ▶ Only check as often as needed to achieve blood glucose goals
- ▶ For type 2s on orals, Medicare covers 100 strips for 3 months
- ▶ Glucose goals may need personalization
 - ▶ Not less than 100 in am or before bedtime



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What strategies would you use? Who would you teach?

- ▶ 82 yr old frail, elderly. Started on insulin and BGM. Poor appetite. A1c 7.8%



- ▶ 82 yr old. Swims 3x's a wk and backpacks. Started on insulin and BGM. A1c 7.8%



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Advocating for Older Adults

- ▶ Advocate for help with:
 - ▶ transportation, shopping
 - ▶ social contact
 - ▶ negotiation with HC systems as needed
 - ▶ Brown bag inspection of meds - polypharmacy
- ▶ Base instruction on pt priorities
- ▶ Eval cost, access, safety, support before making care recommendations



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INDIVIDUALIZE – The Best Strategy for All Ages

- ▶ Consider the individual
- ▶ Identify polypharmacy/ financial problems
- ▶ Promote diabetes self-management training
- ▶ Recognize emotional distress
- ▶ Emotional support – Support Groups
- ▶ Realistic goal setting
- ▶ Follow-up and resources



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What Famous Person with Type 2 Diabetes said:

“Too much of a good thing is wonderful?”



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Mae West



Lived into her 80s with Type 2 Diabetes



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Hope: Our Best Gift



Thank You



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Thank You



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