Advancements in Diabetes Seminar
Caring for Elders with Diabetes

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Blythe Winchester:

Thank you very much. Hey, everybody! So I'll start out with apologizing. I've been sick since last week and I am in the halls of medicine right now, so hopefully that will help out and I apologize if I have to have pause and take a drink of water or wipe my nose, I'll try to mute myself if I have to cough or something like that. My name is Blythe Winchester. I'm an enrolled member of the Eastern Band of Cherokee. That's where I practice. I'm full-time now as a geriatrician. I have a lot of variability in my practice. I have a panel of elders that I provide care for. I do consults in geriatrics and in palliative care. I provide home visits. The consults that I do are both outpatient and inpatient. I'm also a certified medical director of our tribal nursing facility which also does have a memory care unit. And so I do a lot of different things in addition to my work as a Chief Clinical Consultant and a lot of education and things like that within Indian Health Service and geriatrics across Tribal communities and I'm really excited to be talking to you guys today.

This, I feel like could be a series in and of itself just talking about caring for elders with diabetes. It was really hard for me to try to condense this and figure out really what I wanted to focus on, that I felt like I get questions about most and what would benefit you most. So hopefully, I've been able to do that for you guys and provide you with some really helpful information.

The objectives, we'll summarize differences between elders with diabetes versus younger patients, incorporate key concepts of individualizing caring for elders. And if there's one thing I'm going to say 5,000 times during this talk it's going to be emphasizing individualized care practices for elders. Describe why a significant amount of diabetes research is not generalizable for elders with this disease. Incorporate into practice information on differences in pharmacotherapy and identify a change that you'll make in your clinical or public health practice.

Some of this may sound familiar. I gave a talk on this same topic in 2012, so the question is, "Why should you listen to boring old me again?" And the reason that you should listen to me now is I have updates for you on a different perspective on this topic. The way that I have this kind of broken down and focused on this time is that I'm making recommendations on functional categories of older people with diabetes, to try to help you in separating elders and how you should be treating them. And this time there's more on an individualized approach. There's the second time I'm saying it. I've already warned you. More on non-pharmacologic and multi-disciplinary management and since the times that I've talked to you last I have done a geriatric scholarship and so I was already focused on how important teamwork is. If there's one thing that I learned from that fellowship is that the teams are absolutely key in all of healthcare but especially in geriatrics and when you're taking care of elders and that'll be a focus here. And last time there's a lot more on medications and I am going to expect you to rely on your pharmacists and the other wonderful talks that you get in your diabetes theories to get more medical information about from that standpoint. Diabetic complications, I'm not emphasizing much this time. And there was more caregiver information last time, which I just didn't have much time to cover this time.

So attention boomers, I had one of these slides last time, but there's a little bit different information this time. According to the Administration on Aging, there were 46.2 million people aged 65 and older in 2014. That's 14.5% of the US population. By 2060, there will be 98 million, which is more than twice the number in 2014. Now, for people like me we get really super excited about this. By 2040 they'll represent 21.7% of the population and everybody who knows me knows that I love to talk about the Silver Tsunami which is one of my favorite terms. So I don't care where you work, most of the time unless you're in pediatrics you're going to be encountering elders and you need to know how to treat them.

This is the slide that really focuses on older American Indian and Alaska Natives and it's kind of a projection over time to 2060. So, basically the point here is that you can see that the number by 2060 is going to be closer to around 630,000. Now, when you look at the whole picture, in 2014, American Indians and Alaska Natives is partially made up of like .5% of the older population. That means by 2060, they make up more like 1% and a lot of people in general population will say, "You know that's really not a whole lot of the population, so how do you justify spending so much time and so much effort." My whole point is, with them representing 1% of the population, that means that really give us a great opportunity of being able to optimize our care and individualize our care and show that we can do an exceptional job with all of these elders, in providing exactly what they need, and showing that they truly are the gems and who we value and can provide the very best in care for every single one of those elders.

The general information about elders and diabetes, older adults with diabetes, highest rates of major lower extremity amputation, MIs, visual impairment, end stage renal disease unfortunately. And those age greater or equal than 75, higher rates for most complications are those in the younger age bracket and still up to a third of elders with diabetes are unaware or undiagnosed, and I'll talk about that a little bit later with light importance. So older adults with diabetes have an approximate 10-year reduction in life expectancy and two times the mortality rate of those without and that's important too.

Why does the prevalence increase when they're older? There are lots of reasons for this. I have presented this quite last time and I added some more researches to help with the understanding. Obesity obviously, age-related decline and beta cell function, increases in visceral fat and insulin resistance which kind of go along with the obesity along with less activity. Sarcopenia which we're kind of learning more and more about, which is also a part of kind of just picture, which I'll go over some more about later, and then higher likelihood of taking medications that increases glucose concentration such as anti-psychotics for example. All of these things kind of are factors that cause the increase in diabetes in older people.

Other general information, excess mortality of those with diabetes occurred even in kind of what we termed the older old. Ischemic heart diseases and stroke are leading causes of that morbidity which is not surprising, and coronary artery disease is still the huge killer there.

Why do we separate elders? If we're talking about diabetes care, why don't we just talk about treating everybody? This will come up again too because I want people to understand why is it that I give a talk about treating the elders separately from treating everybody else. There's a spectrum of aging and I will bring up evidence about this as well, about why we need to treat people differently in this age group and even within this age group. There is a need for individualized plans and outcomes -- there it is again. There is a need for periodic reassessment of those plans and goals. There are many different facets to care and I'll detail that for you. You need to consider frail elders, and I'll give you details about that, then historically been lacking in optimal diabetes care for many different reasons.

So diabetic elders have higher risks, and I talked about some of those, but some other ones, cognitive decline, depression, polypharmacy, this is just taking many, many medications, urinary incontinence, falls, physical disability, mobility issues, they have two or three times the risk, two times the risk of cataracts, three times the risk of glaucoma, Charcot joints or foot ulcers and then severe and unusual infections. I see all of these things many times.

This is a picture of me and my dad. I show him all the time in my presentations, and most of the times I don't even tell him about it which is even more hilarious when people I know see it and then they tell him about it later. He actually does have diabetes and he was recently diagnosed, so a lot of this is really relevant because he is a Tribal elder. He is along the spectrum of aging because he's 70 years old and he is working and I would consider him younger old even though in Tribal elder ages of 59 and-a-half are considered, actually a long kind of an older old spectrum. But there are definitely different levels along that spectrum, different levels of support, and levels of function.

I have other elders who are 70s who are wheel chair bound, very frail, have many more co-morbidities, and he does around, many more medications, and you really have to look at each elder in the place there at, at that time depending on what's going on, and there are a lots of factors that contribute to that. You also have to look at how long the disease has been present versus a new diabetes diagnosis and that sort of thing and what the other diagnoses are because there are a lot of things to consider in that spectrum of aging.

I can't kind of go over this without at least mentioning the data briefly because there are people who want to know about the data, so I do want to bring this up just because it mentions and say, "Hey, I gave you some of this information to talk about it." There are few big trials that happened and so I'll bring this up. There was a U.K.P.D.S. glycemic control in newly diagnosed diabetes that excluded those better than 65 at the time of enrollment. You know there are people like me who were like, "--". They didn't include some of the people that I'm super interested in -- already, there are some flags well, actually about how this is going to apply to my population. They found some microvascular benefits post-trial reduced MI and mortality.

There was then the ADVANCE, VADT and the ACCORD trial. These were supposed to be more than official for geriatric populations. They enrolled older patients who had more cardiovascular risk. They'd all had a prior event, they had had diabetes longer, for around 8 to 11 years, and were aimed to reduce glucose levels to near normal. Their goal was to reduce the A1C to around 6 to 6.5. That was kind of what they were shooting for. The glucose controlled portion of the ACCORD trial, you probably heard about it was terminated, and after three years because there are excessive deaths in that intensive glucose control arm. The primary combined outcome of an MI stroke and cardiovascular death wasn't significantly reduced. The ADVANCE trial did not demonstrate excessive deaths because of that intensive glucose control in their follow-up of five years. They didn't show any statistically significant cardiovascular benefits but they did show significant reductions and incidents of nephropathy, so kidney complications related to them. And then there was the VADT, so over their five years of follow up, they found no statistically significant effect of the intensive glucose control on cardiovascular events or death, but they found significant reductions in albuminuria.

So you have all these three different trials, basically showing three different things. What does it tell us? Well, it basically added to the uncertainties regarding, "What are the benefits and risks of intensive treatment of glucose in older people?" So that's basically what it came down to, three different -- pretty good trials that were like, "Okay, great." Well, here we are again. We need individualized, basically, treatment plans.

When it comes to prevention and screening, the recommendation pretty much is to check elders annually. Some recommendations though will check elders every three years, and I will say that, based on our populations and the rates of diabetes that we see, I would never go three years without screening an elder. And so, I check elders annually. You can use the screen of your choice, you can -- I use A1C, but you can use oral glucose testing, fasting or random. If you use the same basically screening that you use for younger population with that -- interestingly, the same cut off. I think catching pre-diabetics is super beneficial.I have found that especially in the younger, elder populations that I see, those in their kind of late 50s, early 60s, when I catch them in their A1Cs or in that just before 6.5 range, and I can have that talk with them, have nutrition see them and kind of jump on them, and I kind of jump in there and say, "Look this is the time. This is the chance you have to do something. Now is the time." Then it

has really been beneficial to kind of help with that shared decision making and getting them motivated to do something, to kind of catch them in that good sweet spot so to speak to do something, and prevent that diabetes diagnosis. I think there are some really great things that can be concentrated on in prevention. If there's anybody that's in public health, MPHs out there that want projects or have funding and want to do something great, then I think working on prevention programs with elders and pre-diabetes or prevention, that would be a great place to look.

Dementia patients, just a special point you know a test random, q month especially and particularly, when they're on anti-psychotics. That's the best reason that you check them just to make sure that they're not developing diabetes as a complication of that medication. Another special consideration is for end-of-life care, if they're on steroids. And I would say kind of anybody if they're treating them often with steroids, polymyalgia rheumatica or some of those weird things you have to treat with steroids.

I was mentioning data and I'll just nerd out again for a second, and I'll say there was a recent study in JAMDA the last year that looked at over 3,000 individuals in an Italian population – I know we're not in Italy but anyway, this is very interesting. There was an observational cohort study that people with frailty and pre-frailty were usually more likely to develop type 2 diabetes even after they're adjusted for other risk factors. Overall, frailty was associated with an 87% increased risk for diabetes. They thought there was a lot of different things that could be related to. All basically the same things that are involved in the pathogenesis of diabetes, but you know it happens a lot of times with frail people, is a lot of times we're not so much concentrating on all the things they need to be tested for and still looked at. In terms of comorbidities, you know once an older person is frail, they go, "Oh god, they're just frail. We need to forget about everything else." No, you don't. You still need to be looking at things, look for things like diabetes because that can still really affect their decline and their function. So now that you know their risk has really increased, that is something you should be looking for.

This is a huge point, so in terms of prevention and screening, everybody needs to be exercising and this is regardless of what I'm talking about. For every single elder that you're seeing needs to be exercising. If there is something that I'm doing 500 times a day, are sit-to-stand exercises with my patient. It seems like every single time I see somebody, I ended up doing sit-to-stand with them in the room as a demonstration of something they can do at home, but everybody can be doing something after developed.

What are the main recommendations for prevention, treatment, anything, is a tailored home-based or community-based exercise or life style program, involving activity. If someone is frail, one of the key points is to not include dietary changes that would result to weight loss. If I find somebody that has pre-diabetes and they're frail, then I'm talking to them about changes that could help prevent that, but it's not going to involve weight loss. I'm going to focus more on the activity piece and that tailored exercise or activity program, but I'm not going to say, "Hey, let's focus on something that's going to cause you to lose even more muscle mass of what you have already lost."

Here's my favorite thing to talk about, need for individualized plans and outcomes. It's important to consider life expectancy, cognitive status, preferences, functional status and social support. These are all hugely important when you have somebody who ends up with diabetes and you're trying to consider what to do for their treatment. Everybody has different barriers to care, and I'll talk about that more.

Caregivers must be considered and then quality of life always should be considered as well, as general kind of concepts, which I'll talk about more. In terms of personalized care because -- i really haven't said this enough. This is an article and I know you guys have that PDF copy of this presentation, so you don't have to copy this down because this will all be on that. There is a super cool article that was in New York Times and I think they did a really good job of summarizing what I'm talking about. If you get a chance, you can read that. It's a good read. Anyway, I won't be talking more about it.

In terms of need for a periodic assessment, even if you kind of figure out you know your plans for somebody, you do need to kind of check in over time because goals and functions will change with elders, especially those who have dementia, things will be different. They'll develop new diseases or things will happen or maybe a fall, there maybe an illness, some goals will change, functional change, and caregiver situations may change, and level of care can change over time. And for each of those that may affect our diabetes care plan, just because they were able to give themselves insulin before, it doesn't mean that they're always going to be able to do that.

This is a picture of my dad. He's dressed up like Batman because my nephew always has dress up parties, so we all dress up, that's the rule. It doesn't matter how old you are, we all dress up. And so, I don't care who you are, if you're around here and -- my dad and you see him around, make sure you start singing the Batman theme the next time you see him, just for me. Thanks.

I talked about this before, but there are many facets to care. We'll talk about the barriers to care more, so I'll give you some examples of this. The health literacy is very important things need to be simplified. The one thing I hear is the complaint from patients who go see other specialists or they talk to other people. And they say, "I know that this doctor is smart, but I don't need to know how smart they are, I need to know what's going on with me." What they're saying is they don't need somebody to spout off a bunch of medical jargon that they can't understand. They need somebody to talk to in the language that they can know what's going on with them.

Caregivers need to be involved especially if you're dealing with somebody who has impairments. Community resources, it's very important to know what they are when you're dealing with diabetes. I'm on the phone or talking with home health and community health all the time because they're so valuable to me in helping. Of the ones who pre-load some of my patient's insulin -- you know they're just so great and they're so helpful.

Pharmacotherapy, this is of course a facet of care, and then assessing for geriatric syndromes. If you're not sure about this and what they are. These are all things that commonly affect elders like incontinence, falls, sometimes dementia is one of that category, but delirium for sure, frailty, dizziness and syncope, because all of these things can definitely interact with the diabetes plan and can affect that.

This is my bulldog, Tucker, and I was doing this presentation and I got to this kind philosophical argument with myself. Are dogs functionally independent or do we make them functionally independent because they live with us? Anyway, that's an aside but this is him, and I guess I would consider him functionally independent. He'd be just fine without me, I think, but he's hilarious.

When we're talking about functional categories and I told you I'd give you this way of trying to breakdown a different way of looking at elders with diabetes and this is the way of doing it, and I will tell you more about each of these categories to help you. Functionally independent, functionally dependent, there are two subcategories here. There's frail and there's those with dementia, and then there are the elders who are end-of-life care. And it's pretty straightforward if you look at these different categories, I think, I hope anyways.

One thing you need to know first before we talk about these categories are activities of daily living and instrumental activities of daily living. Activities of daily living are the things you got to do to get out of your house everyday, and when you're talking about elders, you're doing functional assessments, we're always asking them about these ADLs and IADLs. What are the things they can do while they're on their own, what they need assistance with and what are they totally dependent on? And there are actually assessments you can find online to do these things or you can just ask, "Do you need help with this? Are you dependent on this? Or are you independent?" Transferring, showering, dressing, self-feeding, personal hygiene, and toileting are the ADLs. And then instrumental in the right column, you can see, there's a little more things that you wouldn't necessarily need to -- so just be able to get out of the house on the day. They are a little bit of a higher level sort of function, house work, managing your medications,

preparing meals, managing money, transportation, shopping, being able to use to the telephone or kind of other more complicated means of communication.

If you're in that functionally independent category, you live independently. You don't need any assistance with any of those activities as daily living. You basically manage your own medication. You may have some comorbidities that can affect your diabetes. Maybe you have high blood pressure, maybe -- you may have heart failure, maybe you have several other things that are going on, but you're still independent. You're an elder that does fairly well with everything. With those elders, we still have some special considerations which I'll talk about. But a lot of times, most of their treatment plans are similar to what you're doing with your younger patients with diabetes, a lot of the time.

The functionally dependent ones are where the areas start to change. They have some impairment in some of those ADLs. They either need some assistance or they're dependent in some of those areas. There are two subcategories here and one is frail. And there are some characteristics of frailty that I've listed here, and I'll give another slide with information on that. And then there are those with dementia, and I'll talk about that too. So frail, you have fatigue, weight loss, their mobility is restricted, they have high fall risk and they're at risk of placement in a facility. I'm sure that if you take care of elders, you can think of people that meet this criteria right off the bat. This picture, dark sense of humor can be a dementia warning sign. It's something one of my friends sent me, I don't really know what she was trying to tell me, but I thought it was humorous. I don't know what that means either.

So consideration of frail elders, and this is the more information about frailty I was going to tell you. They have three or more of the following: muscle weakness, slow walking speed, exhaustion, low physical activity levels, and unintentional weight loss. And if you look online, there are actually even frailty assessments that you can use. Although this is a rapidly evolving area in geriatrics practice in terms of the best assessment for frailty. And I will tell you like honestly, in my practice, it is truly a clinical assessment on my part, is the way that I determine frailty and enter that as a code. It's purely from the consultation that I do or from seeing the patient and gathering this information just from history and physical determining frailty.

That last category is end-of-life care. Usually, you know when this is happening. Although, I would say that most of us can become better at assessing when someone is nearing end of life. The life expectancy of less than one year and you usually just ask yourself, "Would I be surprised if this patient died in the next year?" The goals are different than other categories because you're likely concentrating more on comfort. You may be considering the withdrawal of some treatments, you really want to focus on avoiding dehydration, you may be focusing on pain relief but you still need to address diabetes care as a part of that comfort. And a lot of times when I've been involved in palliative care, in hospice patients, we are continuing insulin, diabetes medications for quite a long duration of a patient's terminal illness, depending on the comfort level and how they're responding to that because of the other complications that can happen if you stop those medications.

Okay, so tools because everybody likes to have lots of different tools to use. I'm not going to go over all of these, but you can find all of them online. And all of them can be done by nursing, anywhere all the way up to physicians. Like anybody can do these, you just learn the instructions, practice it, do it. It's very straightforward. But these are all the tools that can help you decide which categories that the elders fall into for these. My nurses in my clinic, they're all fantastic and they all do these assessments. They'll do the Katz Index, the one that I use. They'll do the Timed Up and Go, which assesses for mobility and fall risk. We do a modified SLUMS, although the MoCA is more specific for mild cognitive impairment. I'll tell you, it's the hardest one to do too, the hardest. It's the hardest one for patients to do.

The PHQ-9 is done in most Tribal clinics anyways, but I do the Geriatric Depression Scale that is more sensitive and specific to be honest for elders. This nutrition scale we do, the pain assessment, most of us do anyways. And then obviously, using your multidisciplinary team, that's going to be hugely important in determining what functional status your elder is at and what kind of category that they would go in.

And I use them all the time. I use my behavioral health people, my nutritionist, my pharmacist and we all can determine like, "Okay. How great is this elder doing? How functional are they? Like where would we put them on the scale in these categories?"

The nutrition assessment I focus on hugely because this is so important for elders with diabetes. For most diabetic patients, you're looking at obesity and diet and it's funny like in our GRPA indicators, they're always focusing on obesity. And I'm like, "No, I'm always focusing on who's malnourished and who's losing weight." It's like the opposite, the scale for me. So some of the different points for our population here. You want to make sure that med administration times coincide with meal times. You're looking for swallowing difficulties, problems with dentures. You're looking at maintaining weight. You have to be particularly specific about maintaining fluid intake especially in hot weather because they tend to be much more sensitive to dehydration and therefore orthostatic hypotension, and therefore falls, and therefore hip fractures, I could go on.

You want to identify malnutrition and the need for supplements like Glucerna. There's a need for higher protein, higher energy foods sometimes. And the caregivers may need to provide support during meal times. I'm talking about dementia patients specifically. A lot of times they think they've already eaten so they're losing weight because they think they already ate and they're not eating or they get agitated during meal time so they need assistance. And then how many times have you seen this, like you have elder patients who's trying to eat the right thing, on a diabetes diet but they also have non-alcoholic fatty liver, they have cirrhosis and they're like, "Oh my God! I don't know what to do. I mean I'm supposed to eat protein but I can't eat protein. I can't deal with this." And so, I turn to my nutritionist. I'm like, "Oh my gosh! I need your help."

Malnutrition is super common especially in elders with diabetes associated with longer length to stay in the hospital, increased mortality, pressure ulcers, all these things. And also, you have to think about gastroparesis. It's in 30% of elders with type 2 diabetes and it can affect how their oral meds are absorbed and it can cause discomfort too. So those are other things that you have to consider. Other things nutrition wise, you may need to encourage smaller and more frequent meals. I do this all the time. I'm changing the textures of food and I don't ever -- I'm not usually, I'll say because I don't kind of like say ever, always, all that kind of stuff. No intentional weight loss because that can worsen bone mineral density and nutritional deficits in older people. But what I'll say is 99 out of 100 times, I'm talking about building muscle because that's what the focus should really be on. It's not about, "I'm trying to lose weight." And what I'm really focusing on here is those of the older old. I'm not saying those in that age group who are in the 55 to 65 who are thriving, functionally independent. I'm not saying that they can't lose weight. I'm really talking here about kind of those in the older old. If they're trying to lose weight, I really steer them away from that because that's what they're going to end up doing. They're going to end up losing muscle and they're losing bone density and that's not good.

Exercise, muscle mass and strength decline with age already. People who've had diabetes longer, who have higher A1Cs already have lower strength per unit of muscle mass, than people who are age and BMI matches who haven't had diabetes and people who have better control than diabetes of shorter duration. They're already kind of fighting an uphill battle. So even light activities provide psychosocial wellbeing and higher self-rated health and healthcare professional recommendations are a way to facilitate that. So I've already told you guys, I recommend this like a thousand times a day and I do a little bit with them just to try to bring it on home. And plus with dementia patients, like demonstrations are thought to increase their learning. So I think if I make a fool out of myself and I show them how to do stuff, maybe they'll retain something more. This is a course that's happening in one of our awesome physical therapist, Ellie Smith-Myers holding it here at a Tai Chi class. So this is just an example of a group activity course that could take place to help elders improve strength, help with pain, balance, flexibility, reduce stress, even maybe some side benefit of socialization and that sort of thing. So really focus on exercise.

Med reconciliation, part of using that team again if you've got pharmacists around or anybody who can help you with that or if it's just the providers doing it, do it often. I talk to people about, please trying to avoid sliding scale. Sometimes I'll see patients and they're trying, the elders are trying really hard to manage their sliding scale. Every once in a while, I'll have one that's like super OCD who's managing it like a boss, but that's few and far between. You know what I mean? And even if they are managing it like a boss, it's not usually helping their OCD to be doing that. To be honest, it's taking up a huge part of their day and it's not super healthy for them to be focusing so much on that. So I really try to stir away from that if there's any away to simplify that regimen.

Try the lowest frequency dosing of meds that you're doing and ask about over-the-counter herbal meds, assess for renal liver function often and then always look at the weight, also a thing that I seem to be like mentioning a lot, weight. Education, self-management and monitoring. Things that are different to consider, attitude, decision making process and beliefs. These things can be affected by high or low sugar, dehydration, cognitive impairment and illness. The diabetes may not be a priority based on what's going on their lives. We have elders that have very complicated home, social situations. They're taking care of grandkids, they're doing a lot of different things so I have to take all of this into account.

They may prefer to learn from personal experience of peers. How many times that I had somebody that came in and said, "Well, so and so said this is the way I need to do this." And they may have decline in short-term memory, trouble with complex motor performances, shorter reaction time, slower, excuse me. So I have to take that into account and you should too. Like people have different learning processes as they're older and you have to incorporate that especially when you're going over a diabetes plan if they have new diabetes.

Everyone should receive education. It doesn't matter if someone is 85 and they've got new diabetes. You need to consider an individual plan and a sick day management plan. And if there's one thing that I get slack on in this entire thing is the sick day management plans. This has really helped remind me that I need to do better with that myself. If they're functionally dependent, you should take into account those impairments, especially visual, hearing, manual dexterity, it's the reason that some of my patients can't use the pens. We think everybody loves the pens. No, they don't. Sometimes they can't use that dial or they're visually impaired, they don't want it then.

Comorbidities and the social situation. So barriers, I talked about before. The cognitive issues can be huge. They have Alzheimer's and vascular, are at least twice as common in diabetic patients. I think it might even be worse than that, but that's a whole different talk. So they may need more repetition, different cues to help with retaining. I talked about this. You might need to tell them stories, use a hands-on experience, demonstrations and models. They may be more sequenced to help to reinforce information you're given them, but always speak to the person and try to involve the caregiver.

Other impairments, vision loss and hearing loss. One in five older adults with diabetes in the U.S. has visual impairment and hearing impairments are twice as prevalent in those diabetic patients. So, it's really important to kind of think about that and consider it. And think about how you can adjust those treatment plans to kind of help with those impairments. And then always ask what the goals are for them, it's really important. A lot of times we think we know what a person's goals are obviously, but usually we don't. You know this picture on the right is when I broke my ankle back in September and I had to have surgery. And if you ask me what my goals are, they're the same thing that elders ask when you ask about their goals when it comes to diabetes management. It's independence and it's function, which totally makes sense. They still want to remain independent, but they want to have high function. So they want to be able to manage things as much as they possibly can, but they want to be -- they want to have function. They don't want to be fatigued all the time or vomiting or be laying around the house with diarrhea all the time. So we have to think about those things.

Caregivers, I had this in a slide last time and I just think it's a really interesting slide. The weekly hours of care that caregivers have to spend for elders with diabetes and on insulin. It's 14.4 -- I can't even

remember where I got this from. I'm sure it's in my references from before. I just find that very interesting that that's how much time that they have to spend. And we do have to think about those caregivers, to think about their increased risk of comorbidities and depression as well. So something to think about.

Targets, everybody wants numbers so I'm including these in here. But you have to remember that you're still providing individualized treatment plan and you may have somebody -- you have to still tailor these based on the presence of microvascular complications, a person's functional status. If they've had CABG, that sort of thing. You may still want to adjust to where that target is. If they're a functionally independent person and they've had CABG and they're super motivated and they're very active and that sort of thing, you don't have to have their target at seven. You know what I mean? So these are just ballpark targets and they're also based on International Diabetes Federation Managing Older People with Type Two Diabetes Global Guideline. So I didn't just make these up, just so you know. If you want to look at those, those are my references.

For the functionally dependent, that target is seven to eight. For the frail, the targets can be up to 8.5. And for dementia target, that's 8.5. For end-of-life, the treatment goals are different. You're just trying to avoid symptomatic hyperglycemia, you're minimizing hypoglycemia and then you're also considering withdrawal of therapy during that terminal stage as well. So the consideration is a little bit different in those goals. So, you can see that already, these targets are different than our usual, in the six range. There is no six anywhere listed on the slide, because what we're trying to consider is how the elder feels. And we know that when the elder has any times that their sugar may hit the low side that they're at higher risk of falling or feeling dizzy or having those types of symptoms and that's what we're really trying to avoid here. We want to focus on the function, how the person is feeling. And we're also thinking that if we allow a little bit of a higher number, that means less medication which overall in geriatrics we know is always going to be a better thing for elders.

Perspective is key. I had this in the last presentation and I kept it because this is a really great quote. "If anyone is deserving of less rigidity in their medical treatment regimen, elders with diabetes if so inclined have more than earned the right to greater rather than more restrictive quality of life with advancing age and under lifetime supervision. After all, those very elders have done a whole lot right to have lived into their advancing old age. Even non-diabetics don't always manage to live as long."

So thanks, everybody. I have the sources here and I appreciate it. I have my email. So if anybody needs to contact me about anything else, and think there are questions too.

Jan Frederick:

Yes, thank you Dr. Winchester. We did get a couple of questions for you. So if you don't mind taking those. We have those printed there for you. I could read them or if you want to take them, that's fine. Read them and answer them, do you see them there?

Blythe Winchester:

Yup. Sorry, I muted myself so I could have a cough for a second. I'm sorry. Okay. So number one, "how do you manage brittle diabetics, extreme highs and lows? Is there a risk for hypoglycemia unawareness with repeated lows?" This is a great question.

I think like where I get the most experience with this is managing patients in the long-term care facility because it's there where we're monitoring so closely a lot of times glucose regimens. A lot of time they're coming there, we're doing that ACHS and trying to get their regimen right. And we do kind of a lot of times want to have control sometimes more so of their sugars if there's a wound or something like that. We've been instructed by vascular, whoever it is like, "This is what they -- you really need to get their sugars under control." We try to do that and then all of a sudden, they're all over the place. We're

monitoring, myself and my nurse practitioner, we're looking, we're like, "Oh my God!" Depending on what they're eating because at the nursing facility, you can't restrict their diet. It's their home.

So we tell them, "Hey, this is what you should be eating" but they get to eat what they want. So that's what we -- we're basically seeing them what they're doing at home and their sugars may be 500 and then it's like 62. So I know exactly what you're talking about. That's kind of what's happening with that. And what I would rather do is kind of have them err on the side of being high because a lot of times, these elders who are brittle, if they are low, that's when they're symptomatic and the nurses are having to give them all the OJ and like their shots and all that stuff. They're altered, they're lethargic. That's the stuff that's taking a hit to their brains and all that stuff.

So definitely, we try to adjust them to err a little bit on the higher side and I'll try to adjust whatever insulin regimen they're on to not be something that's going to be making them swing back and forth as much. But I don't, like I said before, I don't use sliding scale so I'm still trying to get that dose management, which is not something that's going to be pushing them as low. And I'm still monitoring their A1Cs every three months to check and see. And that's of course, I'm talking about with insulin managed patients. That's what I'm assuming that you're mostly focusing on to with those brittle ones. I hope that answers your question. If not, you can type in something else and I'll answer.

"With sick day management, how often do you recommend an elder patient to assess blood sugar?" So that kind of depends on how comfortable they are checking and how often they're checking already. If they're already in three times a day or four times a day checker, I'll have them continue to do that. If they are not checking it at all, I don't make them start checking it just because they're sick and that sort of thing. And it kind of depends on if they're on oral meds or if they're on insulin. Because even if they're on oral meds and they get like a gastroenteritis, a lot of times I'll tell them, "You can hold your metformin if you're not eating at all or drinking --" I get worried about them getting dehydrated with that, but I won't make them check it. But usually, I'll keep their testing the same. And if they want to check it a little bit more because they're comfortable with that, I'm fine with that too. And it depends a little bit more, they have somebody to help them with that, then I'm fine with that too.

Okay. The next one is, hyperglycemia more prevalent in the elder. Well, the diabetes is itself that I would say yes, hyperglycemia is more prevalent as well. And I think, you know, those beginning slides, the one I was talking about, obesity and all of the other factors that are contributing to that, I think that -- those are some of the reasons that that's the case. And I think that's probably going to continue. I don't think that's going to decrease. That's at least not what the projection is anytime soon.

"With regard to A1C, what can you expect in an elderly patient with severe rheumatoid arthritis who also needs steroids periodically?" So this varies. I have some patients who have rheumatoid arthritis and their sugars go up astronomically when they get steroids. And obviously, I've had to call their specialist to talk about what other medications we can try to use for them just because it's been so dramatic and there's been such a horrible effect for their A1Cs.

I have other ones and they actually don't -- they don't react much at all. Their sugars don't match at all to the steroids. So I found that among different elders, it seems to be a big range as to what happens when they get steroids. So I have a hard time telling you what to expect because I've seen a wide range of different elders' reaction when they get steroids. But what I'll tell you is that, if they're checking, they definitely need to check more often once they get the steroids if they're taking them, especially PO. Now, if you're getting an injection, you just need to check them usually for the next week or something and then it's gone. They say for steroid injections in the back or something like that, it sits for a couple of days. But if they're taking them PO, they need to check them for the duration of that.

And sometimes unfortunately, the effect hangs around for a very long time after that. And I've even seen one patient that had lasting effects for what he feels are months for after he took a PO dose of steroids

for quite a while. So I think the ranges is very different. I'm sorry, I can't give you kind of a blanket statement about what to expect.

"What's the best way to monitor hydration in elders, urine output, skin, et cetera? What tells the best picture of good hydration?" So these are really good questions. There are lots of different ways to assess that. Urine output is a very good way. Most of the time, I'm focusing on what's going in, so I am emphasizing to elders that they need to be taking in as much non-caffeinated beverages to equal several glasses of four to eight ounce glasses of non-caffeinated beverage per day. So I'm focusing on that. And if their family members would come in with patients, I'll talk about marking the water bottle and then marking it throughout the day because they'll insist that they're drinking when they're not.

But if you're wanting other ways, dry mouth, urine output, the color of the urine, focusing on trying to make it more clear. Those types of things are other ways to look for good hydration. Obviously, if you're getting to the point where the mouth is dry and the skin turgor is poor, it's severe and you're beyond the point where something -- at that point, the elder is severely dehydrated. But I think in general, if you're looking at urine output, that's good. And I try to focus like I said on the intake piece to talk about that.