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Good afternoon, everyone. We apologize for the delay. My name is Lisa Zimmerman. I'm from the rehabilitation research training Institute in Albany. Thank you for joining us for today's webinar, development to disabilities and geriatrics, physical and psychiatric pharmacology overview. These professional development webinars which are presented in conjunction with RRTI and the Lewin group for social workers, counselors, district nurses and other healthcare professionals are supported through the Medicare Medicaid coordination office or MMCO it and the Centers for Medicare and Medicaid Services or CMS to ensure beneficiaries enrolled in Medicare and Medicaid have access to seamless high-quality health care that includes full range of covered services in both programs. To support providers [Indiscernible] integrated coordinated care for Medicare and Medicaid enrollees, MMCO was developing technical assistance and actionable tools based on successful innovations such as this webinar series. To learn more about current efforts in resources, please visit www.resourcesforintegratedcare.com for more details. A little housekeeping before we get started. Your microphones will be muted throughout the presentation. However, there will be a question and answer portion at the end of the webinar. If you do have a question, please click the raise hand feature on your control panel as -- at the designated time and you will be unmuted by an administrator. You can also type your question into the chat window and an administrator will ask the question out loud during that designated time. There will also be poll questions throughout this presentation. A window will appear with the questions. You can submit your answers at that time. At the conclusion of the webinar, a tab will appear in your browser prompting you to complete the evaluation survey. It is required that you complete this evaluation survey in order to receive three contact hours each from Michigan social work continuing education -- education collaborative, New Hampshire nurses Association, national Board for certified counselors, and national Association of social workers. If you are unable to complete the survey, you will receive an e-mail tomorrow with the link to complete the survey at that time if you've not already done so. So at this time I'd like to introduce our instructors to you, Dr. Eileen Trigoboff is a clinical nurse specialist in a private psychotherapy practice and is director of program evaluation at the Buffalo psychiatric center in Buffalo, New York. She has a doctorate in nursing science, and his board cited for -- certified in four areas as well as an international speaker and consultant on a wide variety of clinical research and professional topics. Dr. Trigoboff is an author, co-author and contributor to 14 books -- and dozens of journal articles and serves on boards of several professional journals. Dr. Trigoboff is a partner in an independent research group and provides expert testimony and reports across the country. She is active in community service venues including clinical settings and family support groups. She also serves as a computer systems and sisters to coal consultant and belongs to numerous professional nursing organizations. Welcome, Dr. Trigoboff.

Welcome. I'm glad to be here. I'm glad to be seen and heard and to talk about content all at the same time. Wonderful technology. So we're going to talk about developmental disabilities in geriatrics. This is the physiatrist -- psychiatric pharmacology. There's going to be an overview because we have ultimately only three hours to do this. We are not going to be able to cover every nook and cranny but we're going to try to cover the highlights. And you can load questions and we're going to set aside some time at the end to answer questions. In general what we're going to be covering is what we do for screening and preventive health with people who have any kind of disability and they happen to be geriatric. We're going to review the current findings and medical assessment of older individuals who have disabilities and we're going to talk about how you would -- you as service providers can prepare recipients for a long and healthy life, which includes screening and having preventive health discussions. We'll get into those details. We have chunked it out into different categories. We're going to talk about medical updates on people who are geriatric and have a developmental disability and diabetes, cardiovascular care, epilepsy, respiratory issues, medical impacts and other dimensions we're going to going to briefly. We're going to talk about gender related health issues that happen with people in the senior years, bone health, and medical impact of depression. Quite common. So we're going to chunk it out into different categories. The first category is diabetes. 90 to 95% of people who have diabetes have type two diabetes. It has had a number of labels over the years. People still use certain labels and other areas don't. In general, type two diabetes is not related to childhood onset although you can get type two diabetes as a child. The most important foci are glycemic control and acknowledging the Association between diabetes and vascular complications. The research has been quite robust about this for the past several years. We have far more information about the interweaving of vascular complications in diabetes. People who have developmental disabilities, their at a higher risk for diabetes anyways we'll talk about that in a little bit. In general, and I believe we have a poll question about this, there is control of your glycemic index in less than 50% of people. This is 50% of everybody, not just 50% of people who have a developmental disabilities -- a developmental disability in diabetes. You are dealing with personal preferences, personalities, activity levels, comorbidities. If you are sick with a sinus infection on top of having diabetes and you have a developmental disability, you're not going to be as active as you normally would be. So you're not going to be burning up as many calories. And adjusting the diet might not take that into account so quickly. So a good thing to pay attention t o. There's been a number of Doug -- the accord study and the Veterans Affairs a trial has brought up a fair amount of information. I'm going to cover that kind of quickly. Looking to the future, adding Kahl a map or write -- adding glimepiride. So if somebody is on a certain level of insulin, if you had glimepiride, you would be able to lower the amount of insulin they were on. And that's a pretty important discovery. And other cluster of research that's been done on diabetes is the number of supplements showing some promise for type two diabetes. We have to keep in mind that even though something has shown a little bit of promise, it doesn't mean it's statistically significant and it might not work on that particular group of people we are trying to provide services for. Things to keep in mind, and to track the research on, see if anything new pops up in the next year or so is the use of vitamin C and vitamin E, to use melatonin, red mold, as opposed to the other wonderful colors of mold that we are able to generate on basement walls, red mold is special. Astragalus, cassia cinnamon, and those studies are not incredibly robust studies. People use supplements in an uncontrolled manner. They will just use it. So we don't really have the ability to take a look at these different groups of people. Say we have a group who is just using MENA -- melatonin or just using cassia cinnamon. We haven't really been able to do that in a very robust way from the research point of view, but this is what's out there in the research that can be helpful. But I wanted to put a little bit of an emphasis on emodin. Right now just in animal studies. It is not yet into phase three studies with using -- human experimentation. In the animal studies with the animals that have very similar metabolic processes to humans, it has lowered the body weight, which you know is extremely important especially the weight around the middle. Weight in general can create a cardiovascular risk in general. And certainly it can bother your joints and if you are overweight, the real risk especially when it comes to diabetes is the weight around the middle. You carry that weight around the middle and it raises your risk for diabetes very high. What they noticed with these animal studies is that the lowered body weight did focus on the weight that was around the middle. The waste of the animal. Decreased the blood glucose levels, serum insulin levels that the body was using to metabolize carbohydrates, and it improved the utilization of the insulin that was on board, whether it was naturally produced or introduced asked her -- from the exterior. And along the way, it improved the serum lipids. That indicates to us that we are continuing to be on the right t rack. Paying attention to cardiovascular health with the diabetes. So we have to look for human studies with emodin. These results from animal studies have been quite robust. I have nitpicked at the statistics on it. Just the general formation of the study where -- were they well-controlled, well done? Were they done in a variety of different animals? Pretty good studies. We'll keep an eye on that and look to the future for maybe some help in that regard. That's diabetes. Right next to it I'm talking about cardiovascular health. They are interwoven to a large extent. Atherosclerosis, which is the arterial wall buildup of low density lipoprotein -- I know you all know this but I'm on a roll -- so high density lipoprotein's are healthy to have in your body. They're not soft and spongy and Kuby and they stick along the side of the wall. Low density lipoprotein's are sticky and they clump up and they form a real problem when you have that low density spongy matter along the inside of your vessels, your blood vessels. Inflammatory disease is an important thing to pay attention t o. Check the markers. The most reasonable markers to pay attention to with this population of people we provide services to our it's a high sensitivity, C-reactive proteins. The high sensitivity and the C-reactive proteins but also the lipoprotein associated phospholipase is. The A 2. Let me see if there was anything I was going to say about that in particular. Good study just came out in 2014 in the journal inflammation. Always good to pay attention to that. The elevated markers -- let's say that your CCRP's or A2's are elevated, what can you do about it? You have people that you are paying attention to their diabetes, paying attention to the atherosclerosis or general cardiovascular risk. What can you do to help? Weight loss, especially around the middle. That's a difficult process for us. You all worked with people who have developmental disabilities. You know that food is extremely important. And it is an unusual problem to have when someone has an eating disorder, too much, too many carbs, too many problematic things for their metabolism to be able to handle. You do need a certain amount of food. It's not like you can tell s omebody, stop doing that. Telling somebody -- anybody, not just somebody who has a developmental disability, shouldn't have that much of that, is difficult. Weight loss in general is something you have to be on all the time in as many ways as possible. One of the things I have found helpful with people who really do need to lose a little bit of weight -- not going to try to do the whole things all -- it's overwhelming for the care providers as well as for the individual -- is to look in the short run. What are we going to try to do today about food? An easy way to pay attention to what are we going to do today about how much food you're going to take his take a look at portion control. Portion control has been extraordinarily helpful at least in my practice to help remind people how much they should have. So for example, pasta. Spaghetti. If you are going to have any kind of macaroni or spaghetti, an adult normal serving size of spaghetti, pasta, whatever you call it needs to fit inside a baseball. You go to an Italian restaurant or a restaurant that specializes in some kind of pasta, they're going to give you a place that has nine baseball's worth of macaroni. People who eat half of it feel virtuous, it's not good enough because you are still having four and half servings of pasta. It's really going to be a problem for your cardiac health. You are not going to lose weight. You are eating too much of that. People will say, if I don't eat that, if I just need a baseball's worth volume of pasta, I'm going to be hungry. Well, that's not all you're going to eat. Going to have vegetable, salad, drink water, so there's other things that the person should be ingesting and they should have like a color palette. But the serving size of the things that really need to be taken into account for cardiac health, are the things that need to be driven home. Just last week I was helping somebody -- they were going to be going on a medicine that routinely as a few pounds, that's a side effect. So before putting them on the medication we talked about what can you do to prevent or minimize the weight gain? You can't stand to the -- to gain any more weight. And so we went to the supermarket and I said, you're going to make submarine sandwiches for supper. Let's go get the ingredients. So he got his submarine rolls and some cold cuts and lettuce, tomato, onions, and so we talked about making a submarine sandwich. How much of the sandwich should you have for dinner tonight? Pedals mail. And he said, I'll have half of it. That would be healthier for me. When you look at the package, at least a -- it serves nine. Who's going to cut a submarine into nice and each one nice -- into ninths and eat one ninth. It's not as easy as just you should drop a few pounds. Whole-grain enriched hypocaloric diets. There are many different strategies to do low caloric diet, hypocaloric. And people can get into fads and they can get into some interesting conundrums about that. But in general, you should have about 10 calories for every pound of ideal weight you want to be. If you want to be 100 pounds, -- it has to be reasonable. If you are 5'8", you're never going to be 100 pounds unless you have something going on wrong with you. If you weigh 100 pounds, you should have about 1000 calories a day. That doesn't mean you can only eat 1000 but it means between all of your activity which burns off a certain level of calories, you can have a certain amount of food in. If you weigh 180 pounds and that's your ideal weight, you can have 1800 calories. That's a general rule for men and women, needs to be -- need a nutritionist to make it perfectly accurate. So by hypocaloric, you're not supposed to be starving yourself. Starvation never works. Sooner or later the person has got to eat. As soon as they eat, their body is going to hold onto every calorie. Our bodies sometimes are smarter than our brains and it says, I just went through a starvation episode. I'd better hang onto all these calories and not let them go. I don't know when I'm going to get another meal. Harking back to 25,000 years ago when our bodies were looking for food and it was a chance encounter that you'd be able to get s omething. So hypocaloric is basically for our modeling purposes, probably less than you are eating now but not a ridiculously low amount. Statins are very good at lowering your lipid level of course. There are other options to statins. You don't have to use a statin, for example there's a powder that you mixing water, don't ever mixed in with like soda. It will makes -- it will make ninth-grade volcano science project out of your liquid there. It bubbles all over the place. It's not a statin. So there's another way to do it. Basically it binds up your by also that your body is fooled into thinking that you're not ingesting so many facts. Niacin and omega-3 fatty acid's, when added to a statin, most of the research is fairly consistent now that says omega-3 fatty acid's, it's really not going to do much for your hyperlipidemia. Not going to lower your lipid levels. Years ago, that was the story. Maybe that's all we need to do, have some fish or some omega-3 fatty acid. Now we know what's really helpful is adding it to a statin if you really want to have the full benefit. And I have a picture of some chocolate on the slide. Not that I have that listed here, but just some new research that is coming up right now. Nowhere near finished is they're taking some of the Cocoa flava nulls and looking to see if they can help with hyperlipidemia. And increase the cardiovascular health quotient that you can get from that particular dietary f actor. However, you'd have to eat about 26,000 candy bars in order to get the benefits, the flava nulls that you would get from the capsule that they're using. If you 826,000 candy bars, I pretty much can guarantee your cardiovascular health would not be tiptop. So this research is working with 26,000 men and women. And government controlled studies, just started in mid-March. So we are going to be tracking that very carefully. And in general, when we're looking at something that's going to lower these elevated markers that indicate cardiovascular illness, weight loss, whole-grain enriched hypocaloric diets -- diets and statins. Those are really the things that can help those elevated markers be reduced. The risk of cardiovascular disease really fluctuates with -- if you have a fluctuating blood pressure increase, that increases your risk for cardiovascular disease. For example if somebody has high blood pressure and it's being treated but it's not a very consistent and reliable treatment, it keeps them stable for a little bit and then it will go up but it won't go up a lot and then will go down as they adjust the medication, that fluctuating blood pressure actually is higher risk for cardiovascular disease. It used to be we thought, at least it's managed some of the time. And it turns out we really need to be on top of that. We need to watch what's going on with their at hearings. Is there nonadherence to antihypertensives? I can't even count the number of people who just -- who say to me I didn't take my water pills because that's one of the ways they are controlling the blood pressure by reducing the volume in their cardiovascular system. And they didn't take it does they were going to be going to the dollar store and the bathroom isn't a very convenient or they were going to Denny's and it's always such a problem to get in there. So whenever they are going to be active and out in the community, which is what we want people to do, they're not managing hypertension. So that fluctuating blood pressure, because they're not taking antihypertensives the way with the -- putting people at higher risk. There needs to be some frank discussions about this and manage what's going on with people's activities so that they are comfortable at all times around their elimination and the management of hypertension. And hypertension is associated with poor cognitive functioning not because when people can't problem solve very well or they are not thinking very clearly or they even have a dementing process that Alzheimer's and any of the 14 dementing processes. That's not they are somehow making their blood pressure go up, it's just associated. Every time somebody has a dementing process, most of the time from Alzheimer's, or they have poor cognitive functioning, you really need to look for hypertension. If they haven't been screened for hypertension, now is the time to do it. So an update on cardiac m edications. I'm sure most of you know this, if you have emergency cardiac situations, the abbreviation for the medications we give for an emergency is MONA, morphine, oxycodone, nitrogen -- nitroglycerin and aspirin. This is not the order that they are in. The order the MONA is in is really oxygen first. If you have access to oxygen and somebody is having a cardiac event, that's what you get into them first. The next thing is nitroglycerin. Nitro tablet under their tongue right away. Then you give them aspirin. At the very end of the line, give the morphine. But that's not as easy to remember as MONA. If you have access to it, great, sometimes you won't. Nitroglycerin, aspirin, morphine. So let's talk about beta blockers. People know a great deal about beta blockers, used alone or as a second line therapy with antihypertensives because they do reduce high blood pressure situations. There are calcium channel blockers, doesn't really matter which is. Beta blockers is a fairly large category. It's commonly used to reduce stroke risk and cardiovascular disease. Most of the time what you have to do -- not just for people who have developmental disabilities although it is worth with people who have developmental disabilities is that you must combine two differently acting drugs to get the results you're looking for. You might have a beta blocker and you might have is something else that goes in a different category. So let's talk about what some of those would be. Meta prologue -- metaprolol, dilate vascular structures. You have your arteries and veins. And they are a certain width. You want to make it a little wider because it will lower the blood pressure. Because there's more space for the blood. So it's not pushing through at a really high volume. That reduces the blood pressure. But you have to watch for hypotension. When you open up these vascular structures, what can happen is the blood pressure can just drop. And hypotension is a real risk. So whenever we're treating hypertension, that something would have to watch for. And people respond very differently to their medications. We usually go very slowly and very cautiously. And knowing we might have to use two or three or four different agents to get their blood pressure down, we don't want to confuse the picture of and have too many things starting at once or too many things changing at the same time. At a beta blocker and you watch for hypertension. If they don't have a hypotensive results, that's good. Keep in mind that respiratory tissue all down your trachea and in your bronchioles in your lungs, there are beta receptors. So if you have beta blockers that you're giving, those beta receptors, special receptors that take that molecule and you are blocking it, you can make somebody who has any kind of respiratory illness sicker. So if they have emphysema, if they have asthma, you've got to watch for that with beta blockers. It might do a beautiful job on the blood pressure management. But in the same title -- it might be making asthma or emphysema w orse. Nothing is more distressing than not being able to breathe comfortably. So that's a trade-off. You say, can't use beta blockers with that person or we can't use that level. So that has to be kept in mind very, very -- we use a lot of beta blockers. Sometimes that needs to be paid extra special attention to. Recognizing when somebody is having heart failure. Symptom recognition is really not the best with people who have developmental disabilities. Not because they are not paying attention but because neurologically they do not have a robust interoception. Interoception varies from people who have very low interoception from people who are way too into their symptoms and what's going on. But everybody has a continuum in there. People who have developmental disabilities tend to be at the lower end of interoception. They might not know when they are starting to get a cold, when their nose is running or they sneezed a bunch of times. Might not occur to say if, I'm wondering if I'm getting a cold? Cognitions about symptom level -- and the stimuli they receive from their own neurological symptoms might be impaired or deficient in a number of ways. We already know that hearing and vision loss is already common in people who have developmental disabilities. Sometimes recognizing heart failure comes with a vision change or a hearing change. If they already have those problems in place, might not notice a difference. Because the interoception is not robust, they might not attend to those internal symptoms as well. So nurses in particular but everybody needs to be able to teach symptom awareness and teach it and teach it so that it becomes a little bit more natural for people to pay attention to how they're doing. Cardiac disease and diabetes. Putting them both together is not an accident. It's very, very common that somebody who is developmentally disabled is also going to have diabetes and also going to have cardiac problems. The research disputes the benefit of certain current guidelines. There's going to be a lot of discussion about this. There should be a lot of discussion about this. Right now we are on the cusp of making changes. We've been doing something for quite a long time. And it's been researched and that outcomes are not ideal, not even approaching what we would want them to be. So those kinds of changes need to be kept in mind. Right now aspirin might not be all that useful for reducing cardiovascular disease risk when the person already has diabetes. A spectacular study just came out last year. They looked at a number of different kinds of diabetes in males and females, different cohorts of age groups. And when you have diabetes, giving that person aspirin prophylactically or subsequent to some cardiovascular events is really not helping with reducing their cardiovascular disease risk at all. Hardly noticeable. The benefit for women was absolutely zero. The benefit for men was so mild that it really brought into question whether it was worth it because of the bleeding risk, especially in people with diabetes and developmental disabilities, because people with developmental disabilities will have a slightly different G.I. system, wired a little different, they have -- far more gastrointestinal problems than people who don't have developmental disabilities. And when you give people aspirin even low doses, it can increase risk for bleeds. So if you have only a mild benefit in men -- it was really pretty low -- and absolutely zero benefit for women, you have to take into account, what am I doing here? So you have to take bleeding into account. And symptom awareness and signs and symptoms should be monitored on a regular basis. Comorbidity being sick with more than one thing at the same time with a poorly controlled diabetic individual and anti-angina drug banal is in -- ranolazine. But the angina is what's really the problem. So you want to give a medication for angina. Somebody has these kinds of painful processes. And you don't want their their glucose to go so low that they are hypoglycemic. And therefore not having a reasonable amount of glucose in their system so they can manage, so that they can think and perform basic functions. So just keep in mind the ranolazine is good for lowering glucose but it doesn't just drop it right down. So that's a very helpful thing if somebody also has angina. That's the diabetes and cardiovascular aspect. We're going to go on to dealing with managing seizures, managing epilepsy, because it is such a common diagnostic group for people who have developmental d isabilities. So as you know, there are different types of seizures. Partial, generalized, absent, atypical, a tonic seizures, and then we have the unclassified seizures which seizures which basically means I don't know what kind of seizure that is. Partial seizures, when you look at EEGs, there are discrete areas in the cerebral cortex of the brain that show this distortion in the electrical connectivity. The partial seizures -- you can really see it. Generalized seizures, when you do an EEG, there's this diffuse region all over the brain. You can't poke at one particular area and say that's it, that's where we're going to target our attention. Partial versus generalized also means it's going to change what's going on with the medication. Partial seizure medications more than half of people, 58% of people who have any kind of seizure disorder, whether they have a developmental disability or not do not achieve seizure control with the current antiepileptic drugs. The side effect profiles are quite notable. Dizziness, sedation, it affects about 97% of people who take these medications. So while we do have some antiepileptic drugs, AED's that are a little activating, for the most part they are sedating or they change the perception of what's going on around the individual. And of course adherence issues contribute. The biggest problem with anti-at the -- antiepileptic medications is time. People need to take their medication at the same time every day. It doesn't matter if someone is coming to visit or they are going on a picnic or it's raining really hard or there's a blizzard or there's a power outage. Doesn't make a difference. The best adherence protocol is to go with the timing first. People who don't take their meds at the same time every day are extraordinarily difficult to m anage. And that's usually what counts for, it's not working. It's not really -- I don't have clear evidence that the medication is not working if the person hasn't -- if the person has not given it a good run of four or six weeks of taking it every single day at a particular time and no variation. So the biggest issue is timing. So just a couple of things that have come out recently. The FDA just put out a warning about an antiepileptic drug we also use for mood stabilization, and aseptic meningitis. This is meningitis -- lining of the brain, the meninges lining and it in flames but it is aseptic, not an infectious process. It's a swelling process. So the person is going to have a really bad headache and going to have fever and chills from the fever, there might be nausea, they might vomit, neck is usually pretty stiff and that's a classic symptom of meningitis in general, stiff neck. But they are going to be sensitive to light, photo phobic to a certain extent. So it's happened a number of times, enough for them to put out a warning about if somebody is on the mental --'s 11, aseptic meningitis. Let's talk about treatment options for people who have these kinds of seizure disorders and medications are not working. And they've tried to do the schedule piece, the very important focus on the schedule and it's not working. So if meds are not going to work, then you think about surgery which is a very frightening process. There are some special diet o ptions. There's some complementary alternative therapies. Of course there's the vagus nerve stimulation which is also a surgical process. If you pay attention to the older medications, just to harken back to the first bullet there, older medications used to treat seizures usually require blood monitoring. In my experience, people don't really like to have blood drawn on a regular basis. They might be on these medications where blood monitoring would be very helpful. I'd like to know are they at a therapeutic blood level? Are they taking it? But they don't want to have blood drawn. So you are working blind. That's a problem. If they are on the newer medications, the newer antiepileptic drugs don't usually require blood monitoring. Sometimes you might want to get a level just to see where they're at what people who have developmental disabilities metabolize medications a little bit differently because of those gastrointestinal issues I mentioned before. So you might not have the same number on your lab results that you would get from people who don't have a developmental disability who are taking the same medication at the same dose. Pay attention to polypharmacy. This is where medication reconciliation comes into effect. When people are taking medications for seizures, sometimes especially if they are living with family members or they live in an area where their supervision -- much more slowed down, the person is given more and more information and independents about their poor medication. I've noticed is a lot of polypharmacy recently. Somebody had a whole shopping bag full of pills. And sometimes she took some of t hem, sometimes she took others of them depending on which bottles she pulled out of the bag that day. She was certainly taking her medication and she was doing it at the same time every single day because I asked. But the old medications as they shifted doses or as they changed to another compound were not being disposed of. So she had a lot of very confusing medications going on. And polypharmacy was the problem. So when you're looking at whether medications are working or not, of course you have to look at the schedule but also look and see if they are taking some old stuff you thought was discarded or pulled off the regimen and they were supposed to be using a new set of medications or a new set of doses. Just an overview of the m edications, and to parenthetically comment on what they are generally used for, first-line medications for seizure control is usually valproic acid. Also has a nice feature of it can be mood stabilizing to a certain extent. But if the person did not have an unstable mood, if the mood was fairly stabilized and you put them on any of the mood stabilizing antiepileptic drugs but in particular valproic acid, the generic kind, you take the risk of destabilizing their mood. And it can be temporary, does not have to be all of a sudden they are having some kind of a mood problem but it's something to pay attention to. When doses just change or you are adding another medication and it has a mood stabilizing feature, something to pay attention to so you don't have to call in a consult if you don't need to, say, look, the mood -- they are a little too hypomanic and maybe even a little manic or the mood is a little depressed and I'm wondering what's going on with that person. If they switch meds or the dosages changed, that's me -- that might be all that's going on. Also valproic acid is very good for treating migraines and about 40% of people who have bipolar disorder also have pretty severe migraines. If you have somebody who has a seizure disorder and they are bipolar and they have migraines, you might have to take one. Side effects are something that need to be dealt with. Lamotrigine, give that for generalized atypical and atonic seizures. We don't usually give it for partial seizures but some people are very individualized in how they respond to medications. And it might work. Not like you're never going to see it. Topiramate Topamax, generalized seizures as well. Carbamazapine, Tegretol, partial seizures. Something that is quite common with people who are taking carbamazapine is that the risk of a rash is about 12%. So if you have somebody who is taking carbamazapine Tegretol for a seizure disorder or mood stabilization, that's something to take a look at first if they have a rash. Known to be looking at food, detergent, going to be looking at a number of different things. Also take a look at their meds. Phenytoin is used for partials. We don't use mood stabilization. It has no impact on mood. Oxcarbazepine and ethosuximide, not used quite as often. We always have to keep in mind that just like blood pressure, seizure disorders sometimes require medication to be approaching the problem from a different pathway. So we have to have alternatives if somebody has had a difficult side effects or if they just need another medication to help. All of these medications will be able to provide some relief. And Clonopin is an anti-anxiety agent, not specific for seizure control, but sometimes it can help because as a tranquilizer, it can decrease some of the electrical collectivity in the brain. That's why it comes people down. So Clonopin can be quite useful in that way. Pre-gavel in the -- pregabalin, Lyrica. A number of problems with Lyrica. It can be extraordinarily useful for seizure control but also people are using it for pain management. If they have diabetic neuropathy, migraines, certain neurological or muscular pain issues, you might have put somebody on Lyrica but also Lyrica can be destabilizing of the mood. It can give them hypomanic irritable aggressive tone. And if you can hang on for three or four weeks, it might dissipate but it might not. Something to keep in mind. Gabapentin on the bottom on the left-hand side is Neurontin. It's an antiepileptic drug but it also is used for pain management. So if I had somebody on 1200 milligrams for seizure control but they had a pain problem, they might need to take 24 Miller -- 2400 milligrams a day it it's very sedating. It's interesting feature about pain management is not that it takes the pain away, it takes away -- it minimizes and alters the perception of the pain. So how it's been described to me is that people will feel the pain but they don't care so much. Or it's over there or not really bothering them so much. And they are able to perform their duties and move along with life. So when you're talking about seizure control and you want to have some treatment effectiveness and keep that in mind, it's complicated by these issues of medication absorption because most antiepileptic drugs are absorbed through the gut. And people who have developmental disabilities have gastrointestinal problems. They will have diarrhea, constipation, gastroesophageal reflux disease. And for those who don't know, I love explaining this, stomach has got acid in it but the acid is supposed to be pooled at the bottom of the stomach. And the stomach is right here. Is a sphincter at the bottom that separates the stomach from the small intestine. And there's a sphincter at the top which is called the cardiac sphincter because it's on the same level as the heart. Doesn't have anything to do with the heart. Sometimes with people who have developmental disabilities -- and anybody who as GRD, that sphincter at the top of the stomach, the cardiac sphincter is not nice and tight. It doesn't close. And so it's a little floppy. Which wouldn't be a problem except people who have gastroesophageal reflux disease create a little bit too much acid or the acid is moving around and it shoots up past that cardiac sphincter. And then the acid lays on top of the cardiac sphincter and your esophagus does not like acid. It's supposed to stay in the stomach. So that's acid burns. And that's why they call it heartburn, because it's on the level of heart, on the cardiac sphincter and that's very tender tissue, the new pics membrane. It can eat away at it. It's really a problem and you can't make the sphincter tighter. You can't do that. So you have to find a number of ways of either reducing the amount of acid buildup in the stomach or reducing the reflux itself, the tendency for the acid to shoot up and go into the esophagus and hurt the bottom part of your esophagus and the upper area of that cardiac sphincter. So lots of gastrointestinal problems with people who have developmental disabilities, which also means that the medication absorption is going to be d ifferent, which also means they might not get very effective seizure control because their medications are not being absorbed as well. You also need to keep in mind that some things can interfere with the absorption of medication. The access that your body has, how is it being absorbed? How is it being distributed and being metabolized? If the person is taking something to code their stomach because they are having stomach trouble, well, it's coating it. So the medication is trying to get past that coating to be and -- absorbed into the system and it can't because the coating is very effective. You have to time when things are being given and when certain medication is being given and certain helpful things like a coating medication is get -- is being given. Most of the time the effective treatment is through using two or more antiepileptic drugs simultaneously. So they are using different pathways and you are approaching the problem in the most comprehensive way. But if the person is inconsistently reporting what's going on, so you have a consumer taking their medication and they tell you, everything's fine. And they're not really paying attention and it might because they have poor interoception, or they are just not able to report things very well, we depend on a good report to know if somebody is seizures, especially partial seizures, are being responsive to the medication we're giving. So a huge problem in seizure management is the inconsistent verbal reports from a consumer. That's probably can go right up there with bad timing. So what that means for us as clinicians is we know people who have developmental disabilities can have very poor interoception. We know that for a fact. We have to gauge how much of a problem it's going to be with our individual recipients of our care. And then clinical observation. Very important. What do we see? What are we watching in terms of behavior? And what lab testing can be used to help us out? Can we get a blood level that might help us out to determine if the medication is being taken or being absorbed? So seizure management in elderly people who have developmental disabilities realize both on behavioral observations and lab testing. It's the best way to get that taken care of. And I think that leaves us -- leads us away from seizure management. Let's go into respiratory health. People who have developmental disabilities have more than typical problems with their respiratory tract. They have a lot of respiratory infections and they have a lot of respiratory difficulty that can be because of the way they are built, because they might have problems with their bones, with the way they are shaped. They might have decreased lung expansion so it makes them more prone to respiratory problems, very vulnerable at any age. Whatever they had in their 30s, by the time they hit their 50s or 60s, which is considered geriatrics for people who have developmental disabilities, then you're going to expect more respiratory health issues. Something that's fairly new -- we knew it's been building up for years is the case of tuberculosis, especially multi-drug-resistant strains. And because people who have developmental disabilities are so much more vulnerable to respiratory problems, putting them in situations where they're going to be exposed to people who are not very healthy and -- tuberculosis in general is on the increase in the general population, certainly an issue that we need to pay attention to with people who have developmental disabilities and respiratory health problems. Tuberculosis kills more than 1.5 million people every year. That's a tremendous amount of danger from tuberculosis. It didn't used to be that way. In the '80s and '90s, we didn't have these problems. Past 20 years, it's been ramping up and it's become far more prevalent. The drug-resistant of it is difficult. So there's some research being done now. One of them is going to be starting human trials in 2015. One of them is just starting human trials this month. There's two different drugs they're looking at to address Ricky Lowe sis. It's cheap, doesn't -- to address tuberculosis. They think it's going to be a former the weapon -- a formidable weapon. Both the drugs that have letters and numbers associated with them now, but there's a chemical components to both of them. They are very different. Both approaching this problem. It's something to know that we have some hope. If you are exposed to a great deal of tuberculosis in your population, know that in the next few years we could be seeing some help about the multi-drug-resistant strains. Let's see. That's it for respiratory. Let's talk about dementia. Dementia is a group of symptoms. There are a number of different kinds of dementia. Some of them are reversible. Some of them are not reversible. The reason we are making a huge deal about that is people who have developmental disabilities have far more cases of dementia. This is what a healthy brain looks like on CAT scans and this is the severe level of Alzheimer's dementia. Sometimes Alzheimer's dementia is a brave created as AD and sometimes as DAT, dementia of Alzheimer's type. They are interchangeable terms. You can see how much of the brain is just not there anymore. There's a real degradation in the way the brain tissue is composed when you have to a demanding process like Alzheimer's. All the dimensions are a little different. Alzheimer's dementia and Down syndrome are both occurring on the 21st chromosome, genetic mutations. So that tells us not only are the closely related because they are on the exact same chromosome, but there's such a high probability that somebody who has Down syndrome will develop Alzheimer's or Alzheimer's like to mention after the age of 50. The rate of Alzheimer's in people who have Down syndrome is incredibly high. The highest of the groups. It is something you might not necessarily see behaviorally. Person might be functioning beautifully and then on autopsy we see that they had Alzheimer's to mention which I find interesting and I don't have an explanation for that now, but stay tuned. Some -- hopefully something will come along. Possibly -- there's a question about this. I wanted -- there's a poll question about it. I wanted to make sure I talked about it. When people have dementing process, their dementias are easily differentiated. We can tell when there's a cognition program going on. The person has developmental disability with whatever level they were or were not able to accomplish in terms of cognitive task. And what's happening with dementia. We're able to track that. So it's not such a mystery. If somebody has dementia, we're going to be able to see it. And in general when somebody has a dementing process or if they are geriatric or have a developmental disability, everybody's behavior is functioning. In response to rewards. There are influences that can be made. When we talk about treating dementia, whether pharmacologically or non-pharmacologically, keep in mind that people can respond to rewards and reinforcement and reminders. And sometimes people will respond to verbal interventions and sometimes they won't. But the likelihood is there. And also, people who have developmental disabilities are going to have recognizable dementing processes, much more than the general population. You know how much it's happening in the general population. So reversible dimensions, things -- dementias. It's good to track the symptomatology. And all it means is that it is caused by another medical condition or there's an underlying medical condition that's creating this dementing process but it can be treated successfully and we can go and do something about that. There is a difference between the dementia and delirium. Delirium is 100% curable. Catch it early and delirium is going to work for you to make it go away. Delirium can happen after a major physiologic event. If you catch it early, you can track the physiological event, correct it and you are done. Dementing process is different. Reversible dementias, something we have to pay attention to. Here are some of the examples of what could cause a reversible dementia. If somebody has an infection and it doesn't matter where the infection is. People who have developmental disabilities tend to have a lot of urinary tract infections. They might not come out on a lab slip as having a positive culture for a urinary tract infection, UTI. What's happened many times in my practice, many colleagues I talked to is that you might have somebody who has a high risk for urinary tract infection, dozens and dozens, treated many times, and they are having a little bit of symptomatology but not a lot. You do a urinalysis on them and it doesn't come out as positive. Keep in mind people with developmental disabilities do not have to have the full colonization in order to be responding to an infectious process. They don't have to have so many bacteria going on that it would show up in a lab test. They can have an unusually high level but still a normal -- in the range of normal for a bacterial count and it won't will show up on a lab test. You still know that person is sensitive to that bacterial level. So any infection can create a dementing process. Depression can certainly cause a dementing process or it can look like dementia. There are some ways to differentiate between dementia and depression. The cognitive degradation that happens with depression is remarkably different. Normal pressure hydrocephalus, somebody had a shunt, it might get clogged especially what it is draining his glucose because that's within the brain. Glucose crystallizes and it can plug things up. Sometimes you can get a little push on it to clear it out but sometimes the pipe needs to be replaced. The tubing has to be replaced. Head trauma can cause a dementing process. Certain drugs can have side effects that look like they are dementing. Thyroid problems. A lot of people with developmental disabilities will have hypothyroidism but it might be subclinical. They don't have the thickening of the skin. They won't have difficulties with other problems that are obvious with thyroid. It might look more like depression than anything with a thyroid but it can interfere with cognition. Needs to be looked at. They can in just a toxic substance. Toxicity for people who have developmental disabilities who are on a lot of other medications is a wide open field. Some medications inhibit an enzyme in our livers that helps to scrub medication out. Called cytochrome P 450. Great name, basically the name, the job of this particular enzyme is to take that stuff that you have in your system and metabolize it and get it out of you. Some of the medications of people will suppress that cytochrome P 450. Someone might put something into their body but that's enzyme that supposed to take it out of there is being suppressed and not working. And it can have a toxic effect on their body. So things you would not normally consider toxic are going to become toxic because of the other things that are going on in that person's metabolism. So it's important to pay attention to what the toxic effect of anything is. Then vitamin B12 deficiency, fairly easy to detect, and fairly easy to fix come and give them some vitamin B12. As people get older, they're not going to be able to but -- absorb and metabolize B12 from their diet. So vitamin B12 is something we pulled in from the food that we eat but as you get older, that becomes a much less efficient system. And when you have a less efficient system, you're going to have to supplement. You might have to do vitamin B12 from the outside as opposed to the diet. So let's talk about how we're going to reduce the risk of dementia. Because there are some options for doing that. Dementia risk is higher in those who have higher -- hypertension. If the blood pressure can be managed, if it can be controlled, then you're going to decrease the risk of dementia down the line. And hypertension in general is very dangerous for the body, not just in cardiovascular risk although that certainly a major feature. You have an issue of blood going through the tube of your vessels at a very high speed like a fire hose. And it's pushing on the walls of your vessels, but it's also slamming through all of your delicate organs. So it's slamming through your kidneys, through your brain, through your eyes, all of these high pressure issues cause a lot of damage over time and it can wear down walls and that's why high blood pressure can cause strokes. It's constantly pressing up against these vessel walls and it weakens them and they can just below and the person has a stroke. So we know that high blood pressure also increases problems that people have with dementia. So we can reduce risk of dementia in the future if their hypertension is managed now. You might not have symptoms. They don't have headaches. Hypertension is a very sneaky disorder but you got to be on it every single day. Recent research demonstrates that there is a real value to hypertensive any class, regardless of how it works in reducing dementia risk. Good, robust research with statistically significant results. A number of different agents that didn't even make a difference what class it was. This is a slide that shows the microscopic -- little red dots are the Goldie structures -- Golgi structures. Alzheimer's breaks that structure up. And when you fragment it in Alzheimer's, that's what happens. It gets fragmented. You have the plaques that happen with Alzheimer's dementia and also these Golgi structures that are being busted up. And it kills the cells when the Golgi structures are not intact. The cell dies. And the cell cannot transmit messages. So you want to make sure that you have the Golgi structures protected as much as possible. So there's research in that, talking about doing genetic medication modification. That's kind of new. But we know that the Golgi structures are more important than we thought they were. I would bet there are going to be medications that are going to address presenting the fragmentation of the Golgi structures so you don't have as much cell death. That will come down the line. They don't know why this fragmentation occurs but now that they've identified it, they will probably get on -- I'm saying they because I'm not doing this r esearch. They are going to track this and then try to address it with medication that will slow down the process. These are some irreversible dementia is. Alzheimer's is irreversible but there are lots of other irreversible dementias. Somebody who has had a stroke or somebody has high blood pressure caused vascular damage and they have leakages or aneurysms in their brain or even aneurysms in abdomen can influence the dementing process. There's a difficult dementia to Chris, a missed vascular and Alzheimer's -- deed -- difficult dementia to treat. Now we know a fair bit more about Lewy Body, if somebody has Lewy Body dementia as opposed to Alzheimer's, if you give them a medication that supposed to calm them down and slow the aggression, like Risperdal or Zyprexa or Seroquel, or any antipsychotic medication that supposed to help them think a little bit more clearly and not be as agitated and they get way worse, that's a technical term, it is probably Lewy Body. That's a problem because you don't have as much medication to address these kinds of behavioral problems when you have Lewy Body. Same thing with Parkinson's dementia. Medications tend not to make it better. Pics disease is a revocable -- irreversible. Kirksville Jacobs -- what's happening with their brain is that they are becoming very dementia. Huntington's Korea Huntington's Chorea -- Huntington's Chorea, a lot of problems with yelling and being difficult and Huntington's Chorea is a tough process. And the Alzheimer's dementia diagnostic criteria, people have asked about this. Alzheimer's accounts for about 70% of dementing processes. So you are pretty much going to nail it if you think somebody who has dementia has Alzheimer's dementia but there are some criteria that have to be met. You need memory impairment. Memory has to be impaired in a certain way, long-term, short-term, more short-term, digital -- difficult to create a new memory. You have memory impairment and aphasia, which -- you have to have one of those three bulleted on the right-hand side. At least one that you just need one in order to make the original diagnostic stake. Aphasia is either expressive where they are not saying the right words, they can't say the words, or did -- they do a word or label mix, like they will call their daughter their mother or they get labels mixed up. That's an expressive aphasia. There's also Reese press of aphasia where they don't understand what's being said. They might be clearly saying, this is what I want you to do, shake hands with me. And they don't understand. Sounds like gibberish to them. That's a receptive aphasia. That's a little bit tougher to pick up on. Apraxia is the inability to perform purposeful movement. You can't do that. That's apraxia. Movement with a purpose. When we put a in front of s omething, that means is not there. That person is not able to do a routine to kind of movement like feed themselves. They might poke themselves with the times of the Fort because they can't get movement correct. So memory impairment and apraxia would be Alzheimer dimension. Agnosia is reduction over time as familiar. For example, one of the first people I ever diagnosed with Alzheimer's was somebody standing in line in front of me to sign into a conference and there was a clipboard and they had a pen attached to it. And he looked at this pen and he didn't know what it was. He was looking at it and you could tell this was a colleague, this was somebody who was a brilliant p erson. And this was the first inkling that we had that he had agnosia, a dementing process going on because he did not know this was a pen. You might see that with people you are working with. They will use a pen to eat their soup with or they take a key and they are trying to cut their meet with it. They're not using it for the proper purpose. Familiar objects is usually the first to go. Later on, agnosia can include people. So they don't recognize their mother or father or they don't recognize a caregiver who has been with them for many years. And that agnosia can be quite distressing to everybody else pick it's not distressing to the individual who has the symptom. That's one of the benefits, sometimes they don't know that they are slipping like that. They have to have functional impairment. They have to slip in something that they would normally do, ADL, ability to walk, remembering where their bedroom is, where the bathroom is, things like that. There's early-onset and there's a gradual onset. And there's a gradual course. But having said that, I have had a number of people who have ended up with Alzheimer's dementia diagnosis that was very abrupt, literally overnight, this one woman who was 62, very young but by any means -- and she had gone to see a movie with the people from her residence and usually very healthy person. And the next sign for the movie -- remember it talked about it afterwards, was happy about the movie, and I forget what the movie was -- that's not a sign of dementia -- just not relevant -- the next morning we are waiting, waiting for her, and she's like 45 minutes late. She's never late. The problem was she forgot how to tie her shoes. Overnight. And so the first assumption we all made was that she had had a stroke. Because she was having some trouble talking and she could not figure out how to tie her shoes. So we worked her up for a stroke and that is not what was going on. It was so abrupt. Turned out when she did die about seven years later, which is not a short time, given her original age with it, on autopsy, she had pretty extensive Alzheimer's dementia. Even though it's supposed to be a gradual course, somebody is going to break those rules. You have to pay attention if the dementing process is happening because of something else pick if they have an infection, urinary tract infection, do they have a cyst on a cranial nerve? Are they having trouble breathing? What is happening? If there's no other medical p roblem, then you can think about it as a dementing process. It can't be a delirious process because delirium, we can resolve very quickly. Just not going away, more likely not delirium. It can't be due to another psychiatric disorder because dementia is a psychiatric disorder. So we can't have a delusional process that's causing them to forget things and people and how to do things. A depression that's interfering with their functioning, they just don't care and they're not doing things or agitation from a mood instability which is quite common with people who have developmental disabilities, more common than in general population. And that might interfere with their cognitive processes. You have to make sure there's nothing else psychiatric going on. You can have a dementing process and your behavior is just fine. So with or without a behavioral disturbance. The observable features are gradual declines. So it would come down in their functioning and then it will go down and then it will plateau. That's very typical. They often have periods of mood and behavior problems. They will be very paranoid, very angry, very irritable, yelling, throwing things, their impulsivity level really goes up. So if somebody already had an impulse problem, they are going to have more impulsive issues. They're going to lose self-care and ADL skills. In later stages there's total dependency, they forget how to set up, they literally forgot how to swallow, they forget about their bowel and urinary eliminations and they need to total nursing care at that point. There are three stages to dementia. Alzheimer's dementia. Early, middle and late. Early stages also includes some treatable mood problems. You can give the people a mood stabilizer or antidepressant. And that can help in the early stages. Early stages unfortunately is not picked up very often in the general population and in people who have developmental disabilities because we give people some leeway. If somebody has worked very hard at learning how to do the math to balance their money, they have a little budget going, and they worked very hard and then they let it slide, they don't know how much money they have, thinking they've regressed a little bit, they have had a stressors -- somebody has moved in or out of their house, father has been diagnosed with Parkinson's and the mother is not sure they are able to kick -- take care, there's always an issue. Sometimes we slide it off to s tress. If you forget where your keys are, you are probably more stressed than demented. Early stages sometimes are missed. While there can be treatable features too early stages, usually we don't pick up on a dementia until the middle stage. Middle stage often includes behavior problems. Those solutions additions are very usually visual. Unusual would be all factory, gustatory or tactile. Mostly they are visual, seeing things that are not there, little boys in my bedroom at night, I can't get to sleep, they are seeing things they normally wouldn't see. Somebody just took the head of that animal. Disturbing or annoying things. Delusions tend to be paranoid. You hit my -- you moved the room, you painted a different color. You did that deliberately because people are trying to can tabulate, trying to make up a reason for why this is a problem. They used to be able to do these things and now they are not. So you're probably going to pick up on the middle stages of dementia. Late stages, obvious, usually includes inability to recognize family and caregivers and normal objects. The diagnostic process is an interview. We interview the patient, family, caregivers. Everybody gets interviewed. There's a psychological assessment including memory and intellectual functioning is. Comprehensive physical. I want to know it's not the t hyroid. I want to know it's not infection. That whole process has got to be checked from head to toe. And then you consider EEG because it could be a partial seizure or a CAT scan in some way because if it can look like the cat -- look like the CAT scan, you want to rollout of cyber problems. Easy to fix. Hearing and vision loss, not associated with normal developmental disability issues. Dehydration. A huge issue. People don't drink enough water. And I'm not talking about people who drink way way too much, but having 12 ounces of nces of water in a day is not enough water. When you drink other fluids, there's other things in those fluids, like I've had said to me many times, I drink crystal light and that's that water. Yes, but what's in the crystal light or the iced tea or the Kool-Aid or whatever else, coffee, fatigue, all those other features in it that make it not water anymore make a demand on your metabolism. That demand on your metabolism uses some of the fluid, dehydration features of the water component in there. And sometimes it cancels it right out. Sometimes it can be even more dehydrating. Alcohol is incredibly dehydrating. And does not have much water but when you have like scotch and soda, that's not water. Your body is going to need more water than what you put in there. Dehydration is a huge problem. They take a lot of medications that are anticholinergic, it dries them out. Apnea, where the person will have an interruption in breathing, other medical psychiatric factors. You have to confirm and you have to assess the status and the pace of decline. So you can get the reasonable care organized for this individual. Down syndrome and Alzheimer's dementia, like I mentioned before, very common coupling. They have been on exactly the same chromosome. So you have a genetic disorder and also a genetic predisposition for Alzheimer's. It's more prevalent at any age. You are going to have dementia even in a very young person. Prevalence increases with age. With the general population it increases with age. If we all lived to 100, we would probably all have dementia. With people who have Alzheimer's dementia and Down syndrome, the older data from 1994 suggests that 8% of people who are 35 to 40 will have Alzheimer's dementia and 75% of people 60 and over in the general population. In people who have Down syndrome, it's much, much higher. The possible early course for Down syndrome was relatively high functioning individuals. You're going to see ratability, going to see that mood instability. Not going to talk quite as much. Maybe it is aphasia but maybe they are trying to figure out what's going on, something is different. Not going to talk quite as often. This is not something that's going to last a couple or three days. This is something that's going to be more durable in presentation. They're going to have more problems learning new things. Because the problem with Alzheimer's dementia with the plaques really making a problem is that the old memories stay in p lace. But new memories cannot be formed. So if you teach them how to do something like cook something or clean something or put something away that they didn't know before, the next day, they don't know it. Because it's a new memory and they can't access it. It was never really put into their brain. They don't have an ingrain for it. You can teach them the same thing 40, 5060 times -- 40, 50, 60 times, maybe it will start to go in there but older memories stay intact and the new ones either don't get created or they disappear. There are behavior changes. There's memory loss. They forget where things are and what things are used for. The initial course for downstream of -- for Down syndrome is less enjoyment for whatever they really liked. I had an individual who really liked popcorn. And she just stopped eating it. It wasn't interested -- smell of making it did not entice her and loss of self-care skills even if they were very poor to begin with, there's a serious degradation in them. The intermediate course for relatively high functioning people is -- let's say they go to work, work skills deteriorate and it's not just a couple, three days of work skills deteriorating, they are just not doing their job. They are less able to follow instructions so they are not doing their job and their supervisor might say to them, I need you to do this. And they are not able to. Because they might have a receptive if -- aphasia going on. They might have seizures after about two years after the dementia starts. Something to keep in mind. The mobility starts to be d ecreased. So you have somebody with relatively high functioning and now not moving around as much, not walking, there's incontinence issues, either you're on, stool or both. Hallucinations, delusions which tend to be suspicious. And there's weight loss. The dementing process can really a change somebody's metabolism. They're going to start dropping weight. The possible intermediate course for Down syndrome with a relatively low functioning individual is that their memory deficits are going to be quite remarkable. Spatial disorientation, start banging into things. They're going to drop things, going to go reach for something and not going to be able to pick it up. It's going to drop. They're going to spill things, going to bump into doorways, going to have bruises. And they really need to be supervised much more than before. Their diurnal rhythms are going to change. They are going to be sleeping in late, you can't wake them up, going to be very tired during the day and you're going to be wondering, why is this -- why is their clock slipping? Because of the dementing process. Their motor and gait disturbances are going to become more remarkable and they will probably have a seizure disorder. Other developmental disabilities in dementia to comment on the non-Down syndrome group, Fragile X Syndrome, you've got all these other dementing processes. And you have other developmental disabilities. We really don't have a lot of studies on them. I don't have anything I can refresh you on in terms of somebody on the autism spectrum who has a dementing process. There's such a paucity of studies. If anybody wants to do that research, that would be fabulous. Problems with psychological tests because other developmental disabilities make it more difficult to make that assessment. You need a multidisciplinary assessment. We need information from everybody in order to make that d etermination. Managing somebody who does have Alzheimer's dementia, whether they have Down syndrome or not is multidisciplinary. Every dementing process requires a multidisciplinary approach. Medication doesn't necessarily -- medications do not delay or treat the illness. They might slow it down a little bit but not for the reason you would think. There are psychological therapies. Once people start to realize they're losing something, losing a skill, it can be quite distressing. There can be adjustment disorders in response to a dementing process. There are very specific psychotherapies, verbal, cognitive behavioral therapies, very helpful for people who have developmental disabilities. IFAD a great deal of luck with psychotherapies. And it's not just supportive cycle -- psychotherapies. Environmental changes of course, you need to have environmental changes. Daily activities that are fairly structured. Whoever is doing the care, whether they are staff members or family members, everybody needs support around the dementing process. It's challenging in ways that we are not used to dealing with and they need a specific set of trainings and ongoing support. There's reality orientation for the person who has a dementing process. And that reality orientation has to be conducted in a particular way. Reminiscence therapy is very helpful because people who have dementing processes -- they remember the old things. It's the new things they have trouble holding onto. That's the problem with dementia. Reminiscence therapy gives people the opportunity to have a positive experience. Behavior therapy of course enhancing the skills that they h ave, reducing difficult behaviors, sometimes as simple as moving from the flow of traffic so they are not grabbing people inappropriately. You move them and in a separate way in order to reduce the difficult behavior. Put them on the other side of the table. Take a look at what happens before their behavior is a problem. Look at the consequences of their behavior problems. Nothing works better than positive reinforcement. Intentional positive reinforcement, unintentional positive reinforcement. I put those in there because sometimes there's unintentional positive reinforcement. If somebody is screaming as a behavioral problem and they didn't used to scream, staff in the area are going to run and find out what goes on. What this teaches the individual i s, I can get a lot of attention if I yell. You are actually unintentionally positively reinforcing that bad behavior. So you need to take a look at what's going on with these reinforcements. And then always take a look at the rate of behavior. Want to cover a couple more slides and then we will take a break. Sensory processing loss, we know that up people have sensory issues and sensory integration issues but the laws and confabulation is where you make something up to fill in the blanks, I like to check confabulation rates if I'm called in to consult with somebody, somebody have never met before and I walk in and say, it's so nice to see you again. It's been a while. They say, yeah, great to see you. They don't know me. So they are confabulating, filling in the blanks because they don't want to feel bad about it. You are going to check hearing, vision, what are they seeing when they look in the mirror, are they seeing themselves now or do they see themselves now and say, who is that old man? Are they smiling what's a ppropriate? Some of the research on olfactory competence is you can tell somebody has a dementing process if they cannot detect the smell of bananas, cinnamon, and something else. There were three things. I'm going to forget because I'm busy. Tasting. What are they tasting? Has there been some distortion in their tastes? How are they feeling? Are they able to process what's happening with them, with their five senses? Where are their memory gaps? Are the memory gaps from things long ago or are the gaps from things yesterday or the day before? Let's take a 10 minute break. And come back and we will come back and finish up.

[Event is on break and will resume at approximately 2:50 Eastern.] .

Welcome back. We're back -- we're going to talk about treatment for dementia. It is a very challenging process for anybody who is taking care of anybody who as a developmental disability. All levels of character -- caregivers are going to be challenged. Symptoms of dementia appear with this population exactly as it does in the general population. You are not going to see anything different. Going to see exactly the same symptoms presenting in exactly the same way. It has medical implications because people who have developmental disabilities have higher physiological risks. So you're going to have somebody with hypertension and they are at higher risk for a dementing p rocess. You are going to watch that person a little bit more closely for these cognitive processes being degraded. They will be -- there will be poorer cognitive functioning because they are already cognitively challenged in whatever way they have, socially or intellectually, whatever they have, it's probably going to get worse. The degradation of cognition has to be incorporated into their treatment program. Otherwise you are going to be frustrating that individual. They are going to have a very unhappy time. Quality of life is going to be decreased if you don't change the expectations going on with this individual. Given the people who have developmental disabilities and they are geriatrics, if they have a significant cognition problem, depression will impact further on the cognition. That is not so easy to differentiate. Just to review what we've talked about thus far, depressive impact on cognition are not easily defect -- differentiated. That is something we really need to do a good clinical interview on. Know the difference between depression and cognition effects and know the impact of dementia on cognition. And those two things are not easy [Silence] .

Okay. Let me back up a little bit. Did I lose it at the break? Okay. So treatment for dementia poses a challenge for anybody who is taking care of someone who has a developmental disability because does not matter whether it is a family member or professional, doesn't make a difference. It's going to be a challenge and you need to have support and guidance. It's important to note that symptoms of dementia appear in this population exactly as they do in the general population. There's no difference. Dementia is dementia. Something to keep in mind is somebody who has a developmental disability is likely going to have hypertension. They are going to be at higher r isk. So you need to do something, you need to check that individual more closely. There's going to be an even greater cognitive functioning hit with this population. Whatever cognitive functioning level they were at is going going to be a little bit more reblogged -- remarkably worse if they have a dementing process going on. The degradation of cognition has to be Incorporated into their treatment program so you don't have a lot of frustrating experiences with an unrealistic treatment program that is not acknowledging the dementing process that you're going to be frustrated, they're going to be frustrated. Not going to work. Given that people who have developmental disabilities and in the geriatric age range have these significant cognitive problems, depression impacting further on cognition is not easy to differentiate. So there has to be a certain set of very clinical, acute clinical skills that get called into play to be able to pull the thread on is it dementia? Is it a developmental disability that hadn't been recognized before? Is it a depression? Is it all of them? Memory deficits that you are trying to sort out, dementia or d epression, take a look at whether the I don't remember stuff is overemphasized. People who are depressed don't have usually the energy to be involved in remembering things. They don't have any problem saying, I don't know, I don't remember. So if there's an over emphasis on not being able to remember, it's more likely depression than dementia. What happens in people who have dementia is they are oblivious to the deficit or they will minimize it in their mind. They think it's because of stress or something like that. Or take a look and see if their orientation to person, place, time, and purpose, the four spheres of orientation, whether it is affect it or not. With dementia, it can be affected. With depression, not so much. They might not have date and time very well but they know when they're supposed to go to the bathroom and they know when they're supposed to be eating if the -- even if they don't want to eat. Somebody who has dementia might not understand that. They don't pull up the cues from their environment and interpret them very well. Check and see whether language has deteriorated or not. Does not get deteriorated with depression. They might not want to talk as much but that's more of an emotional expression of where they are at than having a cognitive deficits. People who have dementia usually can't talk as much or they are afraid to talk because they don't understand what's being said to them. Take a look at their language and then apraxia. Are they able to use routine movements competently? Are they at baseline with how they are moving through the world and using tools? Or not? Somebody who is depressed is going to know what a pin is for. They are going to be able to walk at their usual pace. They might be walking slowly but they are not going to be walking into walls or tripping over chairs and things like that. Somebody who has apraxia will. The negativity is an interesting feature. Negativity is a symptom of depression. If the person has always been negative, always somewhat of a pessimistic person, that's not going to work out very well, then the negativity does not count as a symptom. It's the change that we are looking at. And dementia does not usually make somebody negative. It can make them suspicious but not necessarily negative. So if they lean towards suspiciousness, it's probably dementia. If they lean towards negative -- negativity, it's probably depression. So the treatments and interventions we would do with somebody who has developmental disabilities and in the geriatric age range is to take a look at their behavior. Because everybody responds very well to praise and rewards and verbal interactions. And consumers of services that we provide are responsive to verbal interventions. That's not something we're going to have to throw away. So let's talk about treatment advances. There have been quite a few. Not enough in my view, but there have been quite a few treatment advances. Acetylcholinesterase inhibitors. Sometimes people just call it cholinesterase inhibitors. This glutamate targeted compound. There's one right now. There's a patch for people who have dysphasia, they don't have an easy time swallowing so you can wear a patch. That's fairly new. And the donepezil oral disintegrating tablet is for people who might have trouble swallowing but they also might have issues with meds in general and either spit the med rec out. But with donepezil, put it under their tongue and it gradually disintegrate. It doesn't take 20 minutes, it takes several seconds and that's a big boon for us because the mechanism of medications being absorbed is important to keep in mind. If you can get into them, it's more likely to work. These are the general classes of medications we use for dementia. Alzheimer's type is acetylcholinesterase inhibitors also called cholinesterase inhibitors. We use a typical antipsychotics. So Clozaril was the first pick than Risperdal, Zyprexa, Seroquel, Abilify, et cetera. Most of the time we don't use Clozaril because of the blood draws required but it would be very good for this. The atypical antipsychotics help clarify thinking and they helped to organize the person's thoughts in more comfortable ways. It also has some mood stabilization features. So if they are irritable, agitated or acting out, these antipsychotics can be very helpful in that regard. And then certain antiepileptic drugs, more the mood stabilizers and Depakote has been particularly helpful especially if there's been aggression, valproic acid is very helpful for people who have aggression as a result of dementing processes, with people who have developmental disabilities. So acetylcholinesterase inhibitors are helpful. They reversibly inhibits an enzyme. Imagine this. You have an enzyme, their job is to clean things up. And this particular enzyme -- if you see ASE, that's an enzyme and its job is to clean. So this acetylcholinesterase is an enzyme. And its job is to clean up the buildup of choline -- a cetylcholine. And choline's job is to help with thinking, help with memory. But you can't have old, stale choline laying around in the brain. So the enzyme comes through and cleaned it up. And then your body makes new choline and it gets old and stale and the cholinesterase comes along and cleans it. So what they determined is choline affects memory. The more choline you have on board, the better you're going to be able to think. So the idea was when this medication was first invented, proposed, was let's take the enzyme that cleans up the choline and make it less active. So that there's a little bit more choline around. It might be a little stale but it still has some purpose. So if you have this enzyme, inhibited from cleaning up the choline, then maybe we can enhance the memory. The research shows that it does. It does not repair it, it does not make it all better. But it helps the person retain some of their memory processes. And it decreases some of the degradation of memory. You are just dealing with one particular neurotransmitter. So if you inhibit the enzyme supposed to clean it up, it allows the buildup of acetylcholine in the brain. And it temporarily improves your cognitive functioning. You are able to think better, able to do problem-solving. These are the acetylcholinesterase inhibitors agents. Aricept, and others. The common side effects, G.I. u pset. Nausea, vomiting, diarrhea, stomach pains. They don't feel very comfortable with G.I. tract. Something to pay attention to. Also, it has a little bit of anticholinergic Fijian so it can give headaches and make them feel dizzy. One of the things to keep in mind is even though it does help with physical issues about what's going on, very helpful in memory things, it can unmask a cardiac conduction problem. Our hearts are mechanical, pump, comp but -- there's also the electrical Purkinje system. When you take acetylcholinesterase inhibitors, you are inhibiting this particular enzyme from cleaning up the acetylcholine. What happens is that there might be a problem with the way the heart is electrically functioning and you have just unmask it. So you might find this cardiac problem that you didn't know previously existed. People were thinking, that's a bad side effects of this medication that causes cardiac problems. What it is really doing is unmasking it. Some of the problem that's going on with the choline in the body is not showing you what's happening with this heart problem and when you address that choline level, it shows up. So you have to take care of it, have to address it. You have to watch your liver enzymes especially the ALT. So they need to have blood drawn. It can interact with other medications because it's inhibiting a particular enzyme, which kind of indicates it might inhibit other enzymes. So that's when your pharmacist can be very helpful in indicating to you how these medications interact. And if it's going to be suppressing the removal of other medications, then you are going to see toxic effects building up in the body. You have to watch what else they are on. So we've talked about all these medications that you can give. None of them queue were a dementing process unfortunately. That doesn't happen. We don't have a drug for that although they are giving some interesting studies going on now with the concept of plaque formation and like I said before, the Golgi structure fragmentation, but we are years away from that. For the time being, what if drug therapy doesn't work? What if their symptoms are too extreme? What if it is too expensive? They cost a lot. What if they can't afford it or their plan doesn't cover it or nobody covers it? You can change drugs. There's a 50-50 chance that another medication will reduce symptoms. If drug A doesn't work let's try drug B. If drug B doesn't work, let's try C . You've got to four or more. That's a good option because they all do it from a slightly different direction. Sometimes the drug fails because there's a side effect that the person is not able to tolerate or it doesn't mix with side effects of other medications. If you switch to another m edication, you might be able to get away from that particular set a side effect. Everybody metabolizes things differently. Check the environmental factors. Even though we're looking at dementing processes, it's a disease process and it will proceed. You can make things better with checking your environment. And it's an easy fix. You don't have to add a drug. You don't have to worry about side effects. If you check your environmental factors, the pharmacology becomes less dire. People with dementia do not respond well to low light. And this has been a problem in a lot of group homes and residences because people get very agitated when they are demented. They will try to lower the light to decrease the stimulation which is what you would do with somebody who was bipolar. When you saw with the light, when people have dementia, that increases the shadows. Now they can't differentiate what's going on. So they are going to misinterprets and going to be very frightened and probably paranoid. So you need to keep the lights up on them so that there are as few shadows as possible. Keeps ambient noise to a minimum. If you have noise that tends to slam around and gets very noisy, especially with Hyatt -- hard surfaces, there might need to be detection of decibels and get it lower. You don't want to have a lot of noise going on. If your treatment always must accompany pharmaceutical care. You can't depend just on drugs. Drugs are an approximation of the normal healthy functioning body. And it's an approximation. We are very seldom going to hit it right on. So just to talk about cholinesterase inhibitors and a nti-cholinergic, anticholinergics would be things like cogentin. Anything that drives them up, like a lot of psychiatric medications, people who are developmentally disabled and their geriatric, when they are give -- given a cholinesterase inhibitor and also like anti-cholinergic to drive them up because they have urinary incontinence, something like that will absolutely drive them up, you will see about 50% faster decline in functioning than those taking just dementia medications. What I'm seeing in the literature and what I'm talking about with my colleagues is that in effect, those medications cancel each other out, don't do it. That's it for dementia. Let's talk about menopause. Hormonal changes begin as young as 30 years old in people who have developmental disabilities. The hormonal changes with both males and females -- it's remarkable with females. They can have in perimenopause or menopause at 30. Medications can influence the onset of Maryland -- menopause or perimenopause. Medications influence hormonal milestones. Not necessarily if they've had surgery. If they've had hormonal change due to extraction of their ovaries, but in general, it can propel people into a menopausal state much more early then you would expect. And people who have downstream from our much more likely to have earlier onset. I very frequently see it in the 3 0s. Not so much in the 50s. Anybody with Down syndrome is probably already menopause or perimenopause. Some women who have different developmental disabilities, they might not say how they are feeling. If something gradually comes on, they just adapt. Which is a good thing that says they've been very productive in their treatment. But it could be something that could be missed. And we need to track it for physiologic as well as quality-of-life issues. The symptom of hormonal changes -- you need to track these fairly early is short-term memory decrement. That's something that you will have to detect, is this a hormonal change of this individual? Or am in seeing a dementing p rocess? You have to put it altogether. Short-term memory to comment is -- can be from stress, hormone c hanges, dementia, we have to figure out what's what. This hot flashes of course. Some people have hot flashes that arise and it will move up their body and they feel it coming like they will feel very warm in the middle on their core and then face and head will get very, very hot and they're like, this is really uncomfortable. Or sometimes people just get hot flashes at certain parts of their body and it does not progress. There's also warm flashes, much more comfortable for people to manage. Frequently they don't even complain about it. There's something unusual that a number of people I've consulted for have found. They have cold flashes where they are all a sudden feeling very cold and uncomfortable and they can't get one. Not the chills of having a fever, it's this uncomfortable kind of feeling. It's a cold flash, just a different way of expressing those hormonal changes. Vulvodynia is a very interesting process, not fun. It is the pain that will occur in the woman's vagina because of the tissue drying. The pain can take a number of different forms. The most common one is just plain dryness where it's a little itchy. The next most common is pain that feels like 1000 paper cuts. It's immediate, if it doesn't have a gradual onset, and all of a sudden, they have this very extraordinary pain. What I've found interesting when I have run into people with vulvodynia with this particular definition is if they have any dementing process going on, they are already a little suspicious, they're going to think that somebody did something to them because it happened so abruptly. There's a lot of things that we can do about vulvodynia. We can to general home on replacement which is not usually recommended for anybody, let alone this particular population but there are many creams as a vaginal ring called S ring. And you just insert it and it stays in for three months about. Hirsutism, where you have hair growing where you didn't used to have hair growing and the hair you do have starts to thin out. There's this flip of what's going on. Changes in behavior, people are not as comfortable with certain things that they used to be comfortable with. A change. And their sense of physical well-being changes. They feel mortal, they feel more at risk, uncomfortable in their body. They can't get comfortable. Sweating, especially with hot flashes. And night sweats in particular. What can happen with night sweats -- gradually or in an accelerated fashion is that somebody might have night sweats and they are drenched and the assumption is that they were incontinent, that they had a urinary incontinence while they were sleeping. And people get really busy with that. And they are starting to give an anti-cholinergic to try to drive them out at that and I'm -- dry them out at bedtime. The sheets and the pillow and the blankets are all soaking wet. Sleep is usually disturbed. It is disturbed in a couple different ways. One is if you are having hot flashes at night and night sweats, that's certainly going to wake you up. But the insomnia is also part of the hormone disorder. So the person is unable to sleep or unable to sleep at a deep level or they just wake up a number of t imes. There's heart palpitations. Hormones have a huge impact on everything that goes on in our b ody. When the estrogen level drops, which is what happens with perimenopause and menopause, the heart can't activity has to adapt to the different level of hormone. In the meantime, there might be palpitations. The skin can become itchy. If the person has already has, as frequently happens with people who have developmental disabilities, but itchiness takes on a different feature. It's uncomfortable. It's simply because they don't have the estrogen that's changing the flexibility and the general plasticity of their skin. There's going to be back aches and joint pains, headaches, because again the hormonal level, bloating and weight gain, the average weight gain in the general population menopause and post-menopause is 1 pound a year. So if you have somebody who goes to menopause at 30, by the time they are 70 they've gained 40 pounds, that's unacceptable. That's too high. You have to stay right on that. People who have developmental disabilities are more prone to weight gain because of their other medical problems and gastrointestinal wiring. They are going to be much more likely to gain weight. Average weight gain per year is 3 pounds. For people who have developmental disabilities. If they go into menopause in their 30s, and they are living because of the fabulous care we're giving t hem, we have -- I didn't mention this when we started -- a group of courts of people with developmental disabilities who are geriatric. This is the first time that's ever happened. People used to die very early from cardiac conditions and from very complex medical conditions and comorbidities. But their medical care, behavioral care and quality-of-life issues have been so well addressed over the past couple decades that we have this group of people who are geriatric and they have developmental disabilities. An entirely new specialty area. So I should have mentioned that to begin with. Fabulous work, everybody. We actually have this new specialty area because of the good work you've been doing for so long. But the weight gain is going to be pretty remarkable because people are living longer and if they are gaining that regular two to 3 pounds per year, it's a lot of extra weight which can make comorbidities problematic. Check irritable factors if you have access to their blood relatives. Good to know what their mother did, if there is a surgical procedures or the mother died before they went into menopause, you might not know. Older siblings, might be good to know. It can be -- it has to be an older sibling. The developmental disability will propel them into menopause earlier than the general population so a younger sibling would not have gone through it yet. So if you have blood relatives, that would be a good way to check out what are they most likely going to do? If the mother was alive and had a naturally occurring menopause, perimenopause, and did not have hot flashes but warm flashes, chances are your individual is going to have warm flashes. What did we do to intervene for the health of the individual? The quality-of-life issue? There's support. There are things you need to do with people who are in menopause and going through menopause that you don't need to do with the other crowd. Loose clothing is good. You don't want anything r estrictive. Especially because they are going to be having these episodes of all of a sudden they're going to be really hot. There are creams to deal with the estrogen level problems like vulvodynia and the original issues. -- vulvodynia and vaginal issues. If you teach them how to memorize things, how to keep things in their mind, put things in a particular place, that's where they belong, that's where they are going to be. It will help the person be less distressed about the changes they are going through. Comfort measures, comfort interventions, topical medications, like creams and lotions and then like to insert I mentioned before, fans are very helpful, moving air especially across the head is very helpful for helping somebody get through a hot flash. Cooling substances, there are gels, there are pads, their ice packs, a whole number of things that can be done to help somebody through a hot flash. There are medical interventions. And they are not as well recommended. I don't recommend them quite so often for people who have developmental disabilities because they're such complex cases. If you have somebody who is fairly straightforward, hormone replacement therapy can be considered if there other factors, don't discourage it. Selective serotonin reuptake inhibitors. This is a class of medications -- in the United States -- Prozac, Paxil, Zoloft, Celexa, Lexapro, these are antidepressants but a very low dose of Lexapro in particular, although I have had colleagues tell me about the other SSRIs they've had success with. For me, it's been Lexapro. 5 milligrams of Lexapro. Very helpful in managing the hot flashes. Make them disappear. It's not a hormonal replacement. But it can help to manage it. It will take them from 40 hot flashes a day down to like six or seven. Same thing with Josiah lytic. -- anxiolytics. It can be very helpful if somebody is distressed about this particular transition in life. And then there are supplements. Some people, few, respond to soy, which is sometimes has some estrogen -- phyllo estrogen replacement. It's the plant version of estrogen. Not the human or the manual form of -- mammalian form of estrogen. Some people respond to it, like black tea and Ed Manet and soybeans and things like that. Not necessarily soy sauce, which is fermented. But some options. Some people respond to them, about 10% of people. So keep that in mind. That's menopause. Let's talk about the guys. Update on prostate health. In order to have a healthy prostate you have to be well hydrated. I harken back to the conversation we had earlier about water. The best hydration comes from w ater. If you have other things in your water, you can put a little lemon juice, a little lime juice, but basically if you put anything else in your water, it is not water anymore. Good hydration is really what helps the prostate works the best. If somebody has a urinary tract infection, the earlier you get on board with treating it, the better off the person is going to be. Also keep in mind that people who have developmental disabilities might respond to a lower level of colonization of the bacteria. A subclinical level. And you might want to treat just because you see symptoms, not because of the lab results. And nutrition. So let's talk about nutrition with prostate health. Again, if you have access to somebody who has a blood relative, an older male blood relative, it's good to know what's happening with their prostate. Did they have a lot of prostate infections? Did they have issues with prostate cancer? These are things to keep in mind. And also, just to be precise about the medical information, an enlarged prostate is not cancerous prostate. Those two things are not the same thing. So nor does enlarged prostate increase the chances of somebody getting a prostate cancer. You can have a particularly healthy pink, glossy, beautifully sized prostate and you can still get prostate cancer. Enlargement does not increase risk whatsoever. I assume it is pink and glossy. So benign prostatic hypertrophy, and hypertrophy, the overgrowth of it, it happens with people -- it raises this particular antigen in the blood two to three times n ormal. So that's why we have people have their blood drawn. So you get a PSA level. And it's the prostatic specific antigen level, PSA. If you draw that and it is over 10, 11, some clinicians don't treat until over 11, then you have a prostate issue. It could be diagnosed as prostate cancer. Just having BPH does not mean you are going to have prostate cancer. High PSA level on the other hand do indicate that you are at higher risk for cancer. Doesn't necessarily mean it is cancer yet but increases your risk. At a higher level. Nutrition, some people can use cranberry juice. That sometimes is healthy because of the acidity of the cranberry juice, which is pretty potent, much more than other acidic drinks you can have. Four to 6 ounces of cranberry juice a day can help with some individuals. Some individuals don't respond to that. In general, when they talk about prostatic health, a lot in the news about that lately but what the research shows is that if you have a a high calorie diet -- does not matter whether the calories come from fats or food, doesn't matter, the more calories you have, the higher at risk you are for prostate hypertrophy. Benign, does not mean cancer, but it means you're going to have some trouble with your prostate. It's going to be painful, you're going to have trouble going to the bathroom, you're going to be uncomfortable, you might -- it might interfere with sleep and functioning. So lower calories routinely in research has been proven to be very helpful. Less protein is less demanding on the general area of your genitourinary system. So not having a huge stake -- three to 4 ounces, the size of a deck of cards should be what your protein level -- what your consumption is in a meal. So no more than that. Less protein is better. Some people will have a peanut butter and jelly sandwich and they have a lot of peanut butter. Peanut butter is protein. And it has a lot of calories. And you put three or 400 calories of peanut butter on a sandwich, which is four or 5 tablespoons, that's a very heavy caloric and heavy protein snack that people might be having. More like a full meal. There are plant-based estrogens called isoflavones or flavonoids which can be helpful in prostate health. Low-fat diet and no caffeine. From coffee, tea, cola, chocolate. Can't have chocolate. Can't have coffee, tea or cola because they have a fair amount of caffeine in it. The problem is that some medications have caffeine in it especially medications to treat migraines. So you want to have -- keep that in mind that if somebody is having a lot of migraines, like a cluster headache, they are going to be taking medication that has caffeine in it and you need to take extra care of that prostate during that period of time. So make sure they are very well hydrated, that the calorie count is lower, protein count is a little lower and less fat in their diet. Saw palmetto is an interesting thing. As a berry oil. It's been shown to reduce the rate of growth in the prostate gland itself. The overgrowth of it. But saw palmetto can be very uncomfortable gastrointestinal me. This, I have found to be a familial feature as well. If you had a dad who was taking it or older brother who was taking saw palmetto for some reason and they got a ton of gastric discomfort or diarrhea or just cramping, then it's likely this person is not going to respond well to saw palmetto. Something to keep in mind. Diagnostic of a prostate cancer of people who have developmental disabilities is often not made until late stage. Usually at late stage it has metastasized, moved to other areas. One of the most common areas it moves to is the bladder. Not a huge problem. It can be addressed. It's not the easiest to cure. Kidney cancer is easy to cure but by the time it metastasizes to the kidney, it's probably already been to the bladder. But the problem -- problematic metastases are to the bone. Very painful. You want to check and see if somebody is having a prostate problem. And their PSA level is what's going to give you the real indication. So you want to do with their testing, their PSA levels on a yearly basis. And when it starts to creep up, if it is one or two, no big deal. Next year four or five, okay, we're going to check that. Let's try to increase hydration, decreased caloric loading and we want to address it by year three, if it is up to 10 or 11, they might be looking at options for t reatment. The options for treatment or surgery, chemotherapy, radiation where they implant the seeds for radiation with targeted radiation, for five minutes, let them being you with radiation. The follow-up for that involves looking at your confidence issue. Whether you have had surgery or you've had radiation or the seeds, you are probably going to have some dribbling. Not going to be a very tight seal anymore. So there's going to be some confidence issues. Not full incontinence but some discomfort. So you have to teach people about urinary tract infections, hygiene in general, washing clothes, they might not smell what's going on but others might be able to. And your ion flow. So your line flow is usually staggered. So you will go and 10, 15 minutes later he will have to go again. So what people suggest is that you sit, that when you go to the bathroom, instead of going to the urinal, use it. And then go back 15 minutes later and empty your bladder again. That can decrease on some of the incontinence issues. With chemotherapy, I wanted to mention some of the issues that can happen with chemotherapy. Specifically with this population. Anybody can have the side effects but it is tougher on people who have developmental disabilities because of the way they are built. So there's going to be gastrointestinal side effects. Any chemotherapy is going to give you gastrointestinal side effects. Anything from mouth sores to hemorrhoids, ulcerations and in between. People who have developmental disabilities already have some G.I. problems. It's more likely that's going to be number 1 on the side effects list. There's going to be blood side effects. You're going to have leukopenia, white blood cells, low amount. Going to have a low level of white blood cells. Not going to be able to fight infection very well. They can't be hanging around with people who are sick, because they are going to get really sick and not able to fight it off. They might get any make. Their red blood cell count might drop a little bit and they might have thrombocytopenia. They might have thrombosis, they might have clots that they are throwing around. So watch for stroke. Neurological side effects, needles and pins feeling usually in the fingers and toes, very uncomfortable your -- very uncomfortable. Not uncommon chemotherapy side effect. So to go back to the nutrition aspects, there are a lot of advertisements about very low-fat diets like the Ornish diet, which is fruit and vegetables, fat-free yogurt, fat-free cheeses, and egg whites. No egg yolks. Mounting evidence that this very low fat diet, very low, like the Ornish diet, which is kind of extreme, really works. So I was always kind of equivocating about it. But the research is supporting that in the long run, this is very helpful. Low-fat, very low-fat diet, like pretty Ken Lowe. -- like Pritikin low. Bone health. As people get older, everybody as they get older, bones start to become less vigorous in their production of bone cells. And you can get osteopenia or osteoporosis. Certain medications will enhance that. So for example, if you are taking an antiepileptic drug, the chance you're going to have some bone loss is pretty good. Over 15%. And they have to take antiepileptic drugs. Not a choice. We have to pay attention to osteoporosis. Get bone density checked. check. It's not intrusive in any way. There's two different kinds. One is you take the heel of your foot and it reads the machine, reads the reflection off of the bone surface. The other is to lay on a table similar to having an x-ray. And it goes up and down your body and checks your bone density. It's good to check osteoporosis regularly because it can happen very abruptly. We had somebody who was taking gabapentin, antiepileptic drug, and she was taking it for epilepsy and for pain. From a motor vehicle accident. And she had her bone density check every single year. And she was put on gabapentin right after she was -- had her bone density check. And next year at her annual physical, her bone density was down 13%. That's a significant bone loss. So you really have to check it regularly. Back and joint pain is what's commonly happens when your bones are not strong enough to support the rest of your structure. Everything else you have, all of your fat, all of your organs, all of your skin, that's all hanging on your bones. If your bones are not strong enough to do it, they're going to crumble and things are going to start to hurt. You don't have as much flexibility. It's exhausting. You don't have the endurance and you can't move like you used to if your bones are not in good shape. So maintaining your bone health involves good nutrition. You have to have a reasonable amount of calcium. You have to have a reasonable amount of activity. By activity I mean you need to have some weight bearing activity especially menopause for women. Even if you go into go to menopause at 30, you have to start walking around with some weights. One of the things I have people doing to increase activity as well as weight-bearing exercises is let's say they are watching TV a lot of commercials on TV. People usually have water, bottle of water or something like that and it's not a pound but might have some weight to it. If they just stand up during the commercial -- you know how many commercials there are -- just moved this from hand-to-hand, that could be a very easy way of them having their activity and having a little bit of weight-bearing exercise. It's not onerous. It's not -- even if people are immobile in some way or they have a lot of spasticity -- spasticity problems, they would be able to do something to increase. The activity actually helps to build more bone. Monitor the side effects of long-term use such as a ntiepileptic. And calcium supplements have to have vitamin D or otherwise the calcium won't be able to be metabolized. If they just have calcium with no vitamin D, it's just a waste. That's bone health. Depression is called the common cold of mental illness because lots of people get depressed. People who have developmental disabilities are at higher risk for depression. And as people age and they have more problems with their bodies and with their functions, they might be even at more risk for depression. The expression of a depressed state is somewhat different for people who have a developmental disability and our geriatric. They are very likely to complain of physical problems instead of sadness. They will complain of headaches, or that they are a key or sort or not able to do things like they used to do as opposed to saying the abstract term of I'm sad or I feel empty. Those tend to be articulation levels that tend to be less attend. Dementia is a risk factor for people who have depression. Massive life transitions can trigger flareups. Because you don't just get one psychiatric problem. You can get depressed with schizophrenia, bipolar disorder, anxiety disorder, posttraumatic stress disorder, any psychiatric symptom can have layered on top of it the symptoms of depression. If somebody has moved out of their house or the house itself is closing and they have to find a new residence to live in, things are in shifts all over the country about what's happening with the treatment of people with developmental disabilities, these transitions can trigger depressive symptoms and we need to watch for them. Maintaining the mood with this population typically can involve pharmacotherapy. What do we do? We can augment what's going on with their medication regimens with lithium. We can use a selective serotonin Rita -- reuptake inhibitor. Prozac was the first one. Paxil, is always a -- Zoloft, Lexapro, those are the ones the United States. Monoamine oxidase inhibitor year. Nigel, Parnate and Marplan. There's also a patch. If they have trouble swallowing, they can have an antidepressive patch. It's good to treat depression either with talk therapies, psychopharmacology or both. You don't want to leave depression by itself. It does not go away on its own. It can involve psychotherapeutic interventions. Watch their activity levels, try to include them. That's what's good about cognitive behavioral psych -- p sychotherapies. If you move, if you do things, if your behavior is in a healthier realm, the possibility that you do -- that your feelings will come along behind them and be healthier is very real. All of the research on cognitive behavioral interventions are pointing in that direction. You want to keep activity levels u p. levels u p. You want to increase empathic support for what they're going through. It's a real thing, a real problem. Individual support and guidance and of course monitor for lethality. And I don't know -- do I say something? I don't. Alcohol. Alcohol is a depressant. And we're not going to do this today but at some point we need to spend a lot of time talking about substance abuse with people who have developmental disabilities. It's a huge problem. Alcohol is a depressant. If other people think if they have alcohol it will make them feel better because people usually are giggling or happy or or interesting when they are drunk. So that's not exactly what's going on. They are disinhibited, their inhibitions are being depressed. As well as some physiological functions. So if people are depressed and they drink even a smoke -- a very small amount like a hard cider or beer once a week, those can propel depression into a deeper level. And make antidepressant i neffective. So something to watch out for is they do not have any alcohol. Medical implications of depression are weight changes. Up or down if they are not eating enough. Sleep disturbances if they're sleeping way too much and waking up exhausted or sleeping very, very little and they are exhausted, passive self harm, stop taking medication, they reduce -- they refused to do things they need to stay healthy and then not doing physical therapy, medical implications of depression could include deconditioning. Now they are not able to do the things they were previously able to do. They aren't in that mode anymore. There's less cooperation with needed medical treatment. Pushing these things away. They cannot be bothered. Whatever problems are going on with their body, they will not heal as well. There's a slowed metabolic process that accompanies depression. Whatever needs healing is not going to happen as often. And their risk for cardiac incident is very high. We talked earlier about enmeshment of diabetes and cardiovascular disease. What's been happening in the recent years is the research on depression and cardiovascular disease is fascinating. Some of the research really calls into question, is the cardiac event first and depression follows? Or depression starts and the cardiac event follows? Because they are so-called -- so closely entwined. Lower pain threshold. So the person needs more analgesics. More analgesics means more side effects. They probably will have more diagnostic tests because they are complaining about so much and we are trying to figure out what's going on. They are just depressed, that's the only thing that's going on is the depression, but they are complaining about physical p roblems. Happens much more often with the developmentally disabled than with the general population. So their physical complaints are going to cause any clinician to s ay, I better get this tested. There's going to be more medical diagnostic tests and they are going to have more frequent and more severe pain complaints. We talk about that in the three modules episode on pain and pain management that I do with my fabulous husband. Let's talk about rheumatoid arthritis. In the last little bit of time we have here, rheumatoid arthritis is a huge problem. You need exercise, weight loss, physical therapy to manage the symptoms. But they don't affect the cause. Of the disease will progress. It used to be -- it's an autoimmune response in the synovial fluid. The synovial fluid lubricates some joints in our body. It does affect the life expectancy. It would drop life expectancy by five to 10 years. And it used to be that we didn't treat him to we have to. But now we know that aggressive therapy for rheumatoid arthritis early slows the joint destruction. So you might have seen on TV they have more commercials for treatment for RA. That's because we know by research that we can interfere and maybe slowdown the progression of joint destruction. Exercise for older people who have developmental disabilities can ameliorate a lot of problems.. It reduces their false because they are just more in tune with their body. And of course it's always going to be good for reducing cardiovascular disease. Their aerobic capacity, going to be minimizing respiratory risks if you can get them to exercise. It increases their flexibility in their muscle strength, physical performance in general will go up as will their confidence and quality of life. Their sleep quality will be better because they are tired. Discharge the energy in whatever anxiety and stress they had really can be reduced greatly. So they sleep better. Their mood will be better. Exercise, movement and behaviors that are healthy, usually the mood will come along behind it and be healthier as well. And just a general sense of well-being is very important. So had to go a little faster than anticipated because of our technical challenges. But this is the first of the five poll questions that we have. Question one. Of the 90 to 95% of diabetics who have type two diabetes, what percentage best describes how many have control of the disease? Less than 80%? Less than 20%? Less than 50% or it varies? The answers are right there. The answer to this question is less than 50%. So anybody, whether they have a developmental disability or not, they have type two diabetes, less than half of them are going to be able to have control on their disease. I hope those showed up on time so you can answer them. Supposed to be an interactive process.

Next question, Eileen.

Okay. Question two, there are clinical tests for cardiac disease markers in this population. One of the things we talked about is elevated markers can be lowered with weight loss, whole grain enriched hypocaloric diet, statins, niacin and omega-3 fatty acid added to the statin. So we talked about all of these issues and what they do and don't do for cardiac disease markers which with this population is really a concern. And the answer is all of them. If you can get the person to lose the weight, especially around the middle, and you have -- that can be as easy as they are sitting in their chair and they just raise their arms up like that just to stretch out the middle a little b it, whole grain enriched -- you have whole grains, read something that has multi-grain, multi-grain is all well and good but is it whole-grain? They are all mashed up, not as good as whole grains. And lower calories statins, and adding niacin and omega-3 fatty acid's.

Next question, Eileen.

Question three. Seizure management in elderly DV consumers -- DD consumers is complicated by medication absorption due to frequent G.I. problems often best accomplished using two or more anti-seizure drugs simultaneously. Complicated by inconsistent verbal reports from consumers. It relies on both behavioral observations and lab testing to assess the response to the antiepileptic drugs. And the answer is complicated further by inconsistent verbal reports from the consumer. I also should include some of the caregivers because if you have family caregivers, they might not be as sophisticated about detecting some of these symptoms. We need to watch what's going on with them. If we are able to, do lab testing for AED levels.

Next question.

Question four. Given that elderly Didi consumers are likely to have significant cognitive problems, depressive e impact on cognition are easily differentiated. Behavior of consumers is less of -- less influenced by praise or rewards, consumers are unlikely to be responsive to verbal interventions, and symptoms of dementia appear later and are not as recognizable as with general population. Now, we talked about this in detail but it's phrased in a different w ay. I flipped it so it is 180 degrees in the other direction. So if you are answering this question as it is asked, the correct answer is D, none of these. Depressive impact on cognition are not easily differentiated. You need to pull the threads to figure that out. The behavior of consumers is of course influenced by praise or rewards. We are all social beings. We have a social consequence and interaction consequence to what happens to us. Consumers are going to be responsive to verbal interventions. That works. And symptoms of dementia appear earlier, not later and are exactly as recognizable as with the general population. So I did a sneaky thing with that.

Next question.

This is the last question. Physical characteristics typically associated with elderly developmentally disabled consumers are primarily congenital in nature. Primarily due to side effects, associated with lowered resistance to communicable disease, or are associated with both congenital and medication side effects? So when you consider what we've talked about today with people who have developmental disabilities and they are geriatrics and everything that's happening to their bodies, the answer is D, associated with both general problem of developmental disabilities, that's going to determine how they're wired, what's going wrong, what's happening with their bodies and their brains, and the medications that they are on for comorbidities. What's happening to them and what kind of side effects are they going to have? Side effects to everything, just how much of a side effect the person is going to have. So that is the last poll question. And of course if you have questions for me, you can type them in where the hand is. And the evaluation survey should pop up when we're finished. So please fill out that survey. It's very important for me to know what's going on with this information and how we can make it better for you. And if you don't see the survey, follow the link. You'll be sent a follow-up e-mail tomorrow. And follow that link. And there will be a survey there.

Eileen, we do have a hand raised.

Okay.

I'm going to unmute Elaine. In then, you go ahead and ask your question.

I'm sorry -- that was a technical error on my part.

Okay. No question?

Thank you.

I got all excited there for a minute.

I know. No other questions.

All right. If you have questions or comments after the fact, Lisa Zimmerman is at your service. She is that lisa@nyrehab.org. And thank you for joining us.

Thank you, everyone. We'll see you next time.

Goodbye.

[event concluded]