# Evaluating and Treating the Neurologically Involved Patient in the Home

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- [Calista] Well, our first course at our home health August series is evaluating and treating the neurological involved patient in the home. And it is my pleasure to welcome and introduce to physicaltherapy.com Rachel Botkin. Rachel is a licensed PT with 20 years of clinical management and management experience at home health, skilled nursing facilities and outpatient settings. She is currently the owner and president of Botkin Rehab Services. She earned her advanced competency in home health in 2017 and authored an elective module on neurological rehab in the home for the course. She became board certified and neurological physical therapy in 2005. She has been an adjunct faculty member at Clark State Community College teaching neurological rehab to PTA students since 2008. She is a member of the APTA home health, geriatrics, and neurological sections where she serves on the home health practice committee. And she also coauthored the home health toolbox for outcome measures. So we are so pleased to have you here with us today, Rachel, and at this time. I'm gonna turn the microphone over to you.

- [Rachel] Thank you for that introduction. Like Calista said, we're gonna be talking about evaluating and treating the neurologically involved patient in the home. Hopefully a lot of what we're gonna cover today will be familiar to you. And we're just gonna tweak it a little bit to specify for the neurologically involved patient. These are my disclosures and here are the learning objectives for today. So what I'm hoping you'll get out of this course is that you'll be able to describe the involved body structures and unique disease, specific pathology, including sensory motor, and other symptoms that are typical in the home care patient with a neurological diagnosis, identify at least two physical assessment strategies to quantify these deficits and strengths and body functions based on the likely symptom manifestation record review and subjective history, which includes an application and interpretation of appropriate tests and outcome measures given the neurological pathology, be able to describe how to formulate measurable and functional goals and care plans given the likelihood of functional changes that corresponds to the pathology of the disease progression versus recovery and within the framework of the patient's personal and environmental context, which is unique to the home health setting, be able to compare the appropriate indications for intermittent skilled or restorative episodes compared to the utilization of maintenance therapy under Medicare regulations for this type of patient, and being able to identify at least three home health treatments that are evidence-based, properly dosed and documented to show our skill. So we're gonna get started. Hopefully this image is familiar to all of you, this guides my philosophy, and hopefully a lot of your philosophy in how you approach evaluating and treating any patient where we're looking at the health condition at the top middle of the screen and how it interacts with their ability or inability to perform certain activities.

We as physical therapists can most uniquely identify what body functions and structures are involved based on that health condition and how that impacts the patient's ability to perform the activity, which will then lead over to the right in their participation level. The expectation is if we're seeing this patient, that their participation level specifically out in the community has been reduced to the level that they are home bound. And then we know that environmental and personal factors have an impact on all three of these areas.

And I would argue that home health has a lot of environmental factors, both positive and negative, which can affect our treatment plan, how many visits we're recommending and the patients and outcome and recovery. So I'm gonna speak specifically about Medicare patients 'cause that's the majority of our caseload. Obviously there are other private insurances Medicaid, which would be state specific. So any of the regulations and requirements that I'm speaking about today are in reference to Medicare. So first thing, making sure that these patients actually qualify for their home health benefit under part A of Medicare. We know that the beneficiary has to be confined to the home under the care of a physician and establishing a care plan that is reviewed and signed by that physician. That's the 485 interdisciplinary form that you may be familiar with and they have to be in need of skilled nursing care on an intermittent basis or PT or speech to open the case and then have a continuing need for OT to continue. Now that has been changed a little bit during the COVID pandemic to allow OTs to start the case, and also allow PTs to open the case, even if skilled nursing is ordered as well, but I'm not gonna even open the can of worms that is the COVID pandemic today. I'm just gonna stay in my little neuro bubble. And all of this can be found in chapter seven of the CMS Benefit manual.

So I would encourage all of you to read through it. I mean I think it's about 100 some pages, but all your answers to any Medicare questions are there in chapter seven of the benefit manual. So the other part I want everyone to keep in mind are what are the principles governing reasonable and necessary services? And that should say PT, SLP, and OT, not PT twice. So the therapy services have to be of such a level. This is directly out of the manual of complexity and sophistication or that the condition of the patient is complex. That we as a skilled therapist are the only ones that can safely and effectively perform this treatment. So this means that the services, if they don't meet this requirement, the services are not skilled and are not considered reasonable or necessary, and that's Medicare language reasonable or necessary. So even if you are going into the home and performing the gait training, if it is not of such a level of complexity and sophistication, that you are the only one that can do it, it's not a skilled service, even though you are a skilled professional.

What leads to the complexity and sophistication and requirement of skilled service is that is the whole picture us going in and looking at that prior level of function, the comorbidities, the current level of function that we know that we are the best professionals to be able to convey that. And we have to convey that through our documentation, that it meets this criteria. So just keep that in mind, just because you as the therapist are doing the intervention in and of itself that does not make it a skilled service. Okay, so what we're gonna be talking about today are neurological diagnoses. I'm gonna hit mostly stroke, TBI, spinal cord injury, MS and Parkinson's, obviously there are a multitude of neurological diagnoses that we may see in the home and it may be the primary diagnosis, or it may be a secondary diagnosis. We need to list all of this. And this will help to support the complexity of the patient and why the skilled services needed. So picture that patient that falls and has a hip fracture and has an ORIF and comes home, that would be their primary diagnosis. But if they also have a diagnosis of Parkinson's that evaluation and treatment of that patient is going to be very different than that same patient who doesn't have that secondary diagnosis of Parkinson's.

So we're gonna talk about both types of patients. Both the primary diagnosis is neuro as well as if they're secondary diagnosis and you may be seeing them for something else. And then we know about all the other secondary diagnoses that make these patients pretty complicated. So first we're gonna be looking at their past medical history. We really need to get specific. So I see a lot of charts that just says, patient had a stroke. Okay, well was it a hemorrhagic stroke?

Or was it an ischemic stroke? Which vessels we're involved, which hemispheres, which lobes, that gives us a lot of information about what deficits we might see and gives us some ability to have some predictive value to some of our outcomes. What was the mechanism of injury for the TBI or the spinal cord? And a lot of our trauma patients, they have other concomitant injuries, pelvic fractures, wrist fractures that are gonna affect their weight bearing status. So we need to know all of that. Think back to school days for your Rancho levels and your Glasgow Coma Scale scores. Those would be important to add into your past medical history on your eval, your ASIA levels. What type of MS do they have? What EDSS level? And we're gonna talk about what that means and their Hoehn-Yahr severity level. So all of that information can help to support the complexity of this patient. We wanna know what their previous rehab outcomes were. I always like to ask of my patients, "Have you had therapy before?" So most of these patients will, and I like to know what they thought of therapy. That gives me a really good sense of what kind of outlook there they're coming into this home health therapy with. Do they have a real positive view of therapy? Like, "I love therapy. I can't wait to get started. Give me more." Versus a fairly negative view where, "It's too hard. It never works. I don't even know why I'm doing this." It's important for us as clinicians to know what their viewpoint is on therapy and their hospital course and complications. Did they have a pretty smooth hospital course where they went in for their stroke, came out, went to rehab and then came home.

And now here we are, and we're trying to get them to that bridge to outpatient, or was it hospital to rehab, back to hospital, back to rehab, back to hospital, back to home. We know we have those patients too. That can really affect our outcomes, it can affect how we order our visit frequency. Maybe we wanna load up early because we think this person is at higher risk for re-hospitalization, just based on their history of being re-hospitalized several times. And then lastly, a thorough fall history. Where did they fall? How did they fall? Did they injured themselves? Most of the time our patients will just say, "Well, I lost my balance."

Okay. But why did you lose your balance? Was there an obstacle? Did you get dizzy? Losing your balance in and of itself isn't a complete explanation of the issue. And then I also wanna know if they were able to get up or they needed help. And if they needed help, how quickly did they get the help? Did they have an emergency button that they pushed right away? Did they lay on the floor for several hours because they didn't wanna bother anybody? Or they couldn't problem solve what they needed to do to get the help? So that all gives me a lot of insight into this person and maybe what we need to be working on. So real quickly, I'm gonna just go through some quick anatomy and physiology. Now I'm not gonna spend too much time on this. I don't wanna bring back nightmares of your neuro class and PT school and PTA school. But this is our friend, the circle of Willis. Just so that you're aware of where this cerebral circulation goes. So that if you're looking at a chart and you see, Oh, this person had a CVA in the left NCA, we can picture where the NCA goes and we can start to decide what those deficits might look like. So here's a little chart for you to hold onto in terms of what anatomy gets involved and what symptoms we might see. And the patient might not know this, and it might not be in the chart that you have access to. We in home health tend to be out on our little islands and no man's land, and don't necessarily get a whole lot of background information.

But if we had this information prior to going out to see the patient, it's really helpful because we can know maybe what we're gonna be looking at and beyond the motor impairments, what other deficits we might see. These are, again, back from school, our Rancho levels of cognitive functioning for our TBIs. When I was in school, there were eight levels. Now there are 10. So nine and 10 are more for community reentry. So knowing maybe what level your patient is at now, or maybe what level they started at and how they progressed would be really important and can give us some value in determining goals and longterm outcomes. Are they progressing nicely through these levels or are they kind of stuck on level five?

And that can help to support why they need a skilled clinician in their doing their exercises and strength training with them versus just a home health aid, because they're confused and inappropriate and they're not responding properly to the commands. And so we as SCCO clinicians know how to address that more than a non-skilled person. The Glasgow Coma Scale. This is not something that we would be scoring, but you might have access to this patient score. This is administered both in the field and in the ER on a traumatic brain injury or even concussion, concussion which is a type of traumatic brain injury. But knowing what their initial GCS score was, can give you some insight and can help you classify their head injury, mild, moderate, or severe. And there's some good evidence that correlates what their initial GCS score is with what their end outcomes can be. Our ASIA scale. This is for spinal cord injury. Hopefully this looks a little familiar to you as well. You may not have thought about it in a long time, but ASIA A is complete. And then B through D is incomplete. We've got sensory incomplete and then motor incomplete. So your patients may not know exactly their ASIA score. Keep in mind that the level of ASIA is a functional level not an anatomical level. So they may have had their injury at T3, but functionally they present as like a TA agency. And we know that there are different outcomes depending on complete versus incomplete.

So a TA Asia A looks very different than a TA Asia D. So it's important to not just document T8 spinal cord injury, but have this ASIA classification as well is. This is a universal language among therapists, physiatrist, neurologists. This is the gold standard for documenting the spinal cord injury. These are the four main types of MS. So just to keep in mind, when we're talking about patients with MS, we wanna know what kind of MS they have. And sometimes the patient doesn't know, sometimes they haven't been told or they've been told, and they haven't really processed what it is. But we know that the different types of MS present very differently.

So hopefully you've seen this type of graphic before. As time goes on the x-axis, you've got increased disability going up on the y-axis. So if we are seeing a person in the home with relapsing remitting MS, who had an exacerbation, went to the hospital and is now home, we can expect different outcomes and different level of progress than somebody with primary progressive who went into the hospital. So you can kinda see it at the same point in time on the x-axis. Primary progressive is still increasing their disability whereas relapsing remitting is starting to improve their function. So that's important for us to know that can help to support our recommendations for visit frequency, our goals and why we're working with them for the amount of time and setting realistic goals for this patient. This is the EDSS. This is a scale that is also used with MS to document their level of disability. And this can be for any of the types that were on the previous slide. So you can assign this, or they may have been told by their neurologist, you know where they're at, but you can see there are some different levels here and we can determine this. So an EDSS five is ambulatory without an aid or rest for about 200 meters. So maybe they were able to do that before then they had an exacerbation and now they're at a seven. But based on what they've told you, your prior level of function is, and the type of MS, maybe we can set the goal to get them back to that five or 5 1/2. And this is a pretty standardized scale as well that has a lot of universal acceptability.

Keep in mind with multiple sclerosis, that there are other domains that are affected besides the motor impairments that we would be treating them for. So while we think of the common ones in terms of walking difficulty, balance, fatigue, heat intolerance, there's also 40% of them have dizziness, over 60% have pain. Maybe we need to be addressing bladder and bowel dysfunction. Maybe we need to be talking about their sex life with their spouse and getting other therapies involved. So just keep in mind that there's a lot going on with that patient with MS. And then lastly, we're looking at this Hoehn and Yahr scale for Parkinson's.

So we can use these numbers to help describe the severity of their Parkinson's disease. So like with Parkinson's, I wanna know when the diagnosis was made. How long have they been living with Parkinson's? Is this a new diagnosis that they're really still trying to wrap their head around or were they diagnosed 20 years ago? And we're still out in the workforce for 10 of those years before they retired. That can give us some insight into where we wanna set the goals and what kind of outcomes we might be looking for. And then also just like with MS, there's a lot of non-motor symptoms with Parkinson's. So we need to be aware of all the systems that get impacted with Parkinson's besides the stereotypical movement disorders that we see. So we know that a lot of these patients have orthostatic hypotension. So we need to know that that's gonna have an impact on our treatment. There are sleep disorders and fatigue factors that may affect how we schedule these patients, what time we're coming into their home. There's memory issues. That's a complication that might be a barrier to our progress and justify more visits or teaching in a different way. And then being on the lookout for other red flags that might mean we need to make referrals to the other therapies. Okay, so now that we're done with some of that, we wanna get back into the meat of the evaluation of the neurological patient. Our big thing we wanna explain is what their prior level of function is. Medicare says that we are tasked with trying to get their current level of function back to their prior level of function.

So if we don't have a specific and accurate summary of that, then we can't show why they need this therapy. So we need to be specific and we need to know what devices they were using for different things. I don't know about all of your experience levels and home health, but I've walked into a lot of homes that have a lot of devices. There's a walker over here, and a cane over here and a wheelchair over here. And aunt Betty loaned me this scooter because she thought I needed it. And I got this rollator from my uncle Bob. But they don't use any of them. So just because there's stuff laying around doesn't mean they were actually using it.

So I've learned not to ask what they have, I've learned to ask, what do they use and what did they use for different things? So we'll get stories where, "While I use the cane, when I'm in the house, and then I use the rollator when I go out to the grocery store, but then if I'm going to the zoo, I take the wheelchair." So there's different scenarios for that. And when we talk about gait, we wanna talk about how far did they walk and what speeds did they walk in. Were they a slow Walker or were they pretty speedy? They probably don't have their actual gait speed, but you can ask them, "Were people really hustling to keep up with you or were they slowing down so that you could catch up to them?" That gives me some insight of what we might be able to set a goal at. "Were they driving and where did they go when they drove?" And then I really wanna dig into their recreation and hobbies. I tend to ask the question of how did you spend your time before you were at the hospital before this illness or injury? How sedentary were you and did you have responsibilities in the home and community? I like to ask what kind of work they're retired from. If I can tap into some of their interests during my interventions and get a little bit more engagement, find out what they wanna get back to doing, was it gardening? Was it childcare? Were they a student? So we need to have that difference. If their current level is similar to their prior level, then the Medicare's going to say, "We're not paying for that. It's important, but we're not paying for it." Well, I don't even know if they would say it's important. So if the stroke is the secondary diagnosis and they had their stroke 10 years ago, and you're seeing them for a CHF exacerbation and that stroke is part of their prior level or their past medical history, but then in their family say, "Hey, their mom's really doing everything she was doing before she went to the hospital.

The deficits that she has, those are from her stroke 10 years ago. And she hasn't done those things in five years." Then that's not really her prior level of function. And we don't have an expectation that we're gonna restore those deficits or that lack of independence that she hasn't had in several years. So it's really based on immediately prior to the injury or illness, what we're seeing them for. So we really just wanna paint that picture of who this person is and how they spent their time. And if you can do that, then you can really justify your treatment. So this goes back to that device thing, listing out what they have, what do we think they might need and then if they're gonna need training on it, that'll support some of our visits as well to teach them how to safely use something. Or maybe we'll just wanna see them longer to assess 'cause we're still not quite sure what the best assistive device is gonna be. So you may have been in this home, I've seen this home a lot. This is not one of my patients' homes, but it could be. This is what I was talking about with those environmental factors. Our progress might be slower because we're going into this house and we need to be starting to talk to them about all the clutter, all the places where the furniture is not in a convenient spot, how high the bed is, how wide the doorway is. Can we get in and out of the shower safely? And we are in a very unique situation that nobody else on the continuum has to manage. So we are both managing the person and the environment that we do not have much control over compared to hospital sniff outpatient therapist. But we understand the connection between this home environment and their potential for rehab and participation. So it starts with education. And then there may be some resistance to that teaching that you're giving them, but this can be part of your care plan. And it can even be part of your therapy. I've done visits where we've just worked on cleaning some stuff, straightening some stuff, throwing stuff away. And it's gait and dynamic balance and dual task treatment.

And the room looks better when we're done. Okay, moving on. Hopefully we are all monitoring vital signs both before, during and after evaluations and treating. And we will talk a little bit about the pharmacological impact on vital signs in a few minutes. But what I've got for you is a chart that shows the parameters from ACSM which is the American College of Sports Medicine guidelines for exercise testing, the Academy of Cardiovascular and Pulmonary Rehab and the APTA. So these are the parameters that these three organizations say need to be met in order to start exercise. And then the right hand columns are the ones to terminate exercise.

So ACSM says, "If your patient has a systolic of under 200, you can start exercise with them. And as long as it doesn't go above 220, you can continue doing exercise with them." So you can look down the different vital signs and then go across and see what the recommendations are. I like using this chart for communication purposes, with my nurses and referring physicians as well, because I find that a lot of the nurses are very conservative, especially with blood pressure. So I'll call them to say, "Hey, just wanna let you know, Mrs. Jones had a blood pressure of 160 over 90 today. And I know you guys are working on some education with her hypertension." And the nurses will say, "Great, thanks for letting me know. Make sure you don't do any therapy with them today." And I can look at this and I can say, "Well, no, no, no. It's okay as long as her systolic isn't above 200, I can do some therapy with her. I can do some exercise. I'll be monitoring it. And I'm gonna make sure it doesn't go above 220, but she's okay to participate." And then they actually help her in the longterm manage her hypertension. So it's just some good support when we've got the data and the evidence. Next slide. Here we go. So I've listed out some common medications that you'll see in the neurologically involved patients. We know we're supposed to be monitoring medications and reviewing medications with patients regularly communicating with our nurses. So we need to be checking the meds. We need to know if our patients have taken their meds. So I'll go see a patient at two o'clock in the afternoon, but that's early morning to them and they haven't even taken their a.m. meds yet.

I need to know that before I'm checking their vital signs, especially if they're on medications for their blood pressure or for pain. I have so many patients who don't take their pain medication prior to the therapy visit and they take it right when I walk in the door, I'm like, "Well, that's probably gonna help you out after I leave, but not so much during our visits." So I wanna know if they've taken their meds. And so what I've listed out here on the left are just the different categories, a couple examples, obviously these are not all of them.

We should be as familiar as possible with the meds that they're taking. So these are the common ones that you'll see in neurological patients. Most of our stroke patients are on a lot of cardiac meds. And then knowing what the impact on rehab might be. So we know our blood thinners. If their INR is outside of a therapeutic range, we may not be able to do therapy that day, or they may be at increased risk for internal bleeding, bruising with falls or loss of balance. There may be changes in alertness level if they're taking different antipsychotic meds and then the response to exercise. So a lot of the antihypertensive meds will blunt the heart rate response to exercise. So we won't see that natural increase in pulse with exercise. We may not be able to use that as an accurate tool for how hard they're working. And that's where something like the rate of perceived exertion scale may come in and maybe more accurate given what meds they're on. Here's just some more meds. I wanna highlight the anti-Parkinson's meds. These dopamine agonists. They usually have an on-off cycle where they take it, takes a little bit to kick in then the patient reports that they're able to move around easier that lasts for several hours or so. And then it kind of wears off before the next dose. So knowing when they take their dopamine agonists meds might be helpful when we're scheduling our home visits. We might wanna see them when it's at its peak, so that we get the most participation and gains, or we might wanna see them when it's at a valley at a lower level of effectiveness, because maybe that's when they're at a higher fall risk and we need to do some education or some training with them and their caregiver about what to do during those time of days.

And maybe that's when we introduce the assistive device for them. And then the disease modifying therapies. These are for MS to try to prevent a relapse. It used to delay the relapses. Now we're trying to prevent them. So there's 15 different ones on the market. When I was in school, there were three. So this area has come a long way. A lot of them are subQ injections daily, and then some are like, semi-annual infusions. So knowing what medication they're on, especially if it's a daily subQ really supporting that patient and making sure they're doing it every day, because that's gonna lead to the best outcome.

If they're having trouble from a fine motor coordination standpoint, we may need to get OT involved, to work on some fine motor control for that subQ injection. And then we've got our pain meds and our anti-anxiety meds. So it's a big picture. We know that these patients usually take a lot of medications. So I wanna talk to you about the Beers criteria. If you guys haven't heard of this, the American Geriatric Society puts these out every couple of years and the most recent ones came out in 2019. And they're just warning lights of what medications might have different responses in our older adults. So obviously the neurological population isn't always geriatric, but a lot of times it is.

And that may be who we're seeing in the home. So knowing that there's several medications that are on your patient's list, and they're also on this Beers list can be a launching pad to have a conversation with them or with the nurse about those meds, because maybe it's leading to the increased fall risk or lower alertness, memory changes, other adverse side effects.

And it also could affect when we schedule our visits, if we know when they're taking their meds. So the polypharmacy is a big issue in this population. It's not the focus of this whole presentation today, but just being aware that polypharmacy is obviously a fall risk for patients. And there may be some clinics in your community that look just at polypharmacy. We have one here in central Ohio at Ohio State University. And I have a patient of mine who is a chronic stroke survivor. And he goes quarterly just for them to look at his meds. And there's a pharmacist there and a physician there, and they're just looking at his meds and making sure that everything needs to be there. There's no duplications.

We have patients who have a lot of doctors and a lot of pharmacists, and sometimes they don't know, the right hand doesn't know what the left hand is doing. And so we may be the ones to catch something. So just thinking about other systems that are involved besides motor system that can complicate the evaluation and treatment process in the home is vision, hearing and speech changes that can happen in the neurological population. And this would be a time to get OT and speech involved. And we may have to make some changes to how we're teaching the patients. Pain, so we know we always have to assess pain, location, frequency, what makes it better, what makes it worse and what meds they're on. I've listed two other scales here for you. There's the faces scale and then there's the painAD which is a nonverbal. It's for advanced dementia, but you can also use it for your lethargic low and alertness, like TBI patients as well. And it's used scoring them based on how they're breathing If they're having some vocalizations, facials expressions, body language and if they're consolable. So my little soapbox about pain is that I take the patients at face value. So if I do the zero to 10 verbal rating scale, and they tell me that it's 12 out of 10, then I document that. I don't say, "Oh, the scale only goes to 10. So it can't be more than 10. Or I have to call an ambulance for you." They say it's 12, I document that it's 12. What I also document though is my skilled observation of that patient while I'm talking to them. So are they sitting comfortably and talking with me, maybe even laughing a little bit about one of my bad jokes as I'm doing this evaluation. I'm gonna document that patient states their pain in their leg is 12 out of 10. Patient is also sitting comfortably in their recliner, conversing with therapist, without squirming, grimacing, rapid breathing, et cetera.

And then the person reading my evaluation can come to their own conclusion it's about what I'm trying to say. So that 12 out of 10 person who's not squirming and crying is different than the 12 out of 10 patient who is squirming and crying. And I leave it at that. I don't come to any conclusions. I just document my skill, the observation, and I want to assess pain before, during and after. So a lot of times we get in this habit of asking for pain, along with vital signs at the beginning of our eval and our treatments and then we don't do it again. I wanna know, especially at the end of the visit, is there pain higher, lower, the same as when we started, that shows me what the impact of my intervention, what was it helpful in reducing their pain?

Did it make their pain worse? Or were they able to complete the whole session without it changing their pain? That might be progress because on a previous visit, it increased their pain. And that might be my goal that they can complete X amount of activity without an increase in pain. But without asking it more than just at the beginning of the visit, I won't know what the effects of my treatment work. So other eval components specific to the neuro population, obviously cognition is gonna be a big one and not. On a future slide, I've got some outcome measures, the specific for cognition and then language and comprehension, speech, reading comprehension. These are all flags for speech therapy, but like I said, this may impact how we teach a home exercise program. Maybe it needs to be a video instead of a written handout. Maybe it just needs to be an auditory recording of you talking somebody through it. Swallowing and diet, make sure you document their liquid and solid diet restrictions so that we're not causing somebody to aspirate. If they need thickener in their water, we need to know that. We need to be able to communicate that to our assistants who might be treating these patients. And then skin integrity, being specific with the stage and location, especially important for our wheelchair bound and our insensate patients.

So that's why going back to the spinal cord injury, knowing their level of completeness and their functional level of ASIA helps us to know where we think those sensory changes are happening to start teaching pressure relief, position changes, teaching a caregiver about positioning in the bed and the wheelchair, or maybe getting a wheelchair vendor involved because what they're sitting in right now is really putting them at risk for skin breakdown. Here were some of those cognitive outcome measures that I was talking about. And you can click on any of these links to get more information. Just real quick about the SLUMS.

There are some normative data out there to where, and then anything less would be diagnosed, not diagnosed, but categorized as a mild cognitive impairment or dementia. And so having this data can help to support just more support than just saying, patient is confused. This really gives us some support to say, "This is why I think we're gonna need a lot more visits because it's gonna take a lot more teaching and learning for this to sink in because they scored a 20 on their SLUMS." Other components to the neurological eval. We wanna know if they have a pacemaker defibrillator under a cardiac section? Do they ever experience angina? And do they have any medications for that? Is there swelling? And then specific to the neurological light, touch, pain and temperature. This goes back to all those dermatomes you remember from school using the cotton ball and the safety pin. I don't do a whole lot of this specific dermatome testing, unless I think it's impacting function or safety. So my spinal cord injured patients who have some altered sensation in their lower extremities and feet or no sensation, I might wanna know that so I can talk to them about proper footwear. And when they're checking the temperature in their shower to be safe. Proprioception testing, if you remember from school can help to tease out maybe why they're balanced deficits are what they are. The thing to remember about all of this is that, what are you gonna do with the information and the data that you're collecting? So if you're not gonna do anything with it, then I wouldn't collect it. So that's really the mentality I want clinicians to think about when they're going into an eval and making decisions about what you're gonna test and how you're gonna test it in this neurological population in the home.

Are we gonna do anything with the information? If not, I don't know that we need it. Does it impact their functional outcomes? If not, maybe we don't need it. So that the fact their ability to participate, maybe not don't need it. So don't get too bogged down in everything. Pick out what you really need to get the comprehensive picture for this patient. Muscle tone, you can use the Ashworth scale. And knowing what meds they're on for spasticity, because those also have kind of an on-off cycle where it may take some time to kick in then they're relaxed for a while and then it kind of wears off. And that might help you determine how you're gonna schedule that person. If they're gonna be doing Botox injections for their spasticity. Sometimes we will couple home therapy right after they've gotten Botox injections for some passive range of motion, stretching, caregiver training. Usually it's just a few visits, but those two can go along really nicely with each other. Range, motion and strength. I do not typically pull out a goniometer with this population, unless there's a specific joint that has such a limitation that it's impeding their function, or is contracted in such a way that maybe they need a splint or an orthotic to correct or accommodate that. But I wanna look at function and same thing with strength. I do not do very much manual muscle testing at all because I'm not gonna do a whole lot with that information. And a lot of my neurologically involved patients can not get into the formal manual muscle test positions. So the grades that we're assigning them are not valid and reliable anyways. So unless you're putting that patient in prone and sideline and all those other positions we learned in school, it's not really a valid representation of their strength anyways. So I try to avoid that and maybe be selective and specific with what I'm testing. Here's your modified Ashworth scale. Just remember the zero is normal resting tone. Other eval components is doing fine motor control. I liked the Nine-Hole Peg Test. If OT maybe isn't involved and I don't like to split up the body between the upper and lowers, but the Nine-Hole Peg Test is really lightweight. It's really small. You can just keep it in your treatment bag.

It's really good for fine motor control and coordination instruction following. Make sure you test them with both arms. Non-equilibrium coordination. These are for our dysmetria patients and then we can document the data on how accurate they are, both observationally and then how fast they can move. And then we're getting into our functional mobility. So we've got bed mobility, transfers, wheelchair mobility, balance, and gait. So what I've got under balance is I really advocate for using outcome measures.

And we're gonna talk about which ones are best for what domains. I don't like the poor, fair, good and normal. The EMR that we use still has these. And I am forced to pick one of them, which drives me crazy every single time I have to because it's maddening, but I pick one. And then I put something in the comments that says, "Please see outcome measures." Or I describe a little bit more. But the poor, fair, good and normal have been found to not have very good inter-rater reliability. And the outcome measures are much stronger and evidence-based to support why we're working on balance with patients. And then the last few one's posture, self care and IADL. So look into flag for OT. Okay, so now we're gonna move on to outcome measure collections. And my first soapbox is that if you have a patient who can't do the whole outcome measure, but you have a goal for them to make improvements in that area.

And you think realistically that they can achieve that, then you should be documenting a baseline score of zero. This comes directly from the Academy of Neurological PT and their best practice for outcome measure collection. This was not something that I did in my practice until not too long ago. I thought, well, if they can't do it, then I'm just moving on to a different test. But what this shows is that at the beginning, you are thinking about this domain, you are setting goals in this domain, and you wanna be able to track the progress in this domain.

So what does the APTA say about outcome measures? They say that it's best practice. It's an important component and helps to directly help us manage the individual patient care and gives us the opportunity to compare care and effectiveness. It helps us to compare outcomes and it helps us to communicate among each other, because we can speak a common language. The nice thing is that the Academy of Neuro PT has done all the legwork for us and has made a recommendation. So we don't have to go out and search the literature and the evidence to make those decisions. They already put in the work and we can just implement it. So when should we be collecting outcome measure data?

We need to do it early in the episode. Notice, I don't say we need to do it on the eval, we just need to do it early. And we're gonna talk about that because if we're talking about collecting a lot of outcome measure data, we may not have time to do it all on the eval and the patient may not be able to tolerate doing all of it on the eval. Periodic reexamination. This helps us decide if our interventions and our goals are realistic, or if they need to be tweaked, if they're not making progress on a certain outcome measure. And then at the end of the episode, to help us measure the outcomes and effectiveness of our services. So best practice is choosing the appropriate outcome measures related to MCID or MDC. So these two psychometric properties, the minimal clinically important difference, or the minimal detectable change. These are both what researchers have found to be statistically significant related to function. So anything smaller than one of these two numbers does not represent significant enough change. So we have to use these numbers if they're published, because somebody has determined that is valid. Retesting, continue retesting. And then my last little caveat is about PT assistants. It is within their scope of practice to perform outcome measures under the supervision direction of a supervising evaluating therapist. What we've started doing in our practice is having our assistance do these outcome measures on the visit prior to my 30 day supervisory reassessment, or the visit prior to discharge. What this has allowed us to do is one, if we miss our discharge visit, which happens, we still have the data.

And two, I have the data from the outcome measures from the PT assistant prior to my supervisory visits. So I can spend the time on that visit, analyzing the results with the patient, talking to them about what it means, and then making changes to the care plan, setting the new goals, adjusting goals, changing some of the interventions based on that data collection and without using up the time in that visit to collect that data. And also I think empowers our PT assistants to be involved in that process and being able to see how effective their treatments are 'cause in our practice, our PT assistant see most of our follow up visits. So what is the core set?

So they started with these EDGE groups, which is the Evaluation Database to Guide Effectiveness. And back in the early tens, there were EDGE groups for all the different pathologies. There was a stroke EDGE, a Parkinson's EDGE, a MS EDGE, et cetera. And they made recommendations of the best outcomes across the continuum for the outcome measures. So then they put together a core set, a core set task force to look at well, what if we want to have a set of outcome measures that can be for any pathology of any neurological involved patient, and that's how they came up with this core set. And so it's really kind of ground breaking and they're doing this CPG, which maybe you've seen CPGs for other pathologies. They just came out with one for, I think, total knees. So they use the recommendations and then put together this core set. But the big question that I hear from clinicians over and over again is how to decide which outcome measures we should use for this patient. Real quick. Amy had a question about MCID. It is the Minimal Clinically Important Difference. So that means somebody has done the research, looking at the psychometric properties and decided that this change of score hypothetically from a 10 to a 12 is clinically important, which means that if they go from a 10 to an 11 on hypothetical test, it's not important. So it's not enough of a change in score to be able to show meaningful change in function. Hopefully that answers Amy's question.

So the nice thing is that the core set has done the work for us. So what I've got here is a little decision-making algorithm. First, deciding that this patient has a neurological diagnosis. That's the bare minimum to be using this core set I hope that's obvious. If they don't go back to your other resources, I would argue for the home health toolbox, which we'll talk about in a few minutes, that's specific to our setting. Keep in mind this core set is not specific to home health. It is specific to neurological diagnoses. So there are six outcome measures.

So if you have a goal through for each of these domains, they're recommending that these are the outcome measures that you use. Five times Sit to Stands, six minute walk, 10 meter walk, ABC functional Veda assessment and Berg. So you can look at this and really quickly go, "You know what? This person's static and dynamic sitting in and standing balance is not very good, but I think they can improve in that. What am I gonna use to measure that?" The core set and the Academy of Neurological PT says, "We should use the Berg." So we're gonna move on and look at each of these independently. Karen asks, "Is the purpose then of the MCID to set measurable goals?" Absolutely Karen. That's exactly what it is. So I see a lot of goals sometimes that are set with arbitrary numbers. Patient will improve their Berg score from 20 to 22, let's say. That's fine, you can write that goal and it's still measurable, but it doesn't mean anything because the MCID maybe is six. I don't have the numbers right here, but so the MCID on the Burg is six then our goal needs to reflect that. We can't set a goal for like two or three points because we don't think that it's gonna be clinically important. So what we put together here is what is the equipment that we need to complete all six of the tests? And the Academy has done a really nice job with their knowledge translation taskforce. So if you're an APTA member and the, I don't know if you have to be a section member or not of neuro, you can go in and there's all these like implementation resources for this core set. And this is the equipment that we need. So all of my therapists, we have a little box, we have a little core set box that we keep in our car and it has all of items in it. And so we can just bring that box into the house and do what we need to do.

A couple of them get a little tricky because of the heights. So I have a little note here about the two heights. So there's a different heights for the Five times Sit to Stand versus the Berg. If you can find the magical 18 inch chair in that person's house, then that same chair will meet the requirements for the five times Sit to Stand and the Berg. It's a little frustrating to me that the Berg chair is higher than the Five times Sit to Stand chair. They obviously weren't thinking about us poor home health therapist and our restrictions on seating, but it is what it is. If you deviate from these, you just document what you're deviating from.

So this is the equipment that is needed for all the tests. And like I said, except for the stairs, with the bilateral handrails that you need for the FGA, all of this stuff is either in somebody's house or pretty lightweight, inexpensive to carry, which was really one of the inclusion criteria for these core set, because we know there's a lot of outcome measures that we cannot use in the home because of equipment and space limitations. So first thing is the Five times Sit to Stand. This is the standard protocol. So they did do some changes. So somebody with hemiplegia, they can put their arm at their side or in their sling, that was a question, they need to be able to stand up without using their arms. If they cannot, it is immediately a zero. But you can document that patient scored a zero because they had to use their hands. Now I will do a modified Five times Sit to Stand where I'll let them use their hands and I will time that because I think that's important data But for the true Five times Sit to Stand, they cannot use their hands and the chair needs to be free. So here's the modified. You can do a modified 30 seconds. So there's five times Sit to Stand and there's 30 seconds Sit to Stand. The Five time, your timing how long it takes them to do five reps, the 30 seconds, you're seeing how many reps they can do in 30 seconds.

So the 30 seconds is if they cannot do five. So the 30 seconds maybe they would score two or three. But that 30 seconds Sit to Stand is not part of the core set, the Five times Sit to Stand it's. So here are our norms, our cut-off scores, MCID and MDC. So hopefully this is gonna answer your question Amy. "Does each outcome measure include it's MCID, MDC or where do we find that?" It's here in the handouts. So what I've done for my therapist is I made, 'cause I'm really like type APT visual charts, I made a half page flip book with these slides in it, and I'm on the front of the card has the directions.

And on the back of the card has these psychometric properties. And it's a half page and I punched holes I'm such a geek I punched holes in it and I put little like book rings in it like to bind it. And I didn't laminate it, I didn't go that far. And I carry that in my treatment bag. So then when I'm setting goals, one, I can make sure I've got the right height and the right equipment for everything so don't have it memorized. And I can use this when I'm setting my goals. So for example, this is the Five times Sit to Stand. Again, the EDGE and the core set has done all this work for us. Here are our norms, here's our cut-off scores and here's a sample goal. So see how powerful this is. If it's a vestibular patient and we know that it's clinically important at more than 2.3 seconds so rounded up to three seconds. We wanna see this Five times Sit to Stand time for a vestibular patient improved by at least three seconds. Anything less than that, we don't think it's important. So six minute walk test. This is a really tricky one in the house. I know we do not typically have a 12 meter long, smooth, consistent surface wide enough for our assistant device area in the house. There is a magical house somewhere that has that, but most of my houses don't. So I usually need to document either the shorter path that I've done. I need to document the number of turns or I can do it outside, but again, I need to measure the distance. So I have one of those rolling contractor wheels that measures distance for me. I know other home therapists for the shorter distances, they'll do like a nylon rope that's able to be sanitized, that's 10 feet, the middle part is 10 feet and then they have like two feet mark on each end for a ramp up and ramp down for like gait speed and stuff and you could use that as long as you're consistent with how you're administering these tests each time so that you can compare and contrast.

But, deviations from the standard protocol cannot be used to compare norms. So if my patient does a lot more turns because the path is shorter, I can't compare my patient's distance on a six minute walk test to what the published norms are for that. They can stand and rest, but they cannot sit down. Once they sit down, the test is over. But I'll document that patient unable to complete the six minute walk test, completed X number of meters in four minutes and 30 seconds. And so maybe one of my short term goals is just that they finished the full six minutes up on their feet. That would be progress from what they were able to do initially. So again, this has your norms. This has cut-off scores if there are some.

The MCID, the MDC and a goal example. But then I've also included older adults on all of these charts, just for comparison sake. So 'cause we can see that our neurologically involved patient is not walking as far in those six minutes as are our general geriatric population, non-neurologically involved. Okay, our 10 meter walk test. This is to get our gait speed. So 10 feet is acceptable if we don't have 10 meters, we wanna do two trials. The first trial is just a practice. And then you calculate the average of the other two. So apologize that's not quite accurate the way that's worded there. I'm sorry, so you collect three trials and you collect the average for their self selected and then you do three trials for their maximum and take that average. Some patients they are self-selected and their maximum is the same. And that tells me a lot that they cannot modify their speed to a situation so that has a safety issue. If they're gonna be out in the community somewhere, if there is a car coming or something else coming or an obstacle that's in their way, they may not be able to modify their speed to move quicker. You don't wanna walk in front or directly beside, they want you halfway, a half step behind and no talking and they can use the assisted device, but they can't use any physical assistance. So they have to be standby or less. Hopefully you guys have seen this chart before.

This is out of the white paper from 2009 about walking speed and talking about walking speed as the sixth vital sign. I keep a copy of this in my little flip book too, because I like to show it to my patients. Most of my patients don't like that I'm trying to make them walk faster. They want to walk slow 'cause they think it's safer. They're retired and they don't have anywhere to go or anywhere to be. And so why am I pressuring them to walk so fast?

It's actually not safer to walk slower and we can have a whole gait conversation another time about how there's more single limb stance and you don't get the push off and you're lacking heel strike and all this other stuff. But I like to show them this graph because I will tell them, this is why I'm trying to get you to walk faster. We know that people who walk at least .8 meters per second, are more likely to be able to walk out in the community than less than .8 meters per second. So that's why I set the goal that we get to 0.8 meters per second. I also wants you to be able to go more than .6 because we know that there's a correlation with needing help with your ADLs and your IADLs if you walk that slow. So sometimes when I make that connection between walking speed and other aspects of their life, it kinda sinks in of why we're using this as a measurement. And so I explained to them it's kind of like when your doctor, when you have high blood pressure and your doctor puts you on an antihypertensive medication, it's not just to lower your blood pressure, but it's also to reduce your risk factors for other things. So sometimes when I phrase it like that, it helps sometimes not always, but I like this chart. It also helps us support why I'm setting the goal for what it is. So here's the norms, cut-off scores, goal examples for the different populations. All right, the ABC. So this is the only patient reported outcome measure in the core set and I think it's one of my favorites. And I think that home health therapists need to be doing more patient reported outcome measures.

Outpatient therapy does this all the time. If you've ever been a patient in outpatient therapy, you know, as soon as you walk in the door, if you're there for your neck, you get a neck survey. If you're there for your hip, you get a hip survey. We don't do this a lot with our people. We do a lot of performance outcome measures and not a lot of patient reported outcome measures. So if you have a patient who you have goals in the area of balance, confidence, this is the scale that you wanna use, and you can either do it face to face, or you can give them a copy. So this is one of those ones where if I'm running out of time on my eval, I might leave the paper with them and pick it up the next visit or have my assistant pick it up the next visit.

A lot of my patients will tell me, "I don't stand on a step stool to reach something on a high shelf." This is to rate how confident they are that they would not fall if they had to perform it. So you've gotta really push them and say, "Well, if you had to, if you had no choice, you have to get on that escalator without holding onto the railings, how confident are you that you will not fall?" So they have to have a little bit of imagination. They have to have some insights. So I like this little bullet point about how it may not be appropriate for patients with lack of insight, and we've all seen those neurologically involved patients in the home who really have just no awareness whatsoever of how poor their balance or safety is. There is some ceiling effects as well. So the thing I really like about this is this is the patient's perception. So I can do a Berg and score them on their balance. And they might score really well, low fall risk, you know, in the high mid fifties on their Berg, but they're balance confidence, you know, is really low. And so then we can start to have a conversation about that. Well, why are you so afraid? You know, what do you think is gonna happen? What do you wanna practice to build up that confidence? And I've been really surprised sometimes at the discrepancy between their Berg score and their ABC. So one example is on the Berg, you have to pick up a slipper or shoe from the floor, excuse me. On the ABC, it asks you how confident are you that you will not lose your balance when you bend over and pick something up from the floor. So I've got a performance of the task.

And then I'm asking the patient's perception of their balance confidence with that task. And I had a lady who had had a stroke who was able to pick up the slipper off the floor, just fine, but she rated her balance confidence with that task, like at 20%. I was shocked? I said, "Why do you think you... Why is your confidence so low with this? I just had you perform this and you did just fine." She said, "Well, I did okay. But I was scared to death." I didn't know that.

Because I was just grading her performance. So that opened up the door to set that as a goal, to increase her balance confidence with that specific task and to incorporate that task into my treatment so that we walk around her apartment, did a lot of bending over and picking up stuff from the floor. I wouldn't have necessarily done that had I not done the ABC because I wouldn't have thought it was a deficit. So hopefully that makes sense of why the ABC is a helpful tool to kind of just open up the conversation about that. The FGA, I will be perfectly honest. I do not do this very often. This is looking at balance while walking. The reason I don't is because I very rarely have these standardized steps. This is a tweaking of the dynamic gait index, which maybe you are a little more familiar with, but that one has a ramp component to it, which we obviously don't usually have access to in the home either. But it's an ordinal scale for level surface, gait, head turns, change in gait, speed obstacles, pivot turn, narrow basis, support eyes closed back from gait and stairs. So it's a very nice comprehensive balance and gait assessment. If you have these perfect steps and then here's some norms and cutoff scores. So these are all in your handout. Berg is probably something you guys are familiar with should take less than 20 minutes for the experienced clinicians. This is the equipment that you need. We need to keep it standardized. So you need to do it in the order that it's written and you can't substitute the objects because then you'll be changing the movement pattern. And the recommendation is that this be used in conjunction with other tests for fall risk. What they're finding is that the Berg as a standalone assessment of fall risk is not as robust and strong as multiple outcome measure test.

So that's another argument in favor of doing the core set. So this is a consolidation of the pathology specific EDGE documents and patient reported outcome measures. So beyond the ABC, which you see here on the second line, there are some pathology specific questionnaires that you may find are helpful with your patients. So say you have an MS patient and you really wanna drill down a little bit more on quality of life with that patient, you know, pre and post therapy and the ABC isn't really what you're looking for, but it's the quality of life measure. The EDGE group has already done the research for you.

You don't have to go out and look for what tool you should use. The MS EDGE has told us we should use the MS quality of life questionnaire. It's highly recommended, it's patient reported for the MS population. So you can kind of just scroll across, see what pathology your patient has and see what's recommended for patient reported outcome measure. So I'm gonna put my little plugin for the second edition of the home health toolbox. This was a revamp of a toolbox that was written many years ago. It came out in 2020, and I had the honor of being involved in the balance chapter, looking at what outcome measures we would recommend. So there's specific information for treating the home health patient in this book. And you can pull up all of the outcome measures from the core set for the neuro patients in the toolbox and see other specific case studies and strategies for implementation for the home health setting. It also covers obviously a lot of non-neurologically based outcome measures. So if you are a home health section member of the APTA, this is free as an e-document that you can download. And it's really comprehensive. I'm pretty proud of it. So in summary the taskforce is estimated. It would take 45 to 50 minutes to complete the entire core set. So that's why, if you think back to that other slide where I said it doesn't all have to be done on a about, especially if you're doing an open, you're not gonna spend 50 minutes just on outcome measures. You can do some of them on the second day, they can be part of your treatment.

You know, so say you leave the Berg for your next visit. Now you're working on some sitting and standing static and dynamic balance while you're administering the Berg. So it does not all have to happen on eval. If possible it would be awesome to get these scores from their previous settings and then be able to pass on these scores to their next setting. That's the vision of this core set is that these numbers would potentially follow the neurologically involved patient through the continuum of care. Maybe someday we will get to that utopia.

Okay. So a few other things on the eval, we're gonna talk real quick, maintenance therapy, try to dispel some myths. So this is based on their need for skilled care, rather than their potential for improvement or restoration. So all of the components for the patient to meet the criteria for restorative therapy also need to be met for maintenance therapy, complexity and sophistication from the therapist or the complexity of the patient requires the therapist to be regularly monitoring, assessing, changing the care plan and effective January 1st, our assistants can now provide maintenance therapy, which is a huge win 'cause it used to only be, oops, sorry. It used to only be our assistants that could do it. Okay. Last thing, I just need to put a plug in for our social determinants of health. There is a chapter on this in our home health toolbox, but we're the eyes and the ears in the home, and these can be potential barriers to our patient's progress. So we all know these patients that have some or all of these issues going on at the same time when they're trying to recover from a neurologically involved injury or illness. And we know that they potentially are gonna reduce their ability to manage the conditions, increase their disability, and it can also serve as a way to help justify why we're in the home for as long as we are. And not saying that we can change or improve all of these, but addressing them and recognizing that they are a huge part of this, of this person's potential for recovery is important. All right, so now we've got all of our eval done it's time for our assessment, which is that big summary where we take all the subjective and objective information.

We compare it to the prior level of function and we justify our service. And this is where you can add in those barriers, those comorbidities, all the complexity of the neuro patients, compared to our home health patients that don't have these diagnoses, all the other systems that are involved beyond just our movement system, that's gonna affect how we deliver our therapy. So how do we know how many visits we should do? Well, there's no published guideline. If you ask 10 therapists, you'll get 12 opinions. That's how we are.

We all know that PDGM is a thing, but there is no set number of visits under PDGM for a beneficiary to receive. If any agency is telling you that Medicare is dictating the number of visits under PDGM, it is not true. And I'm not gonna talk too much about PDGM today cause that's not the topic of this talk, but there is a recognition by CMS that the neurologically involved patient is more complicated than the non-neurologically involved patients. So the reimbursement is better. So the allowable visits from your agency may be more, but it is always your clinical judgment based on prior and current level of function, their activity tolerance, who else is involved in the case, how many appointments they have, all that other stuff to set the visit frequency and duration, this should be clinically driven. And I know I'm living in a dream world where nobody else is putting pressure on us for our frequency and duration orders. But if I could, I would say it is only based on clinical judgment. That being said, we know that PDGM is a reality and we have to do more in less visits. And we'll talk about that when we get to interventions. So goal setting. We want to make this person centered care. We wanna make them patient driven. And then we know that it motivates the patients starts that dialogue and that client's positively regard goal settings. So asking the question, what are your goals? What do you wanna be able to get back to doing? And that can set up the conversation about what's realistic.

Sometimes we find that patients and families are fairly unrealistic, especially after a neurological injury, a significant stroke, a complete spinal cord injury, so us knowing the pathology and the potential for functional outcomes is really important when we have these conversations with these home health patients about what we can and cannot expect. Amy asked what is PDGM, So that is the patient driven grouping model, I believe it is the acronym. And it's the new payment system for home health. And it's probably the topic of an entire day long course in of itself. So I would direct you Amy to the home health section website of the APTA, or if you do like a Google search for PDGM, you'll find a lot of information.

But January 1st of 2020 is when we switched from the PPS to PDGM and it changed the whole home health world in terms of reimbursements. So how do we set our goals? I've seen some really poor goals out there. Our goals are to prevent complications, minimize impairments and maximize function. They have to be functional, right? If the goal is to increase the strength, what does the strength allow the person to do? So I don't care that the person is gonna go from three out of five in their lower extremities to four out of five in their lower extremities. What does that mean that they can now do, can they now get up out of the chair by themselves? Can they now lift their legs into the bed by themselves. Be measurable, so this goes back to that question about the MCID using the quantitative tests and measures and normative values, making sure that the outcome measure that you've chosen really is valid for the domain that you're trying to assess. So if you're trying to show that the person has improved balance, that goes back to the Berg versus some other outcome measure that hasn't been validated for that domain. Be related to their prior level of function, timeframe, and be meaningful. So those are those smart goals that you always hear about. So two interventions, basically we don't do enough in the home and I know that's a generalization, but I've read enough charts and talked to enough home health therapists that we are not being intense enough, especially with this neurologically involved population. So we wanna increase their level of physical fitness, reduce their risk factors. We need the training to be specific and intense. So these are some things that you need to consider when you're designing the designing the intervention. Okay. So we really need to push our patients.

Like I said, to get more done with less visits. So we're gonna go through kind of system by system. So in terms of cardiopulmonary fitness, this is our aerobic activity. We know that patients with strokes get very deconditioned and that we need endurance training. And there's some nice research that shows that with intense enough endurance training for eight weeks, we can increase a person's self-selected speed by a hundred to 150%. So that goes right back to that gait speed outcome measure we were looking at and also maybe help support why we need to see this person for eight weeks when somebody is trying to cut us off.

So all of these next slides are gonna have charts like this in it. These are all pulled from the ACSM which is the American College of Sports Medicine, Guidelines for Exercise Testing and Prescription. That's the book these come out of. It is the 10th edition that came out in 2018. I would highly recommend purchasing it. I got it on Amazon for maybe $30. And then of course I put little tabs and stickers in it all over it because that's how I am. There's lots of good charts in it too, but I wanted to consolidate all the information I wanted to consolidate the information for the pathologies that we are talking about today. So here on the left hand side, and you'll see a chart like this for each of the treatments, you see CVA, MS, Parkinson's and spinal cord. There was no chapter in this book for TBI. There is a chapter for older adults though. So what this is showing that for cardio training, CVA should be doing it three to five days a week. So that may help to support why your initial frequency in the home for your patient with a stroke is three times a week instead of two times a week. Well, the ACSM says that we should be doing it three times a week and they need the skilled supervision from the physical therapist to set this up and properly dose it.

So there's my support right there. This shows how intense it should be. And I would argue that we do not get our home health neurologically involved patients intense enough, sometimes because they don't feel comfortable going there or we haven't set them up for that. And this is the amount of time that you need. And then there's some precautions that you need to take, So for MS, we know that there's fatigue tolerance, heat intolerance as well, and you may need to let them rest longer. For spinal cord injuries we know that they're at risk for autonomic dysreflexia, make sure they're not having any noxious stimuli.

They may get orthostatic. So things to just keep in mind, a couple of people in the call and Amy have asked the name of the book again, I think it's in the references at the end, but it is published by the American College of Sports Medicine. And it is called the, "Guidelines for Exercise Testing and Prescription". And the most recent edition is the 10th edition. And I bought it on Amazon and I don't have any financial interest or connection to it. It was used as a primary source in the advanced competency for home health course. Okay. So that's for cardio. We've got to push them. We've got to let them get short of breath. It's okay for them to be out of breath a little bit. That's a normal physiological response to aerobic activity. If they don't get out of breath, if they're hurt, if their pulse doesn't increase, that is not or they may be on a medication that doesn't allow them to do that, but we can educate our patients that it's a normal physiological response and that little bead of sweat on their forehead is okay as well. Flexibility and range of motion, we wanna obviously teach proper position for these reasons. And here's another little chart that helps to justify how frequently we need to do it and what type of stretching we should do, even how long we should hold the stretches for. So the really cool thing about this book and all this information is one somebody else already did all the research and collected all the evidence for us. So we don't have to go digging it out. And we've got great support for our treatment interventions and why we're picking what we're picking. Balance, obviously we need to address that with our neurologically involved patient.

I love this study that if the person has difficulty with sitting balance, we should practice reaching beyond arms length while sitting in order to improve the balance. So it seems pretty obvious to me, but somebody did that research and came up with that. I'm sorry. I do need to go back to that first slide. Thank you, Amy, for bringing that to my attention. I did not say what... so FITT is the frequency. You see that in the left hand column, then I is the intensity, T is the time and the T is the type. So that's how the ACSM breaks down all of their treatment exercise prescriptions is based on this concept of FITT therefore each type of patient, there is a specific frequency, intensity, time and type that the evidence says is best practice. Hayley I'm gonna get to your question when we talk about gaits.

So standing balance, we know that we need to practice this with patients who have balance deficits, but it needs to be intense. Again, we need to get them to lose their balance. We need to get them to stumble a little bit so that we can see if they have that stepping strategy or ankle strategy or hip strategy. We can't make it too easy. We know that these patients have fall risk, but we cannot make it too easy. And then there's some really nice programs out there specifically for Parkinson's if any of you have gone through some of the LSVT training, there's a boxing program, there's some dance and Tai Chi stuff. There's the Otago program. There's a lot of different balance programs out there. So I just encourage you to use, what you find to be effective and just push the intensity a little bit, make it as hard as possible with what we've got available to us in the home for the neurologically involved patient. This was a Tai Chi video specifically for patients with Parkinson's. So you've got the link there. You can go watch that. E-Stim. I don't know how many of you have any portable muscle stim units. The evidence did find that it can be effective for people with reduced strength in their arms and legs. So it's something that you may find you wanna do as a treatment for patients with their strokes that have foot drop or incomplete motor spinal cord injuries, where we're trying to get more quad activation.

Of course, there's no consensus on the parameters for E-Stim. We all learn some parameters in school, but there's actually really no consensus on what is the best pulse with and frequency and all those other parameters of the E-Stim. Orthotics, we've got some good evidence that wearing lower extremity orthotics helps in the neurologically involved population. They recommend that it should be custom. They did not find good strong evidence for hand and wrist orthosis. So when I usually present this, my OTs get real up in arms about this.

And they say, "Well, no, no, no. I've got all these patients and their splints and orthotics, you know, were great." Well, they might anecdotally, but in terms of this meta analysis, they did not find strong evidence for their use in terms of function pain or range of movement. And there's not too much research on post TVI in general, for anything, stroke seems to get all the highlights. Constraint Induced Movement Therapy. This is mostly an upper extremity program, but PTs do it. So I wanted to address it. It's based on the principle of learn non-use and tapping into some of that neuroplasticity that we know can happen after a stroke or brain injury. So basically the concept is you can strain the less impaired upper extremities so that you force the more impaired upper extremity to do the functional tasks. So sometimes it's a slang. Sometimes it's an oven Mitt. Sometimes it's a boxing glove, something to keep that upper extremity from being able to do anything so that the more impaired upper extremity needs to do it, it can be pretty frustrating for a patient. They find that adherence is an issue as well. So the research now is looking at how little amount of time can still be effective. I'm gonna go up one slide just so I can make sure that I see what I wanna see. Yes. So, you can do it during therapy but there's a lot of time that the key constraint induced movement therapy needs to be completed outside of therapy because we just don't get enough visits and time in person with the patient to only have it been done during therapy. And there's a home diary involved and behavioral contracts, and it's a whole formal program, but the results of it are pretty astounding in terms of improved function and use of that more impaired upper extremity in everyday life. So they're getting it cut down. It used to be six hours a day that that less impaired upper extremity had to be constrained.

They're showing that three hours a day is just as effective. So that's good news. And hopefully, you know, we can figure out a way to even cut that down more. There are certain criteria that need to be met for the person to be eligible for this kind of therapy. If they do not have any active finger extension, you really don't wanna try this with them. It's just gonna be frustrating and they're not gonna be able to do any functional tasks with that more involved upper extremity. So the baseline has to be some active finger extension. There's only one research study out there that looked at doing it in the home because this is such a research based and outpatient based program, but they did show that it can enhance the perceived use of this stroke affected arm in daily activities more effectively than conventional therapies. So one study so far, if any of you are interested in constraint induced movement therapy, I would encourage you to set up a research study so we can get some more data on how this looks in the home for our neuro patients. So moving on to transfer training again, one of those obvious studies that if the person has difficulty in standing up from the chair, we should practice standing up from the chair. A couple of people did this research study and found that it's a good idea. We need to document the number of reps, how long it takes them to do it. If they're using their hands or not. And what the height of the seat is. So, especially in the home, I find compared to any of the other settings, we need to practice from all the surfaces that they're gonna be getting up and down on. We all have seen that couch that is so slung down, that it's nearly on the floor, or I've had patients who are sleeping on an air mattress on the floor. And so they have to be able to get up from the edge of an air mattress to sit up. We even had patients who still have water beds. So whatever they have in their house, that's what we have to be working with for transfer training, which is the thing I love about home health, by the way that I don't have to simulate anything, I don't have to set up any sort of artificial scenario or situation for them.

I can use the real thing. Strength training. So this is my big soapbox. We underdose all the time on strength training. We have got to use resistance. We've got to know how many reps and how many sets in all of this to do. We are supposed to be the movement experts, especially at prescribing exercise. And I don't know that we do a great job at it and I'm including myself in this. So the first thing to keep in mind is if they have full active range of motion against gravity in a joint, we have to start adding resistance in order to gain strength. I know that might sound obvious to people, but I can't tell you how many charts I look at where I look at the eval, they've got full lots of range of motion against gravity.

And then I see them doing like long arc quads with no resistance. Okay? That's gonna help them with their range of motion, keeping it what they've got, but it's not gonna build up strength. We need resistance, resist, resist, resist. So again, we're back to this FITT and we've got CVA, MS, Parkinson's spinal cord, frequencies, and then how intense it should be. So it's all a percentage of one rep max. And I think where we get into trouble in the home with these neurological patients is we don't know what their one rep max is. Right? We don't have the weight machines that outpatient has to play around with that to decide what that one rep max is. But luckily there are other ways to determine it. So 80% of one rep max would equate 10 reps where the form deterioration is observed in the last one to two reps. So if you go back to this slide and for our MS patients, we wanna do 60 to 80% of the one rep max. If we tell them to do an exercise with 10 reps and we put a certain amount of weight on their leg and they can only do 10 and reps nine and 10 are pretty much a struggle and the form deteriorates, we can be confident that they're working at 80% of one rep max. Now, if that same weight is on their leg and they're able to do 15 with no problem, then we're pretty confident that we're at 60% so we can document it that way. Obviously their one rep max is gonna change over time, hopefully, as they build strength. But the minimum we need is this 60% of the one rep max.

Okay. So whether it's bands, kettlebells, a weighted vest for sit to stands and step ups, milk jugs. But I think our whole like soup can and water bottle idea. I just don't think those are heavy enough. And especially not for our lower extremities. So I actually have one of those like milk crates, like the plastic milk crates, and then sometimes I'll load stuff from their house into that crate. I know how much that weighs and I'll do that for like some lifting. So you can get creative with how we apply the resistance, but we have to apply the resistance without this at least 60%. We're not actually building strength. We might be improving motor control and they might be performing the exercise better.

But the research is telling us that that is not actually strength training. So we're doing a disservice to our patients if we're going in their visit after visit and not pushing them on the strength. So that's where the rate of perceived exertion scale can come in as well. If you look back on this slide, it's the RPE of 12 to 13, is where we wanna be working at to get to that 60% of one rep max, we wanna allow 24 to 48 hours of rest for the same muscle groups. Again, if you're giving them a home exercise program that is properly dosed and intense enough, they should not be able to do it every single day with the same muscle groups. Think back to your own training routines. If you are a person that goes to the gym or works out at home, do you do the same exercises every single day? I hope not because you should be working them at such a level that they need 24 to 48 hours to recover before you strength train them again. Then there's also a power component in terms of moving quickly through the concentric phase and slowly through the eccentric phase. And you can take the loads down if you're starting to work on power, but I would argue that our neurological patients can add power into their movements. So you can use the resistance with functional movement. So the sit to stands, stepping up and oversteps, stooping down, kneeling, reaching. So I do a lot of like floor to overhead reaches where we'll put weight on the floor, we have to lift it up and either push it out from our chest or push it up overhead. You can modify it. If they only have the use of one extremity, they can even do this in a sitting position to build strength. So and then continually reassessing that one rep max, again, that shows the skill.

So I always tell my patients, there's nothing magic about the number 10. Everybody wants to do 10 reps of something. I think we're out of that, but the patients like 10, for some reason. So I don't give patients a number of reps. If it's my first time giving them the exercise and a certain resistance, I'm kind of guesstimating, how much resistance I think they need. And say, "See how many of these you can do". I don't give them a number. If they can do 15 to 20 with good form, then I either need to add resistance, change the exercise completely, or modify the position that they're doing the exercise in to make it harder. If they can't even get to eight with good form, then I know that's too high. That's more than that 80% of the one rep max, and I need to change it the other way, but this is where our skill comes in, right? Because we're the ones that can decide these changes for them, we analyze their movement, we check their perceived exertion. We're assessing their vital sign response. We're looking at their form. And then we're deciding what is the best dose of this exercise. That is our skill. And as long as we document it that way, it's okay if we make some mistakes and start at too low of a weight or too high of a weight, we need to document that clinical decision making process, and show how we've modified it in response to the patient performance. So it's not just what they did, but what did we change throughout the session? Okay. So gait, here's another great study. If you have somebody with a stroke, who's had difficulty walking, you should give them the opportunity to walk and we need it to be repetitive and we need it to be task specific. So this is my soapbox about spending more time on our feet, working on gait training. So they did a study in the nursing home, not in home health, but my hypothesis is that it's the same or even worse than the home, that during a therapy session in the nursing home, people with strokes spent as little as 10 minutes engaged in the practice of walking.

And then they interviewed the therapist and asked them, "How much time did you spend with this patient on walking?" There was an overestimation of it. So somebody sat there and timed it. They asked the therapist how long it was, and there was a disconnect. So we always think we're spending more time on it than we actually are. And we're not giving the patients enough opportunities to practice their gait. You can vary the terrain. Obviously I think this is the thing that we have an opportunity to do a lot of, because depending on the carpet that the person has and the tile that the person has and how wide the pathways are and how much clutter, how to get in and out of their house and their driveway and how far their mailbox is.

There's so many things we can do with gait that's so functional compared to the other settings. I think we're really lucky. And then as they do better with that, we can add dual tasks with cognitive items. We can add another motor task of the head turns. We can have them carrying stuff, obstacle courses, all of that, all of that kind of stuff. So we need to really, we really need to be working on that. Now this doesn't mean we're walking for distance this whole time, gait training is different than ambulation. Gait training might be we're standing at the counter, breaking down a certain part of their gait pattern that's really problematic where they're not clearing their foot. And so we're just working on a drill to improve that. So I'm gonna address Hayley's question that says, "I find I get declined by insurance companies that the patient can walk over 200 feet, for example. So how can we justify longer and more intense training without getting declined?" That's a really good question. So one, I would argue that the speed is important. So if they can walk 200 feet, but it takes them 20 minutes, that is not functional. So, and you've got the support of that white paper of the walking speed to justify why you are no longer maybe focusing on distance anymore. Cause maybe 200 feet or 150 feet is how far they need to go to get to their car. But now you're focusing on the speed of that, of that walk.

It could be their vital sign response that that 200 feet, the speed is fine, but once they finish that 200 feet, they have to sit and rest for 10 minutes because they're so out of breath and their pulse goes so high. And the rate of perceived exertion is a 15 for 200 feet. And so then the new goal is that they can walk that distance with a lower RPE or a better physiological response, or maybe it's the deviations with that distance. You know, that their form stays good for 150 feet. And then it deteriorates for the last 50. And our goal is to get it to not deteriorate at all. So I think it's in how you write the goal. So if the goal just says, you know, patient will ambulate 200 feet with cane and supervision, as soon as they are able to do that, you're basically showing that your goal has been met.

There may be is no justification for you on paper for you to keep working with them. If I'm a reviewer, I see that they met their goal, 200 feet, cane, supervision. Great. They're done. But you know as a therapist that that gait pattern is super unsteady. It's all kinds of deviations. It takes them forever and they're exhausted, but you haven't captured that on paper. That would be my argument. If you can capture and paint that picture for that reviewer of what that 200 feet looks like. I think you have a leg to stand on, no pun intended of why you're justifying, continuing to see them, even though they're able to walk that distance. Amy asked about measuring the height of the surface, if it's tossed and compressed when they're sitting on it, it's compressed. Yes. Yes. And sometimes different cushions have different softness, compression factors, depending on how long somebody, has sat there. I mean, it's kind of a guesstimate, I'll pull out a tape measure and, you know, show them how low that couch is compared to the chair. And maybe it's a conversation about, you know, maybe you shouldn't sit there right now. One other question, and then we'll keep going. So we can finish up. "What if someone has an orthopedic deficit with the strength assessment?" Larry, can you clarify that question a little more? I'm not quite sure what you mean by orthopedic deficit. I'm gonna keep going and then I'll look for what that question comes into. So our other role as a home health therapist with the neurological population is preventing secondary complications.

So we know in our stroke population, our TBI, our spinal cord patients, these patients are predisposed to activity intolerance and physical deconditioning. They may not get back to their prior level of function that they had compared to our postop total knee replacement. And so we know this is potentially a lifelong chronic condition that they're gonna have to live with. And we have to figure out a way to keep them active so that they don't gain weight so that they don't end up with more chronic medical conditions on top of this neurological deficit.

So our job can be to prescribe that therapeutic exercise. So I like to show my patients this little infographic and ask them if they think they have met any of these criteria and for the most part, for the most part, they have not. And I would argue maybe a lot of us don't either. So we need 150 minutes of moderate intensity, which is probably more attainable than the 75 minutes of vigorous for this patient population. We need to be strength training two days a week and we need to be working on balance. And then here's some of the benefits, you know, so this can be kind of motivational. Sometimes I'll even print this out for patients and tell them to stick it up on the refrigerator. So when they're going in and out of the kitchen, you know, it's kind of a visual reminder of what our goal is for physical activity. So how do we get people to actually do physical activities? A lot of our patients have never exercised it's just not part of their daily routine. It's not in their mindset the way it is maybe for us. So we want to really promote this self efficacy and increase that person's confidence and their ability to really engage in the activity. So we need to start looking at what are some of the barriers to physical activity. So some of this may be those social determinants of health. They're so stressed out about how they're getting to their doctor's appointment and having enough money for their medication that month, that they can't even think about, you know, doing their exercise program. 'cause they've got to make 27 phone calls to figure out how they're gonna get to their doctor's appointments.

Okay? So if we know that, then maybe it's something we can problem solve with them. Those are maybe objective obstacles. And then there's also some subjective barriers that come to confidence and motivation and things like that. So here are just some strategies real quick to try to improve adherence, increase their self efficacy. So then when we are not there anymore, we can be confident that they're still gonna adhere to the physical activity prescription that we have given them. So keep in mind from a skilled standpoint, again, we cannot be the ones that are coming in forever and ever even under maintenance just to implement a home exercise program or a walking program that doesn't have modifications or adjustments because of the complexity and sophistication of the patient or the treatment.

So that's not our role that patient needs to find a caregiver or an aid or pay somebody privately if they feel like they need that support in order to perform, you know, those activities on a regular basis. So we need to do that problem solving, like what are, how are you gonna adhere to this when you're not receiving skilled physical therapy anymore? And just let me put my little 2 cents in about cueing. So we're gonna talk about documentation for these last few minutes, but just because somebody needs a cue, doesn't make it skilled. All right? That's my quote for that. So here we go. I love this description of what the struggle is. So therapists tend to have a difficult time describing the skilled nature of the treatment, but payers have an easy time denying the services for lack of skilled service documentation. So it's really hard for us to get our skilled thoughts on paper and the payers have a really easy time of just stamping that denial stamp on our pages. So it goes back to that one question about the walking and the 200 feet, that was probably pretty easy for that insurance to just deny that. "Oh, 200 feet they're good. Denied." But if we can add in some information that shows the skill or the remaining deficit, then maybe they would have a harder time denying us. So why did we change their exercise program? Why did we progress or scale back the functional activity? We cannot write repetitive stuff day after day. If your EMR lets you copy and paste, please don't copy and paste. If you do copy and paste, please edit things to make it relevant for each visit.

And I know we are all constrained by time and we're constrained by our EMR, but we can be smarter. We can be smarter than that. So I would challenge all of you maybe next week, if you have a neuro patient or even any home health patient reread your own eval, reread your own notes, like an insurance reviewer and ask yourself, is it only a skilled therapist or a therapist assistant that could do this? Or could any anybody off the street do what I just put down on paper? If it doesn't show that skill and that decision making, then the reviewer is gonna assume that it's repetitive. Does it need a skill? And you don't need to be there.

So I know we're so patient driven. So we say, you know, patient performed X, Y, and Z, patient walked with this, this and this, but I'll read entire notes where it doesn't give me any indication that there was a therapist there at all because the patient did this and the patient did that and the patient did this and the patient did that. And where was the clinician in all of this? If the clinician is not needed and it's not documented that way. Then why should the insurance be paying for that? So we need to put ourselves back in the notes and that's been hard for me, to put some of that documentation back in because it's supposed to be so patient centered. So here's just a couple of little examples, real quick of like what doesn't show skill, listing the activities that they performed. Okay? Repetitive treatment, requiring cues. So my favorite example of this is my husband's grandma had Alzheimer's and she would constantly like forget to take her walker with her. She would take those short shuffling steps and really stoop over, my mother-in-law who is not a therapist by any stretch of the imagination would walk with her and say, "Mom, stand up tall, mom, take bigger steps, mom, keep your walker close to us." So technically my mother in law was cueing her mom, but it wasn't skilled, right? It was just repetitive cues that the therapist had taught my mother-in-law to help her mom walk. So once you can teach those cues to someone else and the cues don't need to change, it's not skilled anymore.

So just because the person needs a cue, doesn't make it skilled just because the person needs assistance, doesn't make it skilled, right? Because we have a lot of patients who have home health aids who have to help the person with their bed mobility or their transfers. And that home health aid is not considered a skilled personnel, but they're providing assistance. So you have to say why the assistance is skilled, why the cueing is skilled, why that whole treatment plan is skilled. And please don't ever write tolerated treatment well, or continue with plan of care. Those are just absolute no-nos at this point.

So if you're analyzing, assessing, and modifying and changing and reviewing and teaching and all those real good like action, skilled words, that's kind of showing your skill, or you can even document why you chose that activity. Patient able to perform step ups on six inch step with her walker. So the clinician progressed it to a ten inch step without the walker, but the patient wasn't able to do that. So then the clinician changed it to a nine inch step with the cane. It's all hypothetical, but that shows the thought process. And lets somebody who's reading that note, see how you ended up with the treatment that you ended up with. So you wanna ask the question, could an aide do this or document this? So if the documentation is patient ambulated 50 feet with the wheeled walker and min assist, I would argue that a therapist doesn't need to do that. So you need to add in what that min assist was for. I noticed as a skilled therapist, that their right pelvis and hip was dropping during their right stance phase. So I provided manual facilitation to that and then help to cue that right toe to clear during the swing. Okay? I don't think an aide or a non-skilled family member could do that. I can do that as a physical therapist. So don't undersell yourself or underestimate your value and knowledge and skillset. And that's what we do a lot in the documentation is we don't promote ourselves and highlight the skill that we're providing to these patients. So this is just an example. This was a chart review I did at another agency.

Thank God this therapist doesn't work for me, but it's mortifying, right? Somehow this person got 20 visits covered. But if you look at the theoretics, they started with five sets of 12 reps per set, and they ended with five sets of 12 reps per set. I don't know if there's any resistance. I don't know anything. I don't know why it took 20 visits to do that, same thing with the transfers, same thing with the gait. There's just nothing in here to support the number of visits. There's really nothing in here that even supports the skill. And I think the worst one is the home exercise program where at visit two they had a hundred percent comprehension.

And then at visit 10 they still had a hundred percent comprehension. So are we still spending time working on that home exercise program? Did we change the home exercise program? What did we do that was skilled? I would argue that these 20 visits should not have been paid for by insurance. Cause based on the documentation, there's nothing in here that I would call skilled therapy. So I believe that is my last slide. I thank you very much for listening. You guys can add more questions. In the chatbox we have about six, seven minutes for more questions and answers. Oh, thanks Larry. Can not perform one rep max from rep one with good form due to old rotator calf tear. So orthopedic deficit with the strength assessment. So then as a clinician, you would decide, is that an exercise I want that person to perform given that they can't use good form because they have an old rotator calf tear. Am I willing to accept the poor form that they're demonstrating? And that is actually their okay form. And as long as it doesn't deteriorate further from that, I'm okay with that. That's how I would, that's how I would do it. I would say if there's no pain with it and they can tolerate some resistance and you're okay with the movement pattern, then I would say, that's fine. And then you can determine the resistance based on that initial form that they show you. Debra says, "Is knowing the NDC MCID more important to set goals or to assess the progress of goals and thus the function of the patient?" I would argue it's important for both of those things.

So we need to use those numbers to help set our goals so that we're looking for meaningful change and then on reassessment so when we talk about the timing of performing the outcome measure, so say you're going in at the 30 day mark, and you have the goal that they're gonna improve their Berg by that MDC in 30 days. And they haven't achieved that then I would, I think that should cue you to look at one or two things, either look at the interventions that are being performed and make sure that they are appropriately dosed and intense enough to maybe produce that change or two some self reflection with you and the patient about that goal to decide if that goal is actually realistic or not, because it's probably one of those two things.

So you can use those numbers, both to set the goal and then to monitor the progress of the goal. And it's a good way to communicate again, to the reviewers or to the nurses or to your agency. If you're getting pressure, oh, you can't do that many visits with that patient. Oh, you're in there too long, but you can say, "Look, I'm showing this real progress. We're not quite there yet, but as a skilled clinician, I realistically expect this person to be able to hit this clinically important difference in their gait speed or in their balance confidence. And that's gonna lead to less fall risk, decreased risk of re-hospitalization, lower healthcare costs utilization." Now you've got all this ammunition to support your clinical decision. For those of us who previewed the exam for this course, both goals appropriate and to preview the exam for this course. Janet says, "Both goals appropriate and testing of function, our answers on the exam FYI." Okay, so hopefully I answered that question to the person that posed it the same way that the answer is to the question on the exam for the course. Is that what you're saying, Janet? Well, I appreciate all of you guys listening. Oh, I didn't put my email address in the handouts. Maybe somebody from physicaltherapy.com can, Oh, am I supposed to type this in here? Okay. I can type this in here. I am boktinrehabservices@gmail.com. If you guys have any other questions or feedback She said, no, you said both are important, which is most important? For me it's function, most important in that it drives the goal. I think the way I worded that question was to set meaningful goals. So I apologize if how I wrote that question, wasn't quite clear. That's good feedback. If we present this course again or for the recording, we may wanna change that wording of that 'cause that's a really good point, Janet. Thank you for bringing that to my attention.

- All right. Well, I think that was the last question. So we're gonna go ahead and wrap up today. Thank you everyone for attending and thank you, Rachel, for sharing your expertise with us today.

- Thank you. It's my pleasure.