Back to Basics: Stroket
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- - [Amy] Once again, welcome to our webinar, Back to Basics: Stroke. Our presenter today is Erin Mattingly, and she is an SLP, a managing strategic consultant, and subject matter expert at Enterprise Resource Performance Inc., a professional management consulting firm. Erin has over 13 years of experience treating patients across the continuum of brain injury severity, from mild to severe injury, in both civilian and military populations. Prior to her role as a managing consultant, Ms. Mattingly started the SLP program at a unique Department of Defense facility specializing in the evaluation and treatment of servicemembers with mild traumatic brain injury and psychological health disorders. Erin is a certified brain injury specialist, and she serves in a variety of leadership positions across brain injury and SLP organizations, including the Academy of Certified Brain Injury Specialists, the Academy of Neurologic Communication Disorders and Sciences, and ASHA's Neurogenic Communication Disorders Special Interest Group. Welcome, Erin, we're always happy to have you here. Looking forward to the Back to Basics talk today.

- [Erin] Thanks, Amy, appreciate it, and hi, everybody. Thanks for joining me this afternoon, and I'm excited to be back. I've given a couple of these webinars and always really enjoy them, so I appreciate all of you participating. So we'll go ahead and get started here. On my disclosures, so I have no financial disclosures, have not received any compensation from test, treatment or application developers or publishers. Any recommendations here are based off of my clinical experience. And non-financial disclosures, as Amy mentioned, I'm a member of the American Speech-Language-Hearing Association's Special Interest Group 2 Coordinating Committee, a member of the Academy of Certified Brain Injury Specialists Marketing Committee, and a member of American Neurologic Communication Disorders and Sciences Communications Committee. That's a mouthful. All opinions are my own. So our learning outcomes for this hour are, after this course, participants will be able to list three symptoms of stroke, identify the impact of stroke and associated dysfunction and

symptoms on language, swallowing and cognition, and identify three functional treatments for survivors of stroke. And something I always really enjoy during these courses is questions in the moment, and I may ask questions of you all as well, so please feel free at any point if you have a question, as Amy mentioned, go ahead and type it into your Q&A pod and I will answer it as we go. I find that to be a better way for folks to learn and really enjoy the interaction, so, appreciate you guys participating as we go. All right, so let's get started. So stroke is an acquired brain injury, and an acquired brain injury is damage to the brain which occurs after birth and is not related to a congenital or a degenerative disease, and these impairments may be temporary or permanent and cause partial or functional disability or psychosocial maladjustment. So that's from the World Health Organization in 1996. An ABI covers not only stroke, which is non-traumatic, but also traumatic brain injury, so I just wanted to provide that context to start. So stroke is also called, you will see it as a brain attack, and in most hospitals, that is the code that is used if there is concern for somebody having a stroke or being admitted with a stroke. It's a cerebrovascular accident, and occurs when blood flow is interrupted to an area of the brain.

Cells are deprived of oxygen, and then cells begin to die, and we'll talk about why the blood flows are interrupted here in a minute. It is the fifth leading cause of death in the US, and each year, nearly 800,000 people experience a new or recurrent stroke. They are largely preventable, so 80% of strokes are preventable. So the types of stroke. So 80% of strokes are ischemic strokes. So there are a few different types, one of which is thrombotic. So that is when a blood clot or a thrombus forms in one of the arteries that supply blood to your brain, and the clots can be caused by fatty deposits that build up in arteries or other artery conditions, and they do cause reduced blood flow, and like we mentioned, that reduces oxygen to cells and causes cell death or damage. And then an embolic ischemic stroke is a blood clot or other debris that forms away from your brain, commonly in your heart, and is swept through your bloodstream to lodge in the narrower brain arteries. And this type of blood clot is called an embolus, so you'll

frequently see folks with a pulmonary embolus that may travel up and result in a stroke or other cardiac issues, so holes, holes in the heart that may cause a stroke as well by shooting a clot up into the brain. That was not a technical term, so don't use the word 'shooting a clot up to the brain.' But just thinking as I go here, so just a couple of examples of ischemic strokes. And then there's hemorrhagic stroke, which is when a blood vessel in your brain leaks or ruptures, and this is usually caused by blood thinners, hypertension or an aneurysm, or an AVM, an arteriovenous malformation, which is less common.

And there are also intracerebral hemorrhagic strokes are intracerebral, so it's when a blood vessel in the brain ruptures and leaks into the surrounding tissue, causing that cellular damage, and the brain cells beyond the leak do not receive blood flow, so are deprived of oxygen. So this is kind of a double whammy, has the same cellular death as the ischemic stroke, but also has the damage from the actual blood itself that's leaking into the cells. So this is often due to trauma or blood thinners or hypertension, like I mentioned, or aneurysm. Subarachnoid hemorrhage, which you will see very frequently, is when an artery on or near the surface of your brain bursts and spills into the space between the surface of your brain and your skull.

And this is, I would say at least from my experience, one of the most common types of stroke. So you're seeing it's signaled by a sudden severe headache, and this is the example of one that's often due to an aneurysm. All right, so getting into symptoms of stroke here. You're going to look for FAST. FAST is the acronym, and in your face, you're looking for a droop. Arms, you're looking for a drift. Speech, you're looking for slurred or disordered speech or language. And the time, you're supposed to react immediately and call 9-1-1. So you'll see, I think the American Stroke Association, and I believe, the Heart Association as well, have both released some symptoms on what to look for when somebody might be having a stroke, so you'll see the posters around hospitals and in public places with the woman's or the man's face that has the droop

on one side and usually reviews this FAST acronym. So Susan is asking, "What do you mean by a drift in the arms?" So usually if you're holding your arms up straight in front of you and you think you're holding them still, the drift is when it actually drifts away involuntarily, so it's weakness in the arms. Hopefully that helps, Susan. Great question. All right. Additional symptoms that can happen are sudden numbness in your arms, legs, face, and you'll hear this as one of the most commonly recognized symptoms in stroke. A lot of folks will realize that they are having one when this starts to happen. Confusion, others might notice confusion in a survivor of a stroke.

Visual trouble, so seeing double, or the inability to focus when that isn't usually a problem. Trouble walking or with balance. And then a severe headache with no known cause, so that's National Stroke Association. So I mentioned that 80% of strokes can be prevented, and there are quite a few risk factors to strokes. One is your lifestyle, so being overweight or obese, substance use disorder, so alcohol or drugs, physical inactivity, and then the medical rationale and risk factors: hypertension, so high blood pressure, diabetes, high cholesterol, a family history of stroke, and sleep apnea. Other risk factors include your age, so the elderly are more prone to stroke, your race, your sex or gender, and birth control pills.

So I had quite a few patients over the years who would come in on birth control and unfortunately would end up with a stroke, and that was the only known risk factor, usually women in their late 20s to late 30s, so always something to think about when you're evaluating your patient's medical history. Okay, so stroke can result in a variety of impairments. Just like any other acquired brain injury, you're gonna see a lot of overlap between some TBI symptoms that you may have learned along with these stroke symptoms. So you're gonna see attention deficit, potential attention deficit, potential memory deficit, executive dysfunction, problem-solving difficulties, language impairment, which we'll talk about in a little bit, including aphasia, pragmatic difficulties, social skills, swallowing, and then the physical symptoms that we touched

on a little bit, so hemiparesis, weakness or paresis in one half of the body, and we'll touch on some of those too. Valerie is asking, sleep apnea, "Is the risk factor untreated sleep apnea "or just the diagnosis of sleep apnea?" Great question. The risk factor is sleep apnea itself, but usually if you've been diagnosed with it, I say usually, I know I'm far from a perfect patient in all things, but I can imagine if I was diagnosed with sleep apnea, I would struggle with my CPAP, but I believe, so it's the actual diagnosis itself, but of course, if you do not treat it, it will increase that risk. So Valerie, I hope that helps. Great question. All right, so impairments in language. So especially when speech pathologists think about stroke, we all immediately think about aphasia, and probably dysphagia, which we'll talk about.

So aphasia is an acquired language impairment resulting from a focal brain lesion in the absence of any other cognitive, motor, or sensory impairments. So we'll get, when we talk about evaluation and treatment, we will touch on how sometimes it's difficult to assess aphasia in the presence of other cognitive impairment, due to confusion and other memory issues and those kind of things, so you see this one is really the isolated definition, so it's in the absence of any other cognitive, motor or sensory impairment. It is a breakdown in specific language domains resulting from a focal lesion.

I pulled a bunch of different definitions so that we would get a really nice picture. It's a selective breakdown of language processing itself, of underlying cognitive skills, or of the necessary cognitive resources resulting from a focal lesion, and it includes expressive and receptive components. So, important to note that. All right, I have a quick question from Jill: "Does taking estrogen supplements increase risk, "or just birth control pills?" Jill, to be honest, I don't know the answer to that one so I will have to look that one up, so I don't wanna give you the wrong information, but great question, and I will look that up, 'cause it sounds like a good one to know. All right. So the types of aphasia: global aphasia, and we'll get into all of these, Broca's aphasia, Wernicke's aphasia, primary progressive aphasia, anomic aphasia, and mixed non-fluent aphasia.

So we're gonna touch on all of those. So global aphasia is the most severe type. So you're seeing impaired comprehension and expression, and these are usually the patients who truly have no mode of communication. Usually when I was in inpatient in acute care, somebody who was globally aphasic, you're getting almost no reaction at all, and they weren't able to use AAC because that is a form of communication, of course, but were really unable to understand or express any sort of communication, so it's important to differentiate that because a lot of people, not a lot of people, I would say I've seen it more in medical students, will diagnose somebody as being globally aphasic when they are not.

So maybe they have a receptive component or maybe they have an expressive component, but that just because they can't communicate in one of those areas, one of those domains, does not mean that they are globally aphasic, so we're thinking about that. Broca's aphasia, I think everyone's pretty familiar with this, but that's the non-fluent, agrammatic speech output that's severely impaired. This patient may understand speech and reading, but has limited writing and verbal expression. So you're gonna have the patient who is missing out on those filler words, so you're just getting nouns and verbs and very halting, slow. The challenge on top of it being non-fluent is that usually, I say usually, Broca's patients do have awareness of their challenges with verbal expression and reading and writing, so it can be difficult to treat these patients.

One thing, the awareness is great because it can help them to, they understand for the most part, so teaching strategies can be really beneficial and easy to apply, but on the other hand, it can impact, it can have a pretty significant psychological impact if they don't improve over time, so something to think about there. Wernicke's aphasia is a fluent aphasia. It's language filled with jargon, neologisms, comprehension is impaired, and reading and writing are impaired. I think anyone who's treated a patient with Wernicke's aphasia, or Wernicke's, however you choose to pronounce it, probably has

some good stories to tell. I know some of my most animated patients with Wernicke's aphasia would tell me the best stories with the most expression I have ever seen, and I would have no clue what they were saying because it was completely in jargon, so it's really a fascinating type of aphasia. So anomic aphasia is non-fluent inability to find words, particularly nouns and verbs. So you'll see how that differentiates from Broca's, which is usually the agrammatic language, so you're missing the 'As' and the 'thes,' but you may have the nouns and the verbs, whereas anomic, you're missing the nouns and the verbs, so it's a more severe version of I have this on the tip of my tongue. And then mixed non-fluent aphasia is similar to Broca's in expression, but also with impaired reading, writing and comprehension.

So lots of things to think about when it comes to aphasia, and we'll get more into assessment and treatment here in a little bit, but always good to review those, especially in a Back to Basics course. So impairments in speech, not language: dysarthria, which is a disturbance in the sensorimotor processes of speech production associated with damage to the central and/or peripheral nervous system, a speech disorder resulting from a weakness, paralysis or incoordination of the speech musculature that is of neurological etiology, and a group of neurologic speech disorders resulting from abnormalities in the strength, speed, range, steadiness, tone, or accuracy of movements required for control of the respiratory, phonatory, resonatory, articulatory, and prosodic aspects of speech production.

We'll talk about the different types here in a minute, but the garbled speech not due to language disorder, and you're gonna be seeing all kinds of possibly associated facial, cranial nerve issues, weakness, that kind of thing. All right, so getting into dysarthria types here, and this is all from ASHA. Again, I'm not being paid by ASHA here, but just wanted to give a shout-out for their practice portal. They have fantastic resources on their practice portal tied to everything from dysarthria to aphasia to brain injury to stroke to Parkinson's to anything, so I would definitely recommend checking that out if

you haven't already. Different types of aphasia, aphasia, dysarthria, include flaccid dysarthria. So this is when you see, you go in to evaluate a patient and you see the patient with a left-sided droop in their face, lots of breathiness, you can actually hear them breathe because they also have weakness in that side of the body, so it impacts respiration. There could be some nasal emission, shorter phrases, hypernasality, rapid deterioration and recovery with rest, so if they start to talk too much or for a long period of time, you may hear the severity of the dysarthria increase, and so after some rest, they can recover, and then imprecise alternating motion rates or AMRs.

And this is pretty common in most of the stroke you'll see in inpatient. Other dysarthria types include spastic dysarthria, which is a slowed rate, but very strained or harsh vocal quality with pitch break. It's so strained that you are impacting pitch, and then slow and regular AMRs. So puh-puh-puh, tuh-tuh-tuh, kuh-kuh-kuh, or puh-tuh-kuh, puh-tuh-kuh, puh-tuh-kuh. And then ataxic dysarthria is the irregular articulatory breakdowns, excess and equal stress, distorted values, excessive loudness variation and irregular AMRs. So ataxic generally, and I don't like this comparison, but it is one that a lot of people are able to relate to is they have slurred speech, may sound like somebody who's consumed too much alcohol, somebody who, back in the day, it was called punch drunk. That's also tied to brain injury.

Boxers sometimes would end up with ataxic dysarthria in addition to ataxic gait and all of those things, so just wanted to lay that out. Okay, I'm getting a couple questions here. Josie said she stopped being able to hear me. Amy or Kathleen, any issues there? Okay, nope, says we're good to go. I'm sorry, oh, now Josie's back. Okay, never mind. Okay, Genevieve says, "Where would you include apraxia of speech?" Ooh, good one. That is its own type, not a dysarthria, of course. I touch on it a little bit in this presentation, but that is such a, that could be, and probably is a course in and of itself. It is definitely a speech impairment. It is not a language impairment, and you're also not only seeing apraxia of speech, but also usually there is some motor component as well,

especially as a result of stroke. So excellent question, and we'll touch on it a little bit, but yes, it would definitely be in the speech impairment, not language. Okay, it looks like everybody else can hear things great. Excellent. Okay. Moving right along. Okay, so hypokinetic dysarthria is the monopitch, monoloudness, reduced loudness and stress, tendency for rapid or accelerated rate, inappropriate silence, rapidly repeated phonemes, the, I know I'm going to butcher this word, palilalia, and rapid blurred AMRs, so you're getting all of the AMRs blur together and it's hard to hear the precise consonants. Hypokinetic, you will see hypokinetic dysarthria in Parkinson's patients. Some of the, again, this is not an endorsement, but LSVT focuses on the Lee Silverman Voice Treatment, does teach some strategies for how to combat hypokinetic dysarthria. All right, let's see. A couple other questions.

One got cut off. Apraxia is a motor planning disorder in the absence of, whoop, can't see that one. Hang on. The absence of weakness, slowness, and incoordination. Yes, I agree, Marcia. Anomic aphasia is a fluent aphasia type, not non-fluent, results from a lesion within the perisylvian area, especially in angular gyrus or second temporal gyrus. Thank you, Marcia. Yes, anomic aphasia is a fluent aphasia type, but people frequently get it confused as non-fluent because there is the pause while word-finding, so thank you for clarifying that. All right.

So now on to hyperkinetic dysarthria, and hyperkinetic you're gonna see more in Huntington's disease. Again, some of these can result from stroke, but you're not gonna see these as often, pretty rarely, actually. So prolonged intervals, sudden forced inspiration/expiration, transient breathiness, transient vocal strain or harshness, tremors, myoclonic vowel prolongation, intermittent hypernasality, inappropriate vocal noises, and slow and irregular AMRs. Okay, and then the dysarthria of unilateral motor neuron, there's a slow rate there, imprecise artic, irregular articulatory breakdowns, strained voice quality and reduced loudness. So, just wanted to cover on all of those. Okay, moving away from speech and language, and as Marcia pointed out, thank you,

motor planning apraxia and getting more into cognitive impairment. So we talked through some of these a little bit ago, but wanted to get more focused here. The first thing we're gonna talk about is attention and the different types of attention. So Solberg and Turkstra have a great book on cognition and treatment, and I use their work frequently. Focused attention is the most basic form of attention, so responding to pain, cold, et cetera. So if you have a patient who is unconscious, but not in a coma, they will usually respond to pain, a pinch or a sternal rub or a trap rub or cold temperature, those kind of things. Sustained attention is the ability to pay attention for a long period of time to one thing, or vigilance.

So paying attention during a webinar for a longer period of time and not multitasking, or paying attention on the phone while you're having a call and really engaging and not doing multiple things at the same time. Selective attention is paying attention to a single thing amidst other distractions, so for example, staying focused on reading while the TV is on. Not one of my strengths. I don't know about all of you, but I am a frequent on the internet while having the TV on in the background or cooking while listening to music or those kinda things, so being able to pay attention to a single thing amidst other distractions. Alternating attention is turning attention to various tasks. So let's say you have an executive assistant writing an email, then they answer the phone and are able to shift their focus or alternate their focus and then get back immediately to returning to that email.

And then divided attention is the ability to attend to multiple things at the same time. There's some research out there, and I tend to agree, that divided attention isn't actually a thing, that you cannot physically or cognitively divide your attention, but for sake of example, driving is a perfect example of what is called divided attention. So while you're driving, your focus on your speed, your focus on safety, your focus possibly on the music, your passengers, the safety of your kids in the back or the kids in the back screaming, all the things, other drivers, so it's an extremely complex task.

Other impairments in cognition, so memory, and these can all, again, be impacted by stroke. So perspective, which is memory for future events, so remembering that me waking up this morning and remembering that I had this webinar to present this afternoon, or remembering that I have a doctor's appointment on Friday. Short-term memory, which is, again, remembering possibly if you wait a couple hours or a couple days to do your CEU test for this webinar, that would be short-term memory, so you're holding on to it for a short term, and then hopefully you won't, but usually, you may toss that information afterwards. Bad example, but that is an example of short-term memory. Working memory is holding something in your brain in the moment and being able to manipulate it. The series sevens, so when we ask a patient to count backwards from seven, or from 100, by sevens, that's an example of working memory. So you're remembering your numbers, you're also problem-solving and manipulating that information.

And then long-term memory, so things like remembering your birthday, remembering your anniversary, all of those kind of things that are focused remembering, an especial experience from your childhood. And then problem-solving as well, so not just simple math, which I think a lot of folks rely on as an assessment or a treatment of problem-solving when in treatment, but things like how do you route, how do you get from point A to point B? Do you remember how to get to your room? Of course, there's also a memory and attention component in all of these things, but can you problem-solve through how to make a meal and sequence that? So you'll see that all of these cognitive components really do overlap. Then executive functioning, so when a patient presents with difficulty planning and organizing tasks, initiating tasks and completing tasks, the patient may have difficulty inhibiting responses, so have less of a filter and be more impulsive and have decreased insight, and involves the ability to sustain attention to a single task, working memory and pragmatic skills. Executive dysfunction you're gonna see frequently in right-hemisphere disorder dysfunction as a result of stroke, very infrequently as a result of TBI, but you're seeing these patients

with very limited insight and awareness, which usually impacts safety and that impulsivity. I'm sure we all have pretty funny stories about patients with inhibited responses. I had a patient, it was a stroke patient who I was doing a group treatment with who we were going through some memory tasks and I said, "What is this?" and he, he pointed down to his Depends and said, "This I call pterodactyl." I have no idea where it came from. Clearly it was not an inhibited, it was disinhibited response to my question. Why he referred to his Depends, I will leave all that up in the air, but it was special. So that's a good example of impulsivity and lack of inhibition. All right, moving on. So dysphagia, let me see here. Is an executive dysfunction just as likely in a TBI as a stroke, thank you, Larissa, if the damage is to the frontal lobe? Yes, you are correct, yep. That is a great question.

Okay, dysphagia. So like I mentioned before, when people, when SLPs, or actually any medical professional thinks I'm stereotyping, but it is generally how a lot of med students and docs think about SLPs' engagement in stroke, they're thinking of language aphasia and dysphagia swallowing. We're gonna touch on this. I'm not getting super deep into dysphagia because there are quite a few courses on that and that is easily multiple webinars in and of itself, but I did wanna touch on it. So dysphagia is problems involving the oral cavity, pharynx, esophagus, or gastroesophageal junction.

Again, this is another thing pulled from the ASHA dysphagia practice portal. It can result in dehydration, malnutrition, aspiration pneumonia, other lung disease and possibly death, so our job is to try to prevent that from happening. The biggest issue that we see especially post-stroke is the concern for aspiration, possibly aspiration pneumonia, and then dehydration. A variety of dysphagia challenges are associated with stroke. Okay. Amy, I'm hearing, I'm getting a note that there's intermittent interruptions of the volume. Can you help with that, possibly help Kim? Okay, so we're gonna get a little bit into the assessment here. So, before you do anything, when you

read a patient's chart, well, that's the first thing we wanna do. You're going to get that chart or get that referral and you're gonna start looking into a bunch of different things before you even lay eyes on the patient. So what meds is the patient on? As we talked about, their physical history, their previous medical history. Does the patient have hypertension? Do they have high cholesterol? Then you're gonna look at their level of consciousness. Physical symptoms, so is there a hemiparesis? Let's say the patient had a stroke, fell, and ended up with fractures, or fell and ended up with a traumatic brain injury on top of their stroke, all things that you need to consider. Their communication, of course, and language and speech, and then family dynamics, super important.

So, once we're done treating a patient inpatient, or even outpatient long-term, the patient is going to end up relying on their family to help them with long-term care for the most part outside of a skilled nursing facility or long-term acute care. Here's a question for the group. I'm curious to hear how many of you use screeners in your settings as opposed to standardized formal assessments when, let's say you're going in to see a patient for the first time and this patient is in acute care or just got onto your inpatient unit. How many of you would use screeners versus a formal standardized assessment? Feel free to just type into the Q&A box.

I always like hearing these, and if you use a screener, what do you use? Yes, lots of screeners, okay. Yep. The MoCA, mm-hmm. The BCSC, awesome. These are great. Good. Acute care, definitely a screener. Okay, good. This is great. You guys are all replying so quickly I can't keep up, so sorry about that. Yeah, made by staff. Years ago, informal assessment developed by a hospital. Yep, that's generally the trend. The WAB bedside, so, yes, that one is standardized. MoCA or informal, yep, good. Fantastic. The SLUMS, I know it's more specific to dementia, true-ish, but yeah, no, these are all great. So great examples, and actually, there was a great discussion about the MoCA in particular in SIG 2 a couple of weeks ago about standardization and scoring and all

those good things, 'cause it can be difficult to figure some of those things out, so thanks for that. So I've come from settings where a screener such as the MoCA or the SLUMS is required for insurance. I've also come from settings where a screener that is developed in-hospital is what is used, so I've been on both sides of things. And the screeners generally, again, I understand that insurance requires formal assessment in most cases now, but the screeners really give you that first taste of what you need to know. So does your patient have a language disorder? Does your patient have, is your patient oriented? Are you seeing memory issues? All those kinda things, so word-finding, even dysarthria. You can do an oral motor exam as part of your screener, so all good things to think about.

Another great assessment technique, especially when you're first meeting a patient, is the informal observation of functional tasks. This is actually my favorite and the one that I find to be the most beneficial when you're getting to know a patient. So how are they eating? Are they knowing what to do with utensils? Are they able to recall and name items of food on their plate? Are they able to sequence? Are they able to attend? Are they attending to the left side? Are they able to focus for the entire meal? Are they distracted? All really good things to observe. Other functional tasks are, maybe a patient's already in the wheelchair, watching them route around the unit. Again, you can see all of those things.

Sequencing morning routines, we'll talk more about that, but really beneficial. Even sitting up on the side of the bed or how they react with nursing or physicians as they come in, so all good things to observe. You can get almost everything that you could from a screener just by observing functional tasks or engaging in functional tasks. The interdisciplinary group intake, and I realize this is a bit of a dream scenario. Excuse me for just a minute. I worked in a facility, which was fantastic, and when we would receive a patient, the OT, PT, and speech, we would all go in together, so all the components of the core therapy team would go into the patient's room on the day of admission. What

do you think a focus of the evaluation would be, and we're not using formal screeners, we're just going in as a team, OT, PT, speech, trying to get a good look at this patient and figure out a next step. So what would come out of that evaluation between those disciplines? Okay, I'm gonna go ahead and start giving some options here. So one thing, of course, yeah, functional needs. Thank you, Marcia. Prior education, awesome. Safety awareness and reasoning, yes. Safety and ability to communicate basic wants and needs in the immediate environment, the level of supervision needed, fantastic. Level of therapy needed, following directions, good. ADLs, yes. Social interaction, awesome.

So these are all exactly right, and in addition, so we'd also look at range of motion, so tied to ADLs of course, and then we'd also look at level of consciousness, but then it would also give me the chance to do a bedside screen for the swallow, and that would also allow the OT to be able to see if the patient knew how to use utensils, and the PT the ability to see if the patient could sit up independently or what kind of support was needed, so just giving you a little bit of an idea of how functional that was. Again, I realize it's a dream scenario, but it was awesome.

And then there's formal evaluation, so it's really dependent on the patient's language skills and ability to participate, so sometimes a screener is the most efficient way to get an idea or that functional observation because maybe a patient can't attend for an entire WAB assessment or the Boston Diagnostic. Mini-Mental is, of course, different. It's a short one, but if a patient is aphasic, they may not be able to participate, so just a couple things to think about there when you're looking at informal versus formal evaluation. Assessment of dysphagia, so all assessments should begin with the patient history like we talked about. Oral motor examination, this is a non-negotiable for me. I know a lot of people kind of skip right over it, but it's really important, especially, well, across the board, but with stroke, when you're dealing with potential weakness and cranial nerve issues, motor weakness is very, very important. Dentition, of course. And

then in dysphagia, you still wanna do a cog-comm screen, right? So you're gonna see if they are able to comprehend what you're saying and if they are remembering instructions for safety, for dysphagia, for the treatment that you're doing, those kinda things, so you wanna look at all those components. And then, of course, observation of function. We'll touch briefly on some of these assessments for dysphagia, but non-instrumental assessment, the bedside swallow assessment. There are so many different bedside protocols. Some are more standardized than others. When I've asked before, I hear that some facilities have very standardized ones. Most do not, so they may say you have to start with a puree and go through the whole series.

There are a variety of protocols, so very few are standardized, and the most, you could start from everything from starting it from ice chips and then moving to a teaspoon of water to a straw sip, to a cup sip, or just you dive right in with a straw sip of water and see how the patient does. So everybody has a different strategy and every facility requires different types of bedside swallow assessments. All right. Yeah, this is kind of a, to my point, so no present screening protocol provides high specificity and sensitivity for predicting the risk of aspiration. It appears that a cluster of swallowing and non-swallowing features may achieve both high sensitivity and specificity at the bedside, so you wanna really look at not only the physical components and possible signs/symptoms of aspiration, but also, you wanna look at the whole picture is basically what it's saying.

Genevieve said the MASA, which is a standardized dysphagia protocol, is good. Yes, great point. Thanks, Genevieve. Okay, instrumental assessments of dysphagia, so the Video Fluoroscopic Swallow Study, or VFSS, or the Modified Barium Swallow Study, MBSS, where you're taking the patient down to radiology, giving them boluses with barium in them and actually being able to see the video of the patient's swallow. There's the Fiber-optic Endoscopic Evaluation of the Swallow, or the FEES, which is great, especially for patients who may not be as mobile, maybe have some disorder of

consciousness, or it's just easier. I mean, getting somebody down to radiology is not always super easy, and getting them in the chair and all that good stuff. So if you have somebody who is trained in FEES, it's a great tool to have. The Modified Evans Blue Dye Test is always a point of contention. I won't get into it a ton here, but it is used in some facilities where usually it's applesauce or pudding is dyed blue and then swallowed and then you're gonna look through, you're gonna do some suctioning in a patient's trach to see if any blue is coming out in the secretions or if they cough up, if they're not trached, if they're coughing up blue dye. And then instrumental assessment is not always appropriate, so you're not gonna take a patient who is comatose down to get a modified, because they can't interact or participate, so you really need to look at behavior as well.

You're not gonna look, let's say you have a very behavioral Wernicke's patient, aphasia patient, who isn't understanding that they're not making sense, they're not comprehending the process, they're not understanding their own language, they're not understanding yours very well and they may have some behavioral tendencies, so you're probably not gonna bring that patient down to radiology either. Okay, getting into functional treatment here. Speech and language, so again, I really focus on functional treatment, none of this workbook stuff. Really get in there and work with your patients in a way that's going to matter to them and to their families. It's going to help with the most functional recovery.

So have, for speech and language, have a structured conversation or really provide that structure with fellow patients, staff and family. This is also a great way to teach compensatory strategies and provide family education. So you're teaching them perhaps cueing strategies for aphasia or word-finding or how to pace if somebody is having, for somebody who's dysarthric, so all kinds of good things can happen in functional treatment. Ginger has a great idea here: "I'll have patients ask staff members the time, "about their weekend plans, requests for food and drink." Awesome, yes,

exactly, exactly. Yeah, requests from staff for various items. Another favorite that I used a lot with speech and language and also impacts cognition, of course, asking nursing for the medication, and so you're teaching patients what their meds are to begin with, but then asking them to actually communicate that to their nursing staff, so it's a really good functional way to do that. Valerie says, "In my experience, "oftentimes globally aphasic patients "can still understand tone of voice and touch." Yes, which can help you get, sorry, Kathleen. I can't see the rest of the question. But yes, I agree, Valerie.

Oh, which can help you get through to them, so teach through their strengths. Yeah, very nice. Yeah, great point. Okay, so the use of compensatory strategies for nonverbal patients who can attend and are aware enough, so things like communication boards, texting. I mean, I've had patients come out of a minimally conscious state, well, mainly teenagers, who will text before they can speak, so even before writing, so really engaging in anything that they might be interested in. Increase intelligibility in structured and non-structured environments, so you're really gonna be looking at how intelligibility is impacted based on the structure of the environment.

Are they super distracted? Does their intelligibility decline? All those kinda things. And then be sure to observe the patient's speech and language not only in a therapy environment, but also in more complex environments to determine functional communication, so exactly to the point that I just made. You're looking for that structured versus non-structured, so if you can take your patient out to lunch in the community, have them order their food, have them engage in conversation, see how they do. Are they using their strategies? Are they so distracted that they aren't remembering to use their strategies? Is their intelligibility getting worse? All those kind of things, so good things to remember there for speech and language. It's also a perfect area of focus for co-treatment, so again, and I know every facility's different and setting because of insurance requirements, but if you have the opportunity to co-treat, walking with the PT while working on patients' intelligibility strategies

throughout the session is awesome. It also teaches your PT what you're working on in treatment and what they can do to enhance intelligibility. Not to mention it also works on safety awareness, attention, memory. And then OT and SLP doing a bathing co-treat like I mentioned a little bit ago, but asking a patient to name items in the shower, looking at sequencing, having them outline or say what their safety strategies are or maybe their compensatory strategies for dressing. Community outing, we talked about that already. Ask the patient to order food items for self or other patients with a focus on social skills and language. And then the most functional treatment for dysarthria is speaking and swallowing. There aren't many studies out there that justify oral motor exercise, so always throw this in here that the best way to really improve dysarthria and dysphagia is to speak and swallow. Okay, memory. I always try to give some examples of functional goals for both the SLP and also co-treatment 'cause I know sometimes we can get in the rut of, patient will recall five items with 90% accuracy, but here are some more functional goals here.

So patient will recall the names of primary therapists with moderate visual and verbal cues. So maybe they have a book of pictures of their therapists, and so providing the picture and then maybe the cue of the first letter of the first name as a goal. Patient will route to the room using environmental cues with max verbal cues. Co-treatment of PT and SLP with memory. Patient will recall steps to safely transfer from bed to walker with minimal verbal cues. Perhaps you can review photos of the transfer steps with the patient at the beginning of the session, have the patient sequence those, the actual photos. And then the SLP and the PT actually physically assist the patient with the transfer. So it's just a way to carry over some of the things that may end up being sort of desktop, and then actually transfer over into functional activity. Patient will write down his or her schedule or calendar every morning. Patient will identify meds like we talked about and the purpose of medication at each administration, and then the patient will recall compensatory strategies for dressing the lower extremity. So you can see that these are super functional, they're also interdisciplinary with some of our focus

leaning, as it should, towards being more interprofessional and interdisciplinary. You can see how it's really not too difficult to adapt our goals to make them cross-cut the different disciplines. Okay, attention. A patient will attend to a 15-minute treatment session with moderate verbal cues. Attending to safety signs on the unit while routing to the room with minimal verbal cues, so I would have patients either walking or in a chair, be mobile throughout the unit, then count things like exit signs or let me know when you see a fire alarm or something like that. And then co-treatment with OT and SLP for attention. Patient will prepare a hot meal for three fellow patients with mod verbal cues for attending to tasks and sequencing, and you can build on discipline-specific and interdisciplinary goals like we talked about. Executive functioning, so goal setting and planning, so using patient-centered goals. It doesn't matter if your patient has a communication issue or not. Patients with aphasia can definitely engage in goal setting and planning, so ask them what they want to work on.

And then, of course, provide some scaffolding and guidance there, but if the patient wants to get back to being able to be on Facebook once a day and engage with their friends, figuring out how to make that a functional and safe goal for that patient, so maybe during a specific amount of time, replying to only family members' posts, working on spelling and writing while you're doing that. Performing a scavenger hunt around the unit, so similar to what I mentioned earlier, maybe tasking your patient to look for exit signs, look for the bathrooms on the unit. Sometimes I would put up Post-It notes, especially if somebody has left inattention, on the left side of walls, asking them to pick those up by number, so you can make it as simple or complex as you'd like. And then we talked a little bit about meal planning, but you can also turn that into a grocery store outing and then have a co-treatment with rec therapy, PT or OT. Ginger, "What are some "functional executive functioning activities you all use?" Yeah, so is there anything else executive functioning-wise that the group uses that they'd like to share? Great question. Since I only have a few minutes left, I'm gonna keep going, but I'll come back to those ideas, so thank you, Ginger, for asking that

question. We talked a little bit about this, but the treatment of dysphagia, so we're gonna do clinical non-instrumental, so bedsides or another assessment or an instrumental assessment should always occur prior to initiating treatment. So you don't just dive in and start feeding a patient without having done an evaluation. Rehabilitative and restorative treatment is restoration of function, whereas compensatory strategies are strategies: diet modifications, puree diet or thickened liquids. The goal of compensatory strategy is not to restore function but to prevent aspiration or signs/symptoms of dysphagia, and then there's also the combo of both. Okay, so to close things out, I had a case study that I wanted to spend some time on. Really quickly, I'm getting back to Ginger's question about functional activities people use for executive dysfunction. Valerie said, "Real-life planning of projects "that are meaningful to the patient are good treatments "to use for executive function." Yes, awesome.

Card-playing interaction, your-turn-my-turn matching of shapes, mm-hmm, yep. I like the your-turn-my-turn, especially when you're engaging other members possibly of family or other patients. Okay, case study here. So you have a 55-year-old man, status post left-sided intracranial hemorrhage, presenting to your inpatient unit. His stroke was two weeks ago. He had a history of hypertension, diabetes and chronic pain. He is right-handed and has a college education. He works as a government contractor as a project manager. So based on this brief case study, what symptoms can you expect from this patient, and then how would you evaluate, and where do you start treatment? What are some ideas here? Let's see. Right-sided weakness, yes.

Right-sided weakness, good. What's the side of the lesion? Makes a difference in what you'd expect. Very true, I left this relatively general, Marcia, thank you. Yes, excellent point. Right-sided weakness, yep. Expect possible right-sided paresis, yes. Dysarthria, possible aphasia, good. Some language issues due to that left side, good. Good. Good, awesome. What about possible language impairment? Yep. What about cognition? Any ideas there? Executive functioning, yep. Attention, problem-solving,

excellent. Good, higher-level attention and memory, awesome. Okay, good. All right, very nice. And disinhibition, good. You guys are awesome. So you can see that even with just this limited amount of information, you can go into a patient's room and at least maybe have some idea, some prediction of what you can find, but again, you're not gonna go in and assume. You're gonna go in and do the evaluation and then functional treatment. So I will go ahead and close there. I do have a list of references for you all so that you can check out anything that we talked through. And then here's my contact info, so feel free to shoot me a note if you have any questions or concerns or anything that came up or if you have patient concerns that you wanna think through, I'm happy to help. Let's see, what does Mary say here? Not related to the case study, whoops, I lost it. Hang on. Mary. Have the course's curriculum... Shoot. Okay.

That students who are currently pursuing a graduate degree as an SLP changed significantly over the past five to 10 years? That is a great question. If so, how? So I can only speak to my personal experience as I am not a professor. So I won't spend too much time on this because I know that every program is different. I do know it is changing across the board to be more interprofessional-focused and more functional-focused. I do know there are now many more classes on cognition and communication, and not just a single week on traumatic brain injury, so I do know those things, but unfortunately, I can't answer more, Mary, on that, but great question. And yes, more training in AAC assessment, absolutely. Great point, Valerie. Okay, so I will go ahead and close there. Again, please feel free to reach out if you have any questions, and I will close there. Back to you, Amy and Kathleen.

- [Amy] Thank you so much, Erin. There was somebody in the question or, excuse me, in the audience that was asking about the exam. The exam should be available to you if you had full attendance today within about 15 minutes after the end of the event, so 15 minutes from now. I think we got to all the other questions, so Erin, I just wanted to

say thanks for coming in and doing, I believe this is our first Back to Basics, so thank you for presenting today.

- [Erin] Sure.

- [Amy] Let's see, I'm just gonna double-check these last...

- [Erin] No, Sharon, executive function and aphasia are not both cognitive impairments. Good question. No, but executive function is, aphasia is a language impairment.

- [Amy] Thank you.

- [Erin] Yes, I think Susan's had the same question, so yeah.

- I think you're right, yep. All right, well, we will wrap it up here. Thanks to our audience for being here today. Thanks for your interaction. That always makes it fun when you participate in our polls and in our discussions. We appreciate that. So I hope everybody has a great afternoon, and that we see you at another webinar before too long. I'm gonna wrap up the classroom here. Thanks.