Transcript Details
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Harnessing Neuroplasticity: Timing and Intensity in Post-Stroke Aphasia Intervention

Announcer:
You're listening to *NeuroFrontiers* on ReachMD. On this episode, Dr. Kelly Sloane will discuss strategies for treating post-stroke aphasia. She's an Assistant Professor of Neurology at the University of Pennsylvania, and she spoke on this topic at the 2025 American Academy of Neurology Annual Meeting. Let's hear from Dr. Sloane now.

Dr. Sloane:
The timing of an intervention after a stroke can certainly impact outcomes for patients who are suffering from aphasia after their stroke. After a stroke, there are all sorts of spontaneous processes that are going on in the brain to help the brain recover and re-network. It's called neuroplasticity, and that's happening naturally in everyone's brain. So having an intervention that's occurring during this early period of natural or spontaneous recovery can really jumpstart the recovery of language function for patients after stroke. And equally important with the timing of the intervention is also the intensity of the intervention.

We're able to assess the severity and the type of aphasia in a patient after a stroke based on a couple of bedside evaluations that we do and standardized assessments that help us tease out what aspects of language are impacted. One can have difficulty with expressing themselves, formulating the words, and then articulating them. We'd call that an expressive aphasia. You can also have an aphasia where it's receptive, meaning that words are coming out okay, but you're having difficulty understanding what is spoken to you—so auditory processing. So there are different types of aphasia that we can tease out by doing different types of assessments like testing naming, comprehension, repetition, articulation and other aspects of motor speech, and then reading and writing. So there are different ways that we can look at that.

And then the severity is interesting because there are mild, moderate, severe, or one category that we use to define severity of stroke that's based on these objective outcome measures that we use, but then there are also subjective measures of severity. For example, an individual who is a politician or a teacher has to use their voice and has to speak very often. Even though clinically, we may categorize the person as having a mild aphasia, in their mind, this aphasia would be quite disabling, and they'd be considered severe in their eyes.

There is a tremendous emotional and psychological impact of aphasia in stroke survivors, and one way that we can address that is to take a biopsychosocial approach. So that allows us to look not only at the biology, the lesion, or the area of the brain that's impacted and the biological impairment that that has caused, but also the social aspects of the patient's life and the psychological aspects to try to optimize that for them. So, for example, if someone has a stroke that led to aphasia, an important thing to consider is if they are suffering from a mood disorder or any neuropsychiatric complications, like depression, apathy, or anxiety. Those can be really common after a stroke, and certainly more so when you have a disabling condition like aphasia. And we know that those conditions are associated with worse outcomes after stroke.

Family and social support are really essential after a stroke. Social networks after a stroke actually tend to shrink, unlike after someone has a heart attack. Those social networks either stay the same or get larger, but after a stroke, it can be a very isolating experience for a patient because they have this new impairment. And especially with aphasia, it's not the traditional physical impairment that people are used to. After someone breaks their leg, you see the cast on the leg, and you know that that's the problem, but with aphasia, it can be really challenging because sometimes aphasia is confused with an intellectual impairment, whereas aphasia is solely language impairment. It doesn't correlate with intellect, and so there can be a lot of cognitive misunderstanding related to that, so it's essential to have family involved because they can help boost this person and keep them on task for being able to do their therapies. And then a

very practical thing is, after having a stroke, it really changes your level of function in day-to-day life, and it's hard to go back to what you were doing. Just transportation-wise—driving, or if you take the public transportation, being able to navigate a subway or bus system—all of these things that we take for granted in day-to-day life can be so much more complicated. So to have a family member, a friend, or any sort of support system can be really essential for those day-to-day activities that are crucial.

Announcer:
That was Dr. Kelly Sloane discussing best practices in treating post-stroke aphasia. To access this and other episodes in our series, visit *NeuroFrontiers* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!