

# SPEECH-LANGUAGE PATHOLOGIST'S ROLE IN TREATING THE "INVISIBLE SYMPTOMS" OF PARKINSON'S DISEASE

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When you picture someone affected by Parkinson's disease, what do you picture? It is likely that the first things that come to mind are some of the hallmark signs of Parkinson's disease: resting tremor, rigidity or muscle stiffness, slow movement

or bradykinesia, and loss of balance. These common symptoms may leave a valid question in your own mind: Where does a speech-language pathologist fit in within the rehabilitation team? What is their role? How can an SLP impact and help a patient with Parkinson's disease?

I often refer to a SLP's role in the rehabilitation of Parkinson's disease as treating the "invisible symptoms" that manifest in people living with PD. I recently discharged a patient living with Parkinson's disease who wrote a success story that perfectly illustrates this:

*"With speech therapy, my friends and family can hear my voice better, I can remember when to take my medicine, and I can take my pills without choking!"*

This patient was treated for three of the "invisible symptoms" that are affected by Parkinson's disease: voice, cognition, and swallowing.

## PARKINSON'S VOCAL TREMORS CAN BE REDUCED BY TARGETED SLP EXERCISES

*"With speech therapy, my friends and family can hear my voice better..."*

When I began treating this patient, she and her caregivers reported that they had a difficult time understanding her. They would often ask her to repeat herself or "speak louder." Along with visible tremors outside of the body, Parkinson's disease causes tremors in the vocal cords and

larynx, resulting in soft, breathy voice quality.

Currently, Lee Silverman Voice Treatment, or LSVT Loud, is considered the gold standard in vocal rehabilitation for these patients. LSVT Loud improves voice quality in people living with Parkinson's and other neurodegenerative diseases via intensive dosage, high effort voice exercises designed to stabilize the larynx and vocal cords for improved function. LSVT Loud exercises include sustained phonation, intonation, and functional speaking exercises, such as the reading of carryover phrases or conversation using a loud, healthy voice. LSVT Loud therapy consists of four weekly sessions for four weeks and a daily home exercise program. While that seems like an intense and serious commitment, the results speak for themselves. A study by Ramig, Sapir, Countryman, and Pawlas revealed that a patient can increase their vocal volume by an average of eight decibels from the beginning to end of treatment. This increases the patient's vocal volume to a volume closer to their peers who are not affected by Parkinson's disease. These results can be seen for two years after treatment and beyond. In order to deliver LSVT Loud therapy, a speech-language pathologist must take a 12-hour training to receive their certification and renew it every two years.

In addition to voice quality, LSVT Loud has been noted to improve facial expressiveness to enhance communication in patients with Parkinson's disease.

## PERSON-CENTERED COGNITIVE THERAPY IN PATIENTS WITH PARKINSON'S

*"...I can remember when to take my medicine..."*

When I first started working with this patient, she reported that her caregivers were responsible for organizing and administering her medicine each day, which made her feel less independent. Through cognitive retraining and the use of compensatory strategies, such as using phone alarms and a pill organizer, she was able to reach her goal of managing her own medications.

Patients with Parkinson's disease can experience mild cognitive impairment due to a drop in dopamine levels. This can even manifest in patients who do not display prior dementia symptoms. It is not uncommon for a patient living with Parkinson's disease to experience decreased awareness of surroundings, memory loss, and deficits in executive functioning skills, such as problem-solving, safety awareness, and cognitive-linguistic organization. These deficits directly impact a patient's ability to complete activities of daily living without assistance or fall risk.



As with all patients with cognitive-linguistic deficits, it is important to keep the focus of cognitive retraining person-centered for those with Parkinson's disease. Upon initiating therapy, it is important to always ask the patient "What would you like to do that you couldn't before?" For this patient, she wanted to take her medications more independently and follow routines better. For other patients, their biggest goal may be remembering family member's names and occupations, cooking a meal, or playing a card game they used to enjoy. Keeping therapy centered around the patient's goals increases patient rapport and participation. This also allows them to better carryover the skills learned in therapy, as a patient is more invested when they directly see how their SLP is helping them achieve something they may not have seen as possible before beginning therapy. If you are a clinician who is interested in learning more about a person-centered approach, Sarah Baar at Honeycomb Therapy keeps an excellent blog with her ideas!

## **DYSPHAGIA IN PARKINSON'S PATIENTS: SWALLOWING AND THE VOCAL CORDS**

*"...and I can take my pills without coughing."*

The third component of this patient's success story is swallowing. When I began working with her, she would often cough while taking her medications and pocket food in her cheeks. Voice disorders and dysphagia go hand in hand, as they both involve in-tact vocal cord function. Vocal cords not only impact vocal volume but also serve to protect the airway for safe swallowing. Given that more than 80% of patients affected by Parkinson's disease develop dysphagia at some point in their progression, it is imperative to evaluate and, if necessary, treat dysphagia in these patients. Aspiration pneumonia is the leading cause of death in PD. SLPs provide oral-motor, laryngeal, and esophageal exercises to strengthen the swallowing mechanism. SLPs can also aid patients with dysphagia by providing compensatory strategies to improve swallowing difficult foods and liquids, such as use of bolus control techniques, such as small sips and bites or eating at a slow rate, use of a tongue sweep to clear the oral cavity, and use of a chin tuck maneuver or supraglottic to provide vocal cord closure and ensure airway protection.

A key strategy in dysphagia management is caregiver education. Who sits with the patient during meals? Who needs to be aware of symptoms of aspiration? Who can

help a patient remember their strategies, especially if they are experiencing cognitive decline? The caregiver! This could be the daughter, granddaughter, son, brother, or anyone in the house who regularly eats meals with them. Training the caregivers on these strategies or seeing a patient during mealtimes is a great way to carry over skills learned in therapy. It is important to invite the caregivers into sessions and coach them during trial feeds and provide them with materials to promote carryover of swallow precautions to mealtimes. If a patient requires diet modification, such as thickened liquids or soft consistency foods, a caregiver may ask questions about the proper preparation or texture of their loved one's food. The new International Dysphagia Diet Standardisation Initiative (IDDSI ) has great resources for caregivers that are easy to use in the home environment.

## **SPEECH-LANGUAGE PATHOLOGISTS UNIQUE ROLE IN THE REHAB TEAM**

From the outside, it may be difficult for someone to understand how an SLP fits into the rehabilitation team for Parkinson's disease. However, the SLP performs a very integral role! They address voice, swallowing, and cognition, among many other aspects of communication. A patient with Parkinson's disease may also experience deficits in motor speech or aphasia. No two people with Parkinson's disease look exactly alike or display the same symptoms. While physical and occupational therapists have many challenges themselves in assessing and treating the visible symptoms, it may be more obvious to a patient or caregiver how they can help. If a caregiver sees that their grandmother has tremors in their hands or a patient realizes that they've felt off-balance frequently, they understand the role of a PT or OT in their rehabilitation. As an SLP, it is most important to think about how Parkinson's disease is affecting your patient. What "invisible" symptoms are they experiencing? How can we help them overcome their obstacles? What can we help them do again? Finding the "invisible" symptoms and how they are affecting their ability to live their lives to the best of their ability is an essential part of rehabilitation.



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