

The Value of the Speech-Language Pathologist (SLP) in Treating People with Parkinson's Disease (PD): Long-Term Impact



Speech-Language Pathology Treatment has a Lasting Effect on Communication, Swallowing, and Quality of Life (QoL) for People with PD.



Improved Voice and Communication

Following intensive SLP-directed voice treatment, people with PD experience lasting improvements at...

1-2 months:

 Sustained improvement in voice-related quality of life (VR-QoL; 24%)¹

3-6 months:

- Sustained improvement in VR-QoL (23%)¹
- Sustained improvement in functional communicative effectiveness (8%-24%)¹⁻³
- Sustained improvement in loudness for conversation (4 dB)⁴

6-12 months:

- Sustained improvement in loudness for monologues (4-7 dB)^{2, 5, 6}
- Sustained improvement in VR-QoL (44%)⁷
- Sustained reduction in impact of voice disorder on daily activities (35%) and emotional well-being (40%)⁷

24 months:

- Sustained improvement in loudness for monologues (2 dB)⁸ and voice-related function (29%)⁷
- Sustained reduction in voice-related emotional impact (54%)7

Himproved Eating and Swallowing

Following intensive SLP-directed treatment, people with PD experience lasting improvements at...

1 month:

- Sustained improvement in pleasure of eating (32%), social functioning (14%), and desire to eat (17%)⁹
- Sustained reduction in swallowing-related burden (19%), emotional impact (36%), and symptom frequency (20%)⁹

3 months:

- Sustained reduction in swallowing-related emotional impact (55%)¹⁰
- Sustained performance on Penetration Aspiration Scale scores 11 in $\ensuremath{\textbf{91\%}}$ of individuals with $\ensuremath{\text{PD}}^{12}$
- Sustained reduction in pharyngeal residue severity (21%)¹³
- Sustained reduction in dysphagia symptoms (59%)¹⁰

6 months:

- Sustained improvement in swallowing-related social functioning (14%) and desire to eat (12%) $^{\circ}$
- Sustained reduction in swallowing-related burden (13%), emotional impact (38%), and symptom frequency (16%)[°]
- Sustained reduction in pharyngeal residue volume (44%)¹⁴
- Sustained reduction in symptom severity (60%)¹⁴

مم الإلكام الإلكام Multidisciplinary Treatment

Following multidisciplinary care involving SLPs, people with PD experience lasting improvements at...

3 weeks:

 Sustained improvements in health-related QoL (8%) and selfperception of ability to cope with difficult life demands (7%)¹⁵

3 months:

- Sustained improvements in health-related QoL (11%).¹⁸
- Sustained improvements in QoL regarding emotional well-being (19%), cognition (24%), and communication (27%)¹⁶



With swallowing treatment sessions every 3 months, **63%** of individuals with PD preserved or improved swallow function at 5 years.¹⁷

References

¹Bryans, L. A., Palmer, A. D., Anderson, S., Schindler, J., & Graville, D. J. (2021). The impact of Lee Silverman Voice Treatment (LSVT LOUD®) on voice, communication, and participation: Findings from a prospective, longitudinal study. *Journal of Communication Disorders, 89*, 106031. https://doi:10.1016/j.jcomdis.2020.106031

² Halpern, A. E., Ramig, L. O., Matos, C. E., Petska-Cable, J. A., Spielman, J. L., Pogoda, J. M., Gilley, P. M., Sapir, S., Bennett, J. K., & McFarland, D. H. (2012). Innovative technology for the assisted delivery of intensive voice treatment (LSVT®LOUD) for Parkinson disease. *American Journal of Speech-Language Pathology*, 21(4), 354-367. <u>https://doi:10.1044/1058-0360(2012/11-0125)</u>

³ Ramig, L., Halpern, A., Spielman, J., Fox, C., & Freeman, K. (2018). Speech treatment in Parkinson's disease: Randomized controlled trial (RCT). *Movement Disorders: Official Journal of the Movement Disorder Society*, 33(11), 1777–1791. <u>https://doi.org/10.1002/mds.27460</u>

⁴ Spielman, J., Ramig, L. O., Mahler, L., Halpern, A., & Gavin, W. J. (2007). Effects of an extended version of the Lee Silverman Voice Treatment on voice and speech in Parkinson's disease. *American Journal of Speech-Language Pathology*, 16(2), 95-107. <u>https://doi.org/10.1044/1058-0360(2007/014)</u>

⁵ Ramig, L. O., Sapir, S., Fox, C., & Countryman, S. (2001). Changes in vocal loudness following intensive voice treatment (LSVT) in individuals with Parkinson's disease: A comparison with untreated patients and normal age-matched controls. *Movement Disorders: Official Journal of the Movement Disorder Society*, 16(1), 79-83. <u>https://doi.org/10.1002/1531-8257(200101)16:13.0.co;2-h</u>

⁶ Behrman, A., Cody, J., Chitnis, S., & Elandary, S. (2022). Dysarthria treatment for Parkinson's disease: One-year follow-up of SPEAK OUT!® with the LOUD Crowd®. *Logopedics Phoniatrics Vocology*, 47(4), 271-278. <u>https://doi.org/10.1080/14015439.2021.1958001</u>

⁷Wight, S., & Miller, N. (2015). Lee Silverman Voice Treatment for people with Parkinson's: Audit of outcomes in a routine clinic. *International Journal of Language & Communication Disorders*, 50(2), 215-225. https://doi:10.1111/1460-6984.12132

⁸Ramig, L. O., Sapir, S., Countryman, S., Pawlas, A. A., O'Brien, C., Hoehn, M., & Thompson, L. L. (2001). Intensive voice treatment (LSVT) for patients with Parkinson's disease: A 2 year follow up. Journal of Neurology, Neurosurgery, and Psychiatry, 71(4), 493-498. <u>https://doi.org/10.1136/jnnp.71.4.493</u>

^o Manor, Y., Mootanah, R., Freud, D., Giladi, N., & Cohen, J. T. (2013). Video-assisted swallowing therapy for patients with Parkinson's disease. *Parkinsonism* & *Related Disorders*, *19*(2), 207–211. <u>https://doi:10.1016/j.parkreldis.2012.10.004</u>

¹⁰ Mohseni, Z., Saffarian, A., Mohamadi, R., Abolghasemi, J., & Habibi, S. A. H. (2023). Effect of conventional speech therapy combined with music therapy on swallowing in patients with Parkinson's disease (telerehabilitation): A randomized-controlled trial. *Middle East Journal of Rehabilitation and Health Studies*, 10(1). <u>https://doi:10.5812/meirh-131572</u>

¹¹ Rosenbek, J. C., Robbins, J. A., Roecker, E. B., Coyle, J. L., & Wood, J. L. (1996). A penetration-aspiration scale. *Dysphagia*, *11(2)*, 93-98. <u>https://doi.org/10.1007/BF00417897</u>

¹²Troche, M. S., Okun, M. S., Rosenbek, J. C., Musson, N., Fernandez, H. H., Rodriguez, R., Romrell, J., Pitts, T., Wheeler-Hegland, K. M., & Sapienza, C. M. (2010). Aspiration and swallowing in Parkinson disease and rehabilitation with EMST: A randomized trial. *Neurology*, *75*(21), 1912–1919. https://doi.org/10.1212/WNL.0b013e3181fef115

¹³ Claus, I., Muhle, P., Czechowski, J., Ahring, S., Labeit, B., Suntrup-Krueger, S., Wiendl, H., Dziewas, R., & Warnecke, T. (2021). Expiratory muscle strength training for therapy of pharyngeal dysphagia in Parkinson's disease. *Movement Disorders*, *36*(8), 1815–1824. <u>https://doi.org/10.1002/mds.28552</u>

¹⁴ Miles, A., Jardine, M., Johnston, F., de Lisle, M., Friary, P., & Allen, J. (2017). Effect of Lee Silverman Voice Treatment (LSVT LOUD®) on swallowing and cough in Parkinson's disease: A pilot study. *Journal of the Neurological Sciences, 383*, 180-187. <u>https://doi.org/10.1016/j.jns.2017.11.015</u>

¹⁵ Ritter, V. C., & Bonsaksen, T. (2019). Improvement in quality of life following a multidisciplinary rehabilitation program for patients with Parkinson's disease. *Journal of Multidisciplinary Healthcare*, *12*, 219-227. <u>https://doi.org/10.2147/jmdh.S202827</u>

¹⁶ Ferrazzoli, D., Ortelli, P., Zivi, I., Cian, V., Urso, E., Ghilardi, M. F., Maestri, R., & Frazzitta, G. (2018). Efficacy of intensive multidisciplinary rehabilitation in Parkinson's disease: A randomised controlled study. *Journal of Neurology, Neurosurgery, & Psychiatry, 89*(8), 828-835. <u>https://doi.org/10.1136/jnnp-2017-316437</u>

¹⁷ Luchesi, K. F., Kitamura, S., & Mourão, L. F. (2015). Dysphagia progression and swallowing management in Parkinson's disease: An observational study. Brazilian Journal of Otorhinolaryngology, 81(1), 24–30. https://doi.org/10.1016/j.bjorl.2014.09.006