

The Role of Speech Therapy in PD: Discussion of Voice Therapy

Hannah Jackman, M.S., CCC-SLP

Christina Aguilar, B.S., SLP Intern

University of Nebraska Medical Center

University of Nebraska
Medical Center



Nebraska
Medicine

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Objectives

- Define Parkinson's disease (PD) voice issues
- Identify four therapies to address dysphonia in PD
- Pros/cons of each treatment
- Ideal patient for each treatment

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PD voice

- **What causes PD voice?**
 - “Decreased airflow from lungs, incomplete vocal fold vibration, and an inadequate coordination and range of motion speech of articulators” (Levitt et. al., 2015).

Vocal Hygiene	
DON'T	DO
DON'T drink only caffeine with very little water.	DO drink ~ 80 oz of water per day with one additional glass of water for each dehydrating beverage (caffeine or alcohol).
DON'T clear your throat or cough.	DO sip water, use a silent cough technique (a strong silent exhalation), or suck on non-mentholated cough drops.
DON'T speak loudly, yell, cheer, or scream.	DO use gestures or noises (whistling, clapping) instead.
DON'T speak over loud background noise for a long period of time. This can cause vocal fatigue and increased tension of the muscles of phonation.	DO reduce background noise (ex. turning off TV/radio) during conversations.
DON'T keep talking or straining to get your voice out if you feel vocally fatigued.	DO listen to your body and rest when your voice feels tired.
DON'T strain your voice to project to a large audience/classroom during a presentation/teaching.	DO use amplification, reduce talk time by increasing audiovisual aids and audience participation, sip water frequently, wait to begin speaking once your audience is quiet.

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Lee Silverman Voice Treatment (LSVT)

- Behavioral program designed for individuals with PD to retrain their perception of loudness and use their voice at a volume that others can hear.
- Duration: One-on-one sessions. Held 4x/week for four weeks. Daily homework is provided for continued practice.
- Patients show improvement in volume, pitch, and inflection.
- Once LSVT is complete, patients are recommended to practice vocal exercises daily for 10-15 minutes.
- Certification: Must be an SLP or student SLP. Online or in-person course available. LSVT course is 12 hours long but duration to complete varies.
- Course contains videos, reviews, questions, and a final exam.

What is LSVT loud, n.d.

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SPEAK OUT!



- Treatment that is centered around speech, voice and cognitive exercises to train individuals with PD into making speech an intentional act.
- Patients have online access to free materials such as the SPEAK OUT! workbook and library for continued practice.
- Duration: Twelve 40-minute sessions (3x/week for 4 weeks)
- Free workbook is provided, and daily homework tasks are assigned. Additional learning materials can be accessed online.
- Certification: Must be an SLP, SLPA, or SLP graduate student. 10-hour online course that educates how professionals can conduct individual SPEAK OUT! sessions and LOUD Crowd group therapy.

About speak out, n.d.

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Phonation Resistance Exercises Training (PhoRTE)



- Treatment aims to increase vocal loudness through increased laryngeal muscle activity.
- Consists of four exercises to help patient speak louder without straining their voice.
 1. Sustained /a/ phonation
 2. High and low /a/ glides
 3. Saying functional phrases using a louder, higher-pitched voice.
 4. Saying functional phrases with an authoritative, lower pitched voice.
- Patient is reevaluated weekly by SLP.
- Resistance is increased by 5dB as patient's endurance improves (target +20 dB).
- Certification: Must be an SLP. Live 2023 workshop information to be released via PhoRTE website soon. Online course underway.

Ziegler & Hapner, 2013

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Expiratory Muscle Strength Training (EMST)



- Treatment designed to strengthen the respiratory muscles.
- Improves cough, swallow, and voice
- Can adjust size of the diameter for exhalation resistance.
- Treatment consists of 1x/week sessions for 5 weeks



Vasquez Miloro, 2016

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Treatment pros and cons



Pros		Cons
<ul style="list-style-type: none"> • One-on-one training • Can improve other symptoms of PD (articulation, intonation, facial expression). 	LSVT	<ul style="list-style-type: none"> • Intense training course, daily attendance for a month required.
<ul style="list-style-type: none"> • Training for the whole family. Free workbooks available in 8 languages • Various online resources for continued practice at home. • LOUD Crowd 	Speak Out	<ul style="list-style-type: none"> • Limited for those without internet access. • Difficult for an individual who lacks family support/involvement.
<ul style="list-style-type: none"> • Flexible at-home program with weekly check-ins with SLP 	PhoRTE	<ul style="list-style-type: none"> • Not ideal for someone who requires consistent SLP feedback.
<ul style="list-style-type: none"> • Targets swallow, cough, and voice • Treatment can be completed at home with weekly check-ins. 	EMST	<ul style="list-style-type: none"> • If not demonstrated by SLP, patient can incorrectly use device.

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Ideal patients for each treatment

- LSVT
 - All stages of PD and PD+, flexible schedule to attend daily sessions, tolerate 1-hour sessions 4 days/week.
- Speak Out
 - All stages of PD and PD+, family involvement and support, retiree, flexible schedule to attend 3x/ week sessions, internet access for e-library materials.
- PhoRTE
 - Early PD, consistent with practicing and completing at-home exercises, family support.
- EMST
 - Early PD, consistent with at-home practice, best for those having trouble with swallow function, voice, and cough.

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