ROLE OF SPEECH THERAPY IN PARKINSON'S DISEASE

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Objectives

- Common impairments
- Referral
- Evaluation/assessment
- Treatment
- Supporting your patient

Look for this thought bubble for more speech therapy insights.

Common Impairments

Swallowing

Voice

Speech

Cognitive-communication

Globus or food sticking

Coughing and/or throat clearing

Drooling

Weak cough

Reduced oral motor ROM – oral residue

Prolonged mealtime

More effort to swallow pills, solids, or liquids

Unexpected weight loss

"I cough from time to time"

"I'm always the last one eating"

Swallowing Symptoms

Voice & Speech Symptoms

Voice

Asked to repeat

Quiet

Raspy or hoarse voice

Talking less

Run out of air when talking

Difficulty being heard with background noise

Speech

Slur

Mumbles

Rapid rate or slow of speech

Stuttering

"My spouse is losing their hearing."

"I've always been soft-spoken."

"I sound fine, they just can't hear me."

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Cognitive-Communication Symptoms

Difficulty thinking of words

Short-term memory difficulty

Executive function

- Impulsivity
- Impaired judgement and safety awareness
- Decreased initiation and follow-through
- Delayed Processing Speed

"They take care of all of that (calendar, meds, finances)"

When to refer to speech

When you cannot understand or hear the patient in the therapy gym.

They cough or clear their throat after you give them a drink of water.

Having a hard time following directions

Having a hard time understanding home exercises

Reduced carryover of recommendations

Forgetting to take medications

Care partner-reported changes

When to refer if they've already had speech therapy in the past

Symptom progression making a functional impact, including:

- Needs more care partner assistance
- Choosing to eat softer foods or avoiding certain foods
- Difficulty executing home exercise program

Assessment - Clinic

Parkinson's Clinic and Parkinson's Plus Clinic

- Interdisciplinary team

Speech and dietary meet with patient and family

- Assess swallowing
- Assess voice and speech
- Provide education
- PD+: Complete a cognitive assessment

As many as 95% of people with PD have a swallowing disorder.

Assessment – Swallow Dysphagia

- Clinical Swallow Evaluation
- Modified Barium Swallow Study (MBS)
- Fiberoptic Endoscopic Evaluation of Swallowing (FEES)

Clinical Swallow Evaluation

Qualitative questionnaires

- EAT-10

Oral Mechanism Exam

PO trials of different textures and consistencies

Refer for instrumental assessment

Eating Assessment Tool (EAT-10)
Circle the appropriate response

To what extent are the following scenarios problematic for you?	0 = No problem 4 = Severe pr			
1. My swallowing problem has caused me to lose weight.	0	1	2	3
2. My swallowing problem interferes with my ability to go out for meals.	0	1	2	3
3. Swallowing liquids takes extra effort.	0	1	2	3
4. Swallowing solids takes extra effort.	0	1	2	3
5. Swallowing pills takes extra effort.	0	1	2	3
6. Swallowing is painful.	0	1	2	3
7. The pleasure of eating is affected by my swallowing.	0	1	2	3
8. When I swallow food sticks in my throat.	0	1	2	3
9. I cough when I eat.	0	1	2	3
10. Swallowing is stressful.	0	1	2	3
				Total EAT-10

Instrumental Assessment

MBS

FEES

Separate order required for these assessments

Beneficial for:

- Confirm or ID penetration/aspiration
- Screen esophagus (MBS)

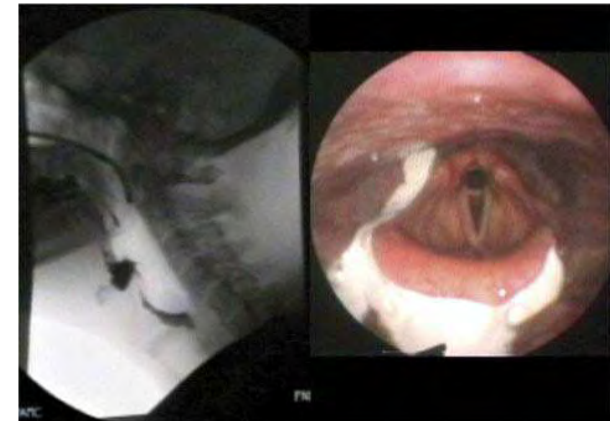
Silent aspiration occurs in about 20% of the individuals with PD

MBS vs FEES

Table 5
Advantages and disadvantages

	MBS	FEES
Advantages	Noninvasive Evaluates oral, pharyngeal, and esophageal phases of the swallow Visualization of cervical hardware after spinal surgery or cervical osteophytes Evaluation of hyolaryngeal elevation	Provides direct view of anatomy structures to evaluate laryngeal and pharyngeal structures May be performed at bedside Uses real food and liquid Examination can last throughout a meal to evaluate for fatigue if needed
Disadvantages	Radiation exposure so examination time may be limited Fluoroscopy unit is turned off between bolus presentations so possible to miss salient event if not imaging between swallows Examination usually requires transportation to radiology department or mobile unit	Whiteout period during height of swallow Examiner must make inferences regarding laryngeal penetration or aspiration during the swallow Time and expense involved with decontamination of endoscope

Brady, S.L., & Donzelli, J.J. (2013). The modified barium swallow and the functional endoscopic evaluation of swallowing. *Otolaryngologic clinics of North America, 46* 6, 1009-22 .



http://mobilefees.net/faqs-about-fees/

Assessment - Voice

Loudness (hypophonia) and impaired vocal quality (dysphonia)

Breath Support

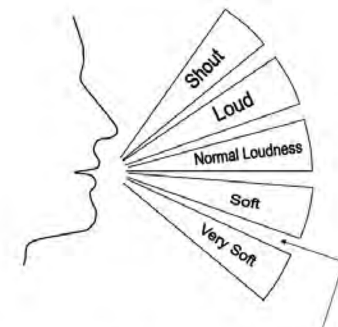
Qualitative questionnaires: VHI-10

Self- and care partner – perception of voice

Assess sustained phonation, glides, reading, monologue

Clinician-completed rating scales: GRBAS & CAPE-V

Stimulability testing



Assessment - Speech

Slur or mumble speech (dysarthria - hyper and hypokinetic), stuttering, freezing of speech

Oral Mechanism Examination

Sentence Intelligibility Test

Diadochokinetic Rate

Dysarthria occurs in as many as 90% of people with PD.

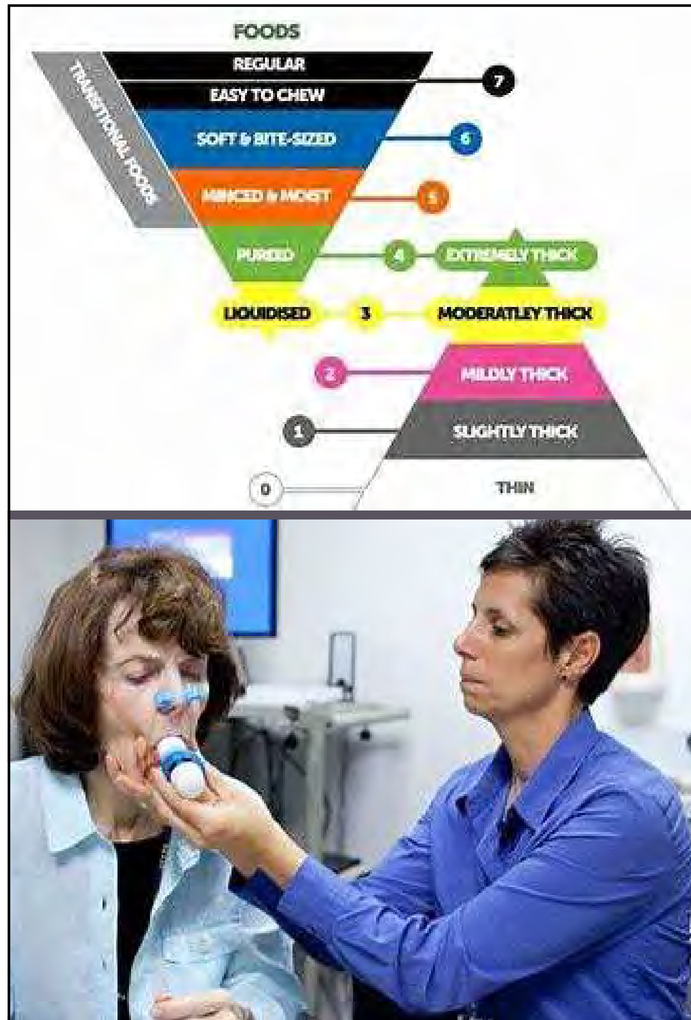
ASSESSMENT – COGNITIVE-COMMUNICATION

20-50% off people with PD experience mild cognitive impairment.

Mini-Mental State Examination (MMSE)

Tests:

- MoCA / SLUMS / MMSE
- RBANS
- Honorable mentions: CLQT, FAVRES, RBMT-3, BNT short form



Treatment - Swallow

Functional oral ROM and strength exercises

Expiratory Muscle Strength Training (EMST)

Pharyngeal strengthening exercises

High frequency bolus trials

Diet Modifications

Fraizer Free Water Protocol

EMST
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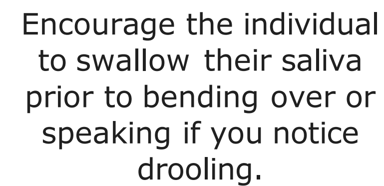
Treatment – Swallow Continued

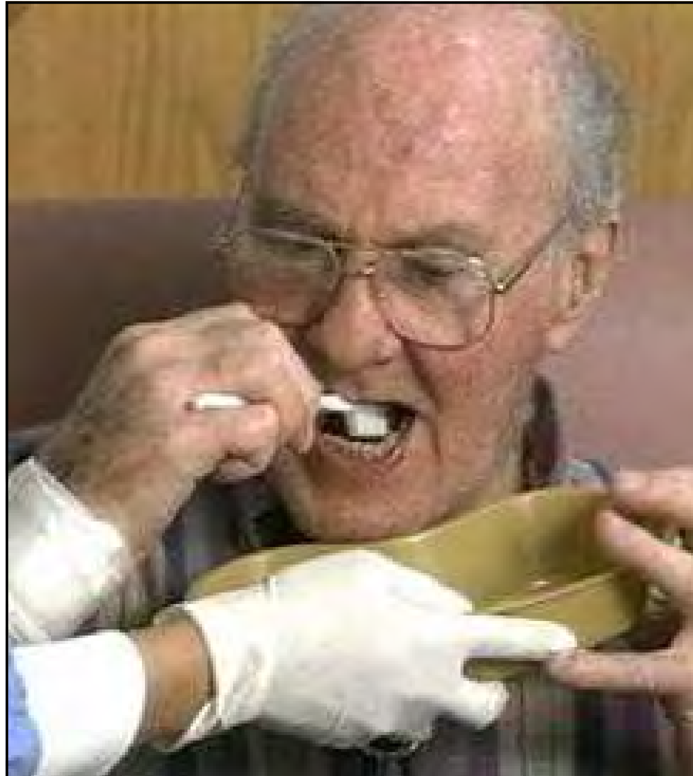
Compensatory safe swallow strategy training

Oral Cares

Aspiration risk and precaution education

Drooling (sialorrhea) - compensatory strategies





Oral Care

Key is to reduce excess oral bacteria

Risks of aspiration of saliva

Frequency based on impairment, but minimum of 2x/day

Use of a brush, toothpaste and mouthwash

Aspiration Precautions & Safe Swallowing Strategies

- Sit upright at 90 degrees and midline
- Small, single bites and sips
- Effortful swallow
- Alternate 2-3 bites with a sip
- Throat clear or double swallow as needed
- Eat slowly
- Chew thoroughly
- Add moisture to dry foods

Aspiration Pneumonia has been reported as the most frequent cause of death in PD patients (~70% of the mortality).

ASPIRATION PNEUMONIA

Whether or not someone develops pneumonia depends on many factors:

Some people are at higher risk for aspiration pneumonia than others. You may be at increased risk if you have any of the following:

- Frequent aspiration
- Difficulty keeping your mouth clean through teeth brushing and mouthwash
- Weakened immune system
- Depend on others to feed you or clean your mouth
- Take many pills
- Smoke
- Bedridden or need to sleep all the time

Symptoms of aspiration pneumonia include:

- Chest pain
- Difficulty breathing
- Wheezing
- Fatigue
- Cough, possibly with foul-smelling, green, or dark phlegm
- Fever
- Bad breath
- Excessive sweating

Medbridge

TREATMENT – VOICE AND SPEECH

Lee Silverman Voice Treatment Program (LSVT-LOUD)

SPEAKOUT! through Parkinson's Voice Project

Phonation Resistance Training Exercises (PhoRTE)

Traditional voice and /or speech therapy

Intensive SLP Voice Treatment

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

1–2 months:

- Sustained improvement in voice related quality of life (VR-QoL; **23.9%**) [1]

3–6 months:

- Sustained improvement in VR-QoL **(22.6%)** [1]
- Sustained improvement in functional communicative effectiveness **(8%–24.3%)** [1,12]
- Sustained improvement in loudness for conversation **(4.1 dB)** [23]

6–12 months:

- Sustained improvement in loudness for monologues **(3.7–7.3 dB)** [12,17,62]
- Sustained improvement in VR-QoL **(44.4%)** [3]
- Sustained reduction in impact of voice disorder on daily activities **(35.3%)** and emotional well-being **(40%)** [3]

24 months:

- Sustained improvement in loudness in monologues **(2.3 dB)** and voice-related function **(29.4%)**
- Sustained reduction in voice-related emotional impact **(53.5%)** [3,56]

Voice Treatments: What's the difference?

LSVT: certification required, 4x/week for 4 weeks, 16 visits, 60 min, LOUD target

SPEAKOUT! certification required, 3x's/week for 4 weeks, 9-12 visits, 45 min, INTENT target

PhoRTE certification, 1x/week for 5 weeks, 5 visits, 60 min, pitch range and loudness targets

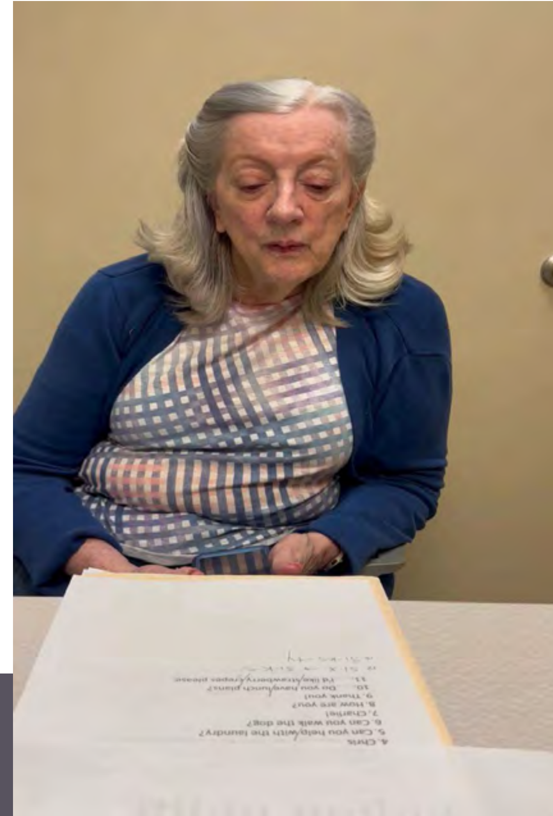
SPEAK OUT! Live with Intent

LSVT LOUD™

PhoRTE™ STRONG VOICE. VIBRANT LIFE.

Core Exercises

Functional Phrases without strategies



Functional Phrases with Strategies

Treatment – Voice and Speech Continued

Vocal quality- alternative treatment methods

Clear speech strategies:

- SOS: slow, over-exaggerate, separate words

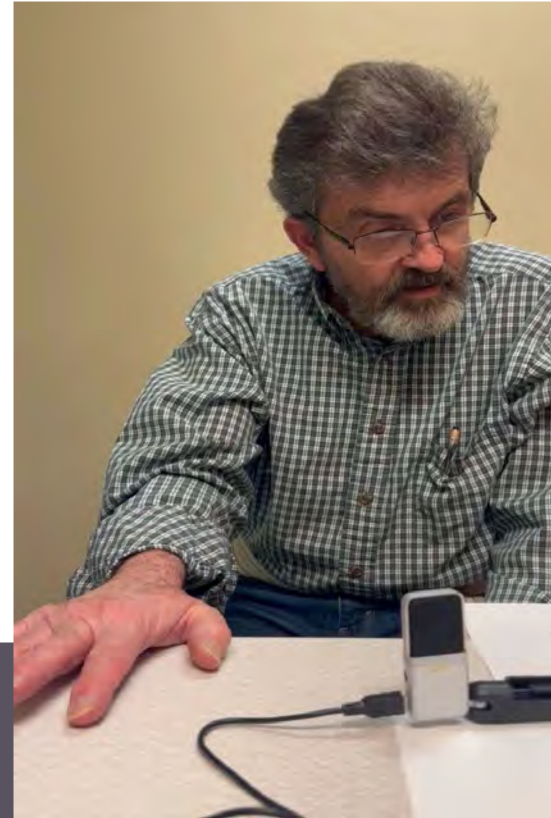
Pacing strategies

Stuttering modification and fluency enhancing strategies

Remind the patient to be LOUD. If their voice sounds rough, encourage a deep breath first.

When encouraging a patient to speak loud or slow, model the behavior. People mirror their communication partners.

Pre-treatment



Mid-treatment

Treatment – Cognitive Communication

The type of intervention depends on the progression of dementia symptoms

Rehabilitative or maintenance

Functional Activities & Compensatory Strategies Targeting:

- Memory
- Safety Awareness
- Reasoning
- Concentration
- Attention
- Executive Functioning
- Word Finding

Individuals with dementia often benefit from visual aids, caregiver training, and environmental modifications.

Interdisciplinary Cognitive Intervention

Neuropsychology – eval/treat cognition and possible impact of mental health and provide strategies

Occupational Therapy – eval/treat impact of multi-tasking and safety awareness with ADLs/walking, especially focusing on fine motor/strengthening for PD patients.

Speech Therapy – eval/treat cognitive-communication skills, especially with functional activities and use of compensatory strategies

Thank you!

When in doubt refer to speech for any concerns.

Our goal is to keep our patients as safe and independent as possible and to work closely with the interdisciplinary team.

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Healthcare Education and Patient Engagement Platform | MedBridge https://www.medbridge.com

Coast Physical Therapy - Our Gym (coastptinc.com)

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