PARKINSON’S DISEASE:
SPEECH AND SWALLOWING

Katie Teijido, MS, CCC-SLP
SPEECH DISORDERS IN PARKINSON’S DISEASE
What is dysarthria?

- Dysarthria = neurological speech disorder
  - Caused by muscle weakness in the face, lips, tongue, throat, and muscles used for breathing
  - Results in abnormalities in breathing, voice, articulation, or prosody
  - Perception of “slurred speech” that may be difficult for others to understand
What is dysarthria?

- **Hypokinetic dysarthria**
  - This type of dysarthria is associated with Parkinson’s disease due to deficiency of dopamine in the basal ganglia.
  - This leads to increased muscle tone/rigidity, tremor, and bradykinesia; slow rate of movement of tongue, lips, and palate; decreased range of movement; difficulty starting/stopping.
  - “Masked” or expressionless face.
  - Bowing or functional weakness of the vocal cords.
What is dysarthria?

- Speech Characteristics in Parkinson’s disease
  - Reduced loudness
  - Hoarse vocal quality
  - Monotone
  - Imprecise articulation
  - Vocal tremor
  - Difficulty initiating or stopping speech

Some patients report volume, hoarse voice, or monotone as the first PD symptom
Cognitive changes in Parkinson’s disease

- Changes in cognition or “thinking” can also impact communication
- Common cognitive changes may include:
  - Slower processing time
  - Word retrieval difficulty
  - Memory impairments
Evaluation by Speech-Language Pathologist

- Gather history
- Assessment of speech and voice
- Perform various voicing and speech tasks to determine severity and obtain baseline measurements
- Trial cueing techniques for improved speech and voice
- Determine functional goals and treatment plan
Communicative Effectiveness Survey

- Rating Scale: 1-4

1. Having a conversation with a family member or friends at home.
2. Participating in conversation with strangers in a quiet place.
3. Conversing with a familiar person over the telephone.
4. Conversing with a stranger over the telephone.
5. Being part of a conversation in a noisy environment (social gathering).
6. Speaking to a friend when you are emotionally upset or you are angry.
7. Having a conversation while traveling in a car.
8. Having a conversation with someone at a distance (across a room).


Downloaded from: https://pubs.asha.org Katelyn Mack on 04/23/2019, Terms of Use: https://pubs.asha.org/pubs/rights_and_permissions
Treatment

- LSVT LOUD
- General speech/voice therapy
- Communication partner training
LSVT LOUD

- Lee Silverman Voice Treatment
- 4x/week for 4 weeks
- Single cue to “be loud”
- Repetitive practice
- Spread of effects, improvements noted in:
  - Vocal loudness
  - Facial expression
  - Articulation
  - Breath control
  - Swallowing
General Speech Therapy

- Less intensive therapy
- Less effective than LSVT LOUD program
- Speech and voice exercises
- ~1-2x/week, depending on specific needs
Communication Partner Training

- Be patient
- Take time to set up 1:1 conversations
- Cue to talk louder
- Slow down the pace of conversation
- Don’t interrupt
- Allow extra time for processing and responding
Importance of Social Participation

- Parkinson's groups
- Volunteering
- Social events with friends/family
- “Use it or lose it” philosophy
- Stay active and involved!
What can you do today?

Tips for Clear Speech

- Speak up, increase your volume
- Take a deep breath before you speak and pause for breaths as needed
- Speak slowly and clearly, take your time
- Say each word completely
- Exaggerate or overemphasize sounds and words that are difficult
- Practice exercises provided by your speech therapist
What can you do today?

- Start exercising your voice today
  - Sing along to the radio
  - Read out loud (mail, newspaper, TV guide)
  - Talk on the phone
  - Strike up conversation with a stranger (grocery store clerk, mailman, etc.)
What can you do today?

- Find Parkinson’s classes or groups near you
  - WPA Website: [www.wiparkinson.org](http://www.wiparkinson.org)
  - Aurora Medical Center-Summit offers free screens for our Parkinson’s classes and therapy options
- Keep talking!
What can you do today?

- Talk to your doctor about getting an order for speech therapy
  - Not everyone’s voice and speech are the same. Individualized therapy is best.
SWALLOWING DISORDERS IN PARKINSON'S DISEASE
What is dysphagia?

- **Dysphagia** = swallowing difficulty
  - Any condition that affects the lips, mouth, tongue, throat, larynx, and/or esophagus can cause dysphagia.
  - People with swallowing difficulty are at risk for choking, aspiration (when food or liquid goes into the lungs rather than the stomach), aspiration pneumonia, dehydration, and/or malnutrition.
Impact of PD on swallowing

- Rigidity of lips, tongue, and jaw
- Delay in initiating swallow due to bradykinesia (slow movement)
- Impaired chewing
- Reduced tongue strength and range of motion
- Reduced formation of food or liquid in mouth
- Smaller tongue movements
- Tongue rocking and tremor
- Several, small swallows versus one big swallow
- Reduced strength of muscles and sensation in throat
- Leftover food or liquid in the throat after swallowing
- Aspiration into lungs (food or liquid going into airway or down “wrong pipe”)
Signs/symptoms of swallowing difficulty

- Coughing with swallowing
- Food in mouth after swallowing/eating
- “Gargly” or “wet” voice quality
- Unexplained weight loss or dehydration
- Meal takes a long time to complete
- Difficulty handling oral secretions, saliva, excessive drooling
- Changes in breathing following swallowing/eating
- Fatigue with eating/drinking
- Effortful chewing
Risk for silent aspiration

- May not sense food or liquid going into airway or “down wrong pipe” (hence “silent” aspiration)
- Reduced sensory response or sensation
- Reduced cough response
Negative impact of swallowing difficulty

- Difficulty taking oral medication
- Difficulty maintaining hydration and nutrition
- Aspiration pneumonia
Evaluation by Speech-Language Pathologist

- Gather history
- Video swallow study
- Trials of different consistencies of barium
- X-ray of swallow with radiologist
- Assess muscle movement and airway protection
- Determine safe diet and treatment plan
Eating Assessment Tool (EAT-10)

- Rating Scale: 0-4

1. My swallowing problem has caused me to lose weight.
2. My swallowing problem interferes with my ability to go out for meals.
3. Swallowing liquids takes extra effort.
4. Swallowing solids takes extra effort.
5. Swallowing pills takes extra effort.
Eating Assessment Tool (EAT-10)

6. Swallowing is painful.
7. The pleasure of eating is affected by my swallowing.
8. When I swallow food sticks in my throat.
9. I cough when I eat.
10. Swallowing is stressful.
Diet Modification

- Liquids
  - Nectar thick
  - Honey thick

- Solids
  - Easy chew
  - Mechanical soft
  - Ground-minced
  - Pureed

- Medications
  - With applesauce
  - Cut pills
  - Crush pills
Compensatory Strategies

- Assessed during video swallow study
  - Chin tuck
  - Head turn
  - Effortful swallow
  - Double swallow
  - Small, single sips
Treatment

- LSVT LOUD
- Swallowing exercises
- Expiratory Muscle Strength Training (EMST)
LSVT LOUD

- Goal to improve voice
- 4x/week for 4 weeks
- Overlap of swallowing and speech muscles
- Improvements noted in
  - Vocal cord closure
  - Breath support
  - Pitch range/airway closure
  - Coordination
- Not to replace traditional swallow therapy
- May be good adjunct to swallow therapy
Swallowing Exercises

- Strengthening and range of motion
- Exercises of tongue and lips
  - Move tongue side to side
  - Stick out tongue against spoon
- Exercises of throat
  - Head turn
  - Masako: tongue between teeth and swallow
- Improvements noted in
  - Swallow initiation
  - Muscle strength and coordination
Expiratory Muscle Strength Training (EMST)

- Device used to strengthen breathing muscles
- Improvements noted in
  - Strengthening throat muscles
  - Improving cough response
  - Reducing risk for aspirating food/liquid into lungs
What can you do today?

Safe Eating Tips

- Cut food into small pieces
- Take small bites of food. Do not fill forks and spoons to “heaping”
- Chew food thoroughly
- Swallow all the food in your mouth before adding more
What can you do today?

Safe Eating Tips (cont.)

- Eat slowly
- Sit upright at 90 degrees every time you eat
- Do not eat if you are feeling weak or tired
- If you start to have increased coughing or throat clearing while eating – stop eating
What can you do today?

- Talk to your doctor if concerns regarding swallowing
- Speech therapy evaluation/video swallow study
- LSVT LOUD and/or swallowing treatment
- Follow therapist recommendations
- Everyone’s swallow is different
References

American Speech-Language Hearing Association, (www.asha.org)

Aronson, (1990)


Logemann et al, (1978)

LSVT Global, Inc (www.lsvtglobal.com)

Troche, M.S. et al, (2010). Aspiration and swallowing in Parkinson disease and rehabilitation with EMST